



Cable connecting systems
and Accessories
Low and Medium Voltage

PRODUCT CATALOGUE

We connect your energy

www.cellpack.com



Information

Our internal sales team or responsible field representatives will be happy to answer all your commercial and technical questions.

This product catalogue is only valid until BBC Cellpack replaces it with a new catalogue.

Contracts are concluded subject to our General Terms and Conditions.

The BBC Cellpack General Terms and Conditions (AGB) can be found on our website www.cellpack.com



BBC Cellpack assumes no responsibility for the topicality, correctness, completeness, or quality of the information in the catalogue. BBC Cellpack assumes no liability for deviations in the catalogue contents, transmission errors of documents, and errors in documents created for the catalogue, nor for unauthorised changes made by third parties to the information on the server.

All product characteristics, data and values contained in the catalogue – including figures and graphics – correspond to the status of the catalogue production and are presented to the best of our knowledge. They do not, however, represent a binding guarantee of properties. Such a guarantee is only issued if explicitly stated when a contract is concluded between BBC Cellpack and the customer and about our product standards. Users of these products must decide for themselves and at their own responsibility whether they are suitable for the intended use.

Liability claims against BBC Cellpack relating to material or non-material damage caused by the use or non-use of the catalogue information provided or by the use of incorrect or incomplete information shall generally be excluded, unless it can be proven that BBC Cellpack acted with intent or gross negligence.

All product information is therefore provided without any guarantees. It is also subject to errors or changes.

A new product catalogue created by BBC Cellpack completely replaces all previous older catalogue versions. BBC Cellpack expressly reserves the right to change, supplement or delete parts of the catalogue or the entire offer without prior notice or to cease publication temporarily or permanently.

LOW VOLTAGE	9
Heat shrink technology	11
Cast resin technology	73
Gel technology	113
MEDIUM VOLTAGE	127
Cable sets for unscreened polymeric cables	129
Cable sets for screened polymeric cables	135
Cable sets for mass-impregnated paper cables	177
Heat shrinkable components	197
CONNECTING TECHNOLOGY	202
Compression connectors	204
Compression cable lugs	207
Screw connectors	210
Screw cable lugs	211
Branch ring connectors	212
Miscellaneous	214
ELECTRICAL INSULATION AND MOUNTING TAPES	225
Electrical insulation and mounting tapes	226
Additional tapes	242
Miscellaneous	246
ACCESSORIES	247
Cable ties	248
Tools	254
Chemical products	259
Miscellaneous	274
INDEX	281
Index: of article numbers	282
Index: of article designations	287
Index: of product families	288

COMPANY PROFILE



Electrical Products

Being an SME company within the Behr Bircher Cellpack (BBC) Group in Villmergen/Switzerland, BBC Cellpack Electrical Products has successfully established itself in the global markets, in the fields of development, production and customer oriented sales of cable connecting systems and accessories for the low and medium voltage up to 42 kV.



We connect your energy

Power utilities, electrical wholesalers, specialist electrical trade or the industry – they all share one thing in common: regarding a high operational safety for the power supply services in the distribution network as their first priority. The system solutions and products developed by BBC Cellpack for complex, high-tech applications have significantly contributed to this.



Technology & Innovation

With our customer-oriented understanding of technologies and the distinctive culture of innovation, we have committed ourselves to concentrate, not only on the demands of our customers for technically innovative and thoroughly tested products, but also to ensure the safe and reliable functioning of our system solutions.



Quality & Service

BBC Cellpack has gained worldwide recognition for highest material and product quality with standards being continuously controlled in our high-performance laboratories and testing facilities in Germany. This high benchmark also applies to the availability and delivery service of our products. The quality standard "Swiss Quality – Made in Germany" is our commitment.

TECHNOLOGY AND PRODUCT PORTFOLIO

Heat shrink technology



Cable accessories with heat shrink components made of extruded plastic material (thermoplastic) offer a wide field of applications for all kind of cables, as well as conductor and cross section range in the low and medium voltage. They protect the cable connection against water and moisture penetration and thus against metal corrosion and guarantee for excellent electrical insulation values as well as mechanical protection. The hybrid joints and terminations, designed by BBC Cellpack especially for the medium voltage, combine components of silicone rubber and heat shrink products for safe and reliable operations.

The heat shrink product range includes straight-through, transition and pot end joints, terminations, wall ducts, repair sleeves and repair kits etc., heat shrink moulded parts as well as heat shrink tubes in various designs and types.

Cast resin technology



BBC Cellpack cast resin joints offer an overall long-term protection in terms of insulation values and resistance for all kind of cable accessories and cross sections. This is guaranteed by high-grade, unfilled two-component PUR cast resins which are designed for various applications as well as by the shockproof plastic moulds available with or without integrated strain relief. After the hardening process, the cable joints are resistant to mechanical and electrical loads.

The scope of delivery for all cast resins straight-through and branch joints or universal connection and branch boxes of BBC Cellpack includes a cast resin tailored to the pre-selected field of application. The cast resins are further available individually in two-chamber bags with separation bars, if requested. The mixing of the cast resin component and the hardener is effected directly before the filling into the mould which is designed with at least one filling opening.

TECHNOLOGY AND PRODUCT PORTFOLIO

Gel technology



Our EASY-PROTECT gel-filled housings for easy, fast and safe moisture protection of WAGO COMPACT Splicing Connectors. This combination integrates the market leader's expertise in electrical interconnections with reliable gels from BBC Cellpack to deliver a unique system.

The EASYCELL® gel joints offer easy, quick and therefore practical solutions for connecting and branching low voltage cables up to 1 kV. The impact-resistant polypropylene plastic shells are made of flame-retardant material and also allow the EASYCELL® gel joints to be used in demanding environments.

Label-free, silicone-based gel sealing compound for protecting electrical and electronic components in the low voltage range up to 1 kV are available in extremely user-friendly versions. They are transparent or translucent, largely individually portioned, easily removable, halogen-free, UV-resistant and flexible.

Plug-in & Contrax technology



The compact, pluggable straight-through joint Compax with its particularly high level of pre-configuration, together with the innovative, pluggable connections Cellplus for outer-cone-systems, have been developed specifically for polymeric-insulated 1-core medium voltage cables. The integrated components system and robust construction also allow a fast and safe realization of cross-section range taking joint- or connector solutions.

The Contrax medium voltage terminations and straight-through joints provide the integration of the relevant core components within a one-piece insulator made of silicone rubber resistant to high voltage. These expand and are easily installed by means of the patented slip-on accessory with the assembly only.

All the BBC Cellpack technologies guarantee for highest assembly and operational safety – not least by thorough quality controls and testing.

TECHNOLOGY AND PRODUCT PORTFOLIO

Connecting technology



BBC Cellpack screw connectors and screw cable lugs are suitable for cross-section ranges, reliable termination and joints of both, copper and aluminium cables. Furthermore, the innovative shear-off head bolts are designed for the use of just one conventional tool. The integrated centering and further technical optimizations allow to eliminate common assembly errors already before the installation.

Compression connectors, compression cable lugs, branch clamps and wire connectors in various types round up the connector portfolio tailored to the BBC Cellpack cable sets for a safe and permanent connection of copper or aluminium cables.

Electrical insulation & mounting tapes



Insulating, bundling, labeling, protecting, affixing, mounting, padding, sealing or repairing: Electrical insulation and mounting tapes for low and medium voltage have to meet most different requirements. Therefore, BBC Cellpack has aligned the individual functional profiles of its tapes to the various applications in an optimal way.

The high-quality Premio PVC electrical insulation tapes, available in all standard colors, are particularly flexible, stabilized against UV rays and packed separately in practical plastic boxes. Furthermore, the Premio family provides PVC and PSE tapes for bundling and affixing, heat-resistant glass fibre cloth tapes as well as copper foil for discharge and screening.

Standard PVC insulation tapes, self-amalgamating tapes, cloth and sealing tapes as well as hot melt adhesives round up the assortment.

TECHNOLOGY AND PRODUCT PORTFOLIO

Accessories and specific products



Whether you need useful tools for connecting and branching of low and medium voltage cables, products for bundling, marking or feeding of cables and wires, or for insulation, sealing and cleaning – BBC Cellpack provides a field-tested range of accessories for various uses and applications.

The product portfolio ranges from heating systems to cable ties and markers and fastening elements, tools such as heat shrink torch kits, clamp tools and striping tools, up to special products such as cleaners (as cloth or spray), anti-corrosion and insulation sprays, cable lubricants, putty/sealing compounds, cable centering aids and screen connecting kits for telecommunication cables.

LOW VOLTAGE

Heat shrink technology	11
Cast resin technology	73
Gel technology	113

LOW VOLTAGE

Heat shrink technology

	Straight-through joints	12
	Transition joints	29
	Pot end joints	31
	Cable terminations	33
	Wall ducts	41
	Heat shrinkable tubes	42
	Moulded parts	68



Straight-through joints

SMHSV**Heat shrinkable straight-through joint**

with screw connectors (with shear head bolts), for unarmoured polymeric cables and conductors

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE and XLPE (e.g. N(A)YY, NYM, TT). With mechanical connectors with shear head bolts, suitable for aluminium or copper cables.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

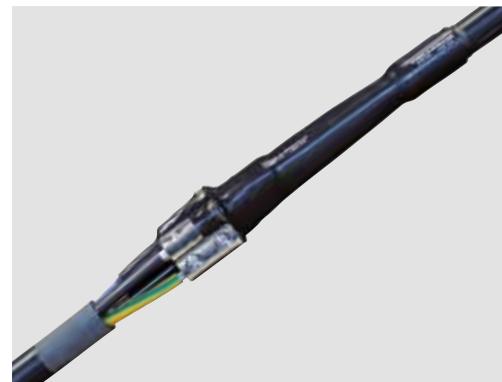
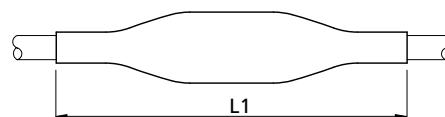
- $U_0/U(U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

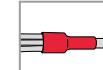
Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions****Scope of delivery**

Outer sleeve, inner sleeves, screw connectors with shear head bolts, cleaning tissue, emery cloth, assembly instructions

Polymeric cable unarmoured				
Type	L1 mm	Nominal cross section per conductor mm ²		Art.-No.
SMHSV4	6-50	500	6 - 50	294806
	16-95	650	16 - 95	262697
	50-150	800	50 - 150	262699
	95-240	1000	95 - 240	262710
	240-400	1100	240 - 400	349967
SMHSV5	6-50	800	6 - 50	357683
	16-95	900	16 - 95	357687
	50-150	1000	50 - 150	357689
	95-240	1200	95 - 240	357710

**SMH...V****Heat shrinkable straight-through joint**

with screw connectors, for unarmoured polymeric cables and conductors

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE and XLPE (e.g. N(A)YY, NYM, TT). With screw connectors with grub screw, suitable for aluminium and copper conductors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

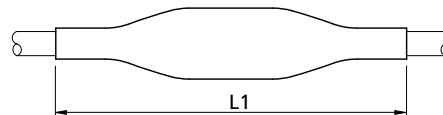
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions****Scope of delivery**

Outer sleeve, inner sleeves, screw connectors, allen key, cleaning tissue, emery cloth, assembly instructions

Polymeric cable unarmoured				
Type	L1 mm	Nominal cross section per conductor mm ²		Art.-No.
SMH4	1.5-6 V	250	1,5 - 6	348812
	6-35 V	400	6 - 35	145359
	25-70 V*	550	25 - 70	145360
	70-150 V	700	70 - 150	145361
SMH5	1.5-6 V	250	1,5 - 6	145362
	6-35 V	500	6 - 35	145363

*with screw connectors with shear head bolts



Straight-through joints

SMH**Heat shrinkable straight-through joint**

for unarmoured polymeric cables and conductors

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE and XLPE (e.g. N(A)YY, NYM, TT). Suitable for compression connectors on aluminium or copper cables.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

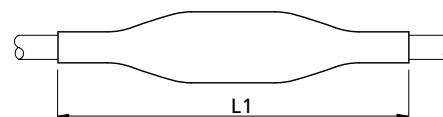
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

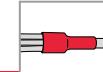
- Unlimited shelf life

**Dimensions****Scope of delivery**

Outer sleeve, inner sleeves, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Polymeric cable unarmoured					
Type	L1 mm	Nominal cross section per conductor mm ²			Art.-No.
SMH1	10-25	300	10 - 25		150154
	35-70	400	35 - 70		150158
	95-240	500	95 - 240		150160
	150-300	500	150 - 300		150161
	300-500	600	300 - 500		150162
SMH3	1.5-16	400		1.5 - 16	151500
	6-25	500		6 - 25	145266
	25-70	700		25 - 70	145267
	95-150	850		95 - 150	145270
	185-300	1100		185 - 300	145273
SMH4	1.5-6	200		1.5 - 6	145246
	1.5-16	400		1.5 - 16	145249
	6-25	500		6 - 25	145296
	16-50	600		16 - 50	145320
	25-95	600		25 - 95	145332
	25-150	700		25 - 150	145282
	95-300	1000		95 - 300	145342
SMH5	1.5-6	250		1.5 - 6	145255
	1.5-10	250		1.5 - 10	145257
	1.5-16	400		1.5 - 16	145338
	16-25	500		16 - 25	145295
	35-95	500		35 - 95	126745
	120-240	800		120 - 240	126665

**SMH****Heat shrinkable straight-through joint**

with heat shrinkable crimp connectors, for control cables and signal cables

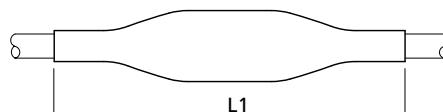
Universally suitable for connecting control cables and signal cables. With heat shrinkable crimp connectors on copper conductors.

Characteristics

- Compact dimensions
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
 - Ductwork
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Unlimited shelf life

**Dimensions****Scope of delivery**

Outer sleeve, inner sleeves, heat shrinkable crimp connectors, cleaning tissue, emery cloth, assembly instructions

Control and signal cable				
Type	L1 mm	Number of conductors	Nominal cross section per conductor mm ²	Art.-No.
SMH	7/10 1.5-2.5	330	7 - 10	145486
	12/14 1.5-2.5	500	12 - 14	145489
	18/24 1.5-2.5	500	18 - 24	145493
	30/30 1.5-2.5	600	30 - 30	145496
	34/40 1.5-2.5	600	34 - 40	145541



Straight-through joints

SMHA4**Heat shrinkable straight-through joint**

for tape and wire armoured polymeric cables

Universally suitable for connecting armoured polymeric cables insulated with PVC, PE and XLPE (e.g. N(A)YY, NYM, TT). Suitable for compression connectors on aluminium and copper conductors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

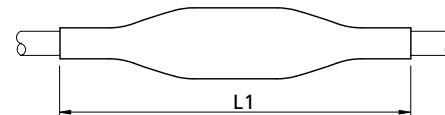
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

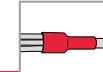
- Unlimited shelf life

**Dimensions****Scope of delivery**

Outer sleeve, inner sleeves, armour crossover kit, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Polymeric cable armoured			
Type	L1 mm	Nominal cross section per conductor mm ²	Art.-No.
SMHA4	1.5-10	450	145239
	16-50	650	145243
	35-150	850	130945
	95-300	1000	174183

**SMH...G****Heat shrinkable straight-through joint**

for flexible cables

Universally suitable for connecting conductors insulated with EPR
(e.g. A07RN-F, H07RN-F). Suitable for compression connectors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

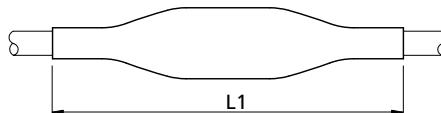
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions****Scope of delivery**

Outer sleeve, inner sleeves, filling material, cleaning tissue, emery cloth, assembly instructions

Polymeric conductor unarmoured			
Type	L1 mm	Nominal cross section per conductor mm ²	Art.-No.
SMH4G	1.5-10	450	1.5 - 10
	16-50	550	16 - 50
	35-95	600	35 - 95
	95-150	700	95 - 150
SMH5G	1.5-10	500	1.5 - 10
	10-25	600	10 - 25
	16-50	600	16 - 50



Straight-through joints

SMHC...**Heat shrinkable straight-through joint**

for polymeric cables with concentric conductor

Universally suitable for connecting polymeric-insulated cables and conductors with concentric conductors and insulations made of PVC, PE and XLPE (e.g. N(A)YCY, N(A)YC(W)Y, GKN). Suitable for compression connectors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

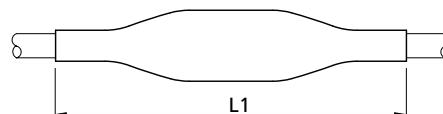
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life

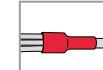
**Dimensions****Scope of delivery**

Outer sleeve, copper braid tape, inner sleeves, armour crossover kit, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Polymeric cable with concentric conductor				
Type	L1 mm	Nominal cross section per conductor mm^2		Art.-No.
SMHC1	35-70	400	35/35 - 70/35	152520
	95-240	500	95/50 - 240/95	152521
	150-300	500	150/95 - 300/120	152522
	300-500	600	300/120 - 500/120	152523
SMHC3	4-10*	350	4/4 - 10/10	126672
	16-35*	500	16/16 - 35/35	126674
	50-95*	600	50/50 - 95/95	126675
	120-240*	1000	120/120 - 240/240	126676
SMHC4	4-10*	350	4/4 - 10/10	203028
	16-35*	500	16/16 - 35/16	203029
	50-95*	600	50/25 - 95/50	203040
	120-240*	1000	120/70 - 240/120	203041

* with additional inner tube



SMH...E90, SMHC...E90

Heat shrinkable straight-through joint

for cable systems E90 according to DIN standard 4102 Section 12

For connecting security cables type NHXH and NHXCH, anywhere where they are required, for example, in power plants, chemical plants, public buildings, airports, tunnels, off-shore installations, fire alarm systems, stairwells, elevator shafts.

Suitable for compression connectors.

Characteristics

- Compact dimensions
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Fire-resistant (see tests)
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- Low smoke and gas emission

Application/Suitability

- Indoor
- Outdoor
- Underground
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m) 0.6/1 (1.2) \text{ kV}$

Test standards

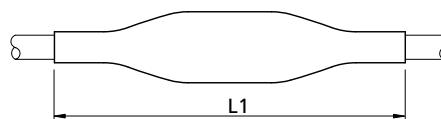
- DIN VDE 0472 Section 814 (FE180)
- DIN 4102 Section 12(E90)
- IEC 60331-60332

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Inner sleeves, insulating tubes, outer sleeve, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Type	L1 mm	Polymeric cable		Art.-No.	
		Nominal cross section per conductor mm ²			
		unarmoured	with concentric conductor		
SMH4	1.5-4 E90	350	1.5 - 4	145653	
	6-10 E90	380	6 - 10	145655	
	16-25 E90	470	16 - 25	145656	
	35-50 E90	500	35 - 50	145657	
	70-95 E90	600	70 - 95	145659	
	120-150 E90	600	120 - 150	145660	
	185-240 E90	750	185 - 240	145661	
SMH5	1.5-4 E90	350	1.5 - 4	145680	
	6-10 E90	380	6 - 10	145681	
	16-25 E90	470	16 - 25	145682	
SMHC4	1.5-4 E90	350	1.5/1.5 - 4/4	145665	
	6-10 E90	380	6/6 - 10/10	145666	
	16-25 E90	470	16/16 - 25/16	145667	
	35-50 E90	500	35/16 - 50/25	145668	
	70-95 E90	600	70/35 - 95/50	145669	
	120-150 E90	600	120/70 - 150/70	145670	
	185-240 E90	750	185/95 - 240/120	145671	



Straight-through joints

SMHF**Heat shrinkable straight-through joint**

for telecommunication cables

For connecting or branching telecommunication cables insulated with PVC or PE (e.g. A-2YF(L)2Y, A-02YSF(L)2Y, A-PWE2Y, A-PM, A-PM2Y, A-PMbc). Suitable for wire connectors.

Characteristics

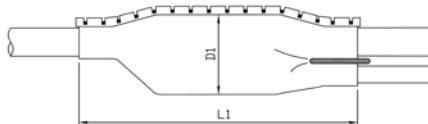
- Compact dimensions
- Suitable for cut and uncut cables
- Removable (for repairs or switch-over)
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Waterproof and moisture-resistant

Application/Suitability

- Indoor areas (also with high humidity levels)
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Storage conditions/Shelf life

- Unlimited shelf life

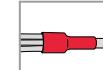
**Dimensions****Scope of delivery**

Heat shrinkable sleeve, flexible locking bar, protective liner, drying agent, shield continuity wire with clamps, fire protection film, PVC insulation tape, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Wire connectors AVS (see Connecting technology)

Assembly kit MSFA (required for each branch)

Type	L1 mm	D1 Ø over protective liner mm	Cable-Ø mm	Telecommunication cable								Art.-No.	
				spliced with wire connector			spliced with conductor connecting blocks						
				0.4 mm	0.6 mm	0.8 mm	0.4 mm	0.6 mm	0.8 mm				
				max. Number of wire pairs									
SMHF	43-8/330	330	43	8 - 35	30	20	10	40	30	20	145559		
	43-8/570	570	43	8 - 35	70	40	20	100	70	30	145560		
	68-15/380	380	68	15 - 55	100	50	30	150	100	50	145568		
	68-15/690	690	68	15 - 55	150	100	50	250	150	70	145564		
	93-25/400	400	93	25 - 68	150	100	70	400	250	100	145572		
	93-25/690	690	93	25 - 68	200	200	100	500	300	150	145569		
	120-28/430	430	120	28 - 94	200	200	150	500	300	200	145574		
	120-28/600	600	120	28 - 94	400	300	200	600	400	250	145575		
	137-34/725	725	137	34 - 101	600	500	300	800	700	400	145577		



VASMI

Heat shrinkable straight-through joint

with temperature colour indicator, for telecommunication cables

For connecting or branching telecommunication cables insulated with PVC or PE (e.g. A-2YF(L)2Y, A-02YSF(L)2Y, A-PWE2Y, A-PM, A-PM2Y, A-PMbc). Suitable for wire connectors.

Characteristics

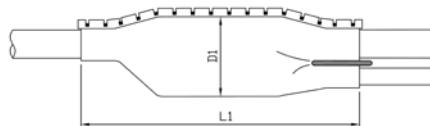
- Compact dimensions
- With temperature colour indicator
- Suitable for cut and uncut cables
- Removable (for repairs or switch-over)
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Waterproof and moisture-resistant

Application/Suitability

- Indoor areas (also with high humidity levels)
 - Outdoor
 - Underground
 - Water
 - Installation ducts
 - Ductwork
- Storage conditions/Shelf life**
- Unlimited shelf life



Dimensions



Scope of delivery

Heat shrinkable sleeve, flexible locking bar, protective liner, drying agent, shield continuity wire with clamps, fire protection film, PVC insulation tape, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Wire connectors AVS (see Connecting technology)

Assembly kit MSFA (required for each branch)

Type	L1 mm	D1 Ø over protective liner mm	Cable-Ø mm	Telecommunication cable								Art.-No.	
				spliced with wire connector			spliced with conductor connecting blocks						
				0.4 mm	0.6 mm	0.8 mm	0.4 mm	0.6 mm	0.8 mm				
				max. Number of wire pairs									
VASMI	1 SRT	330	43	8 - 35	30	20	10	40	30	20	145562		
	1 L SRT	390	43	8 - 35	70	40	20	100	70	30	145561		
	2 SRT	380	68	15 - 55	100	50	30	150	100	50	145566		
	2 L SRT	450	68	15 - 55	150	100	50	250	150	70	145565		
	3 SRT	400	93	25 - 68	150	100	70	400	250	100	145571		
	3 L SRT	500	93	25 - 68	200	200	100	500	300	150	145570		
	4 L SRT	430	120	28 - 94	200	200	150	500	300	200	145573		
	5 L SRT	600	120	28 - 94	400	300	200	600	400	250	153392		
	6 L SRT	725	137	34 - 101	600	500	300	800	700	400	145576		



Straight-through joints

MSFA
Assembly kit

for branching with heat shrinkable joints SMHF and VASMI

For creating branches in heat shrinkable joints for telecommunication cables.

Characteristics

- Universally suitable for different diameters and numbers of wire pairs

Application/Suitability

- For heat shrinkable joints SMHF and VASMI

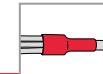
Scope of delivery

Branching kit SAS 120, branch clamp, fire protection wrapping

Note: An assembly kit is required for each branch.



Type	Art.-No.
MSFA	145578



SM, SM-MA

Heat shrinkable universal straight-through joint

for polymeric cables, conductors and mass-impregnated paper cables

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE and XLPE (e.g. GKN, GN-CLN). With extra transition set to connect with mass-impregnated paper cables (GKN-PPb, GN-CLN-PPb). Suitable for compression connectors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Note

- Straight-through joint for 4-core cables, e.g. GKN, GN-CLN

Test standards

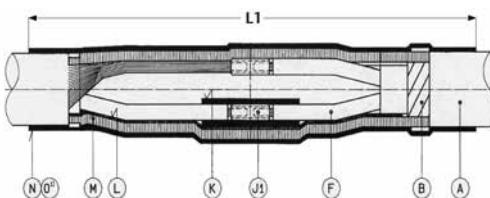
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

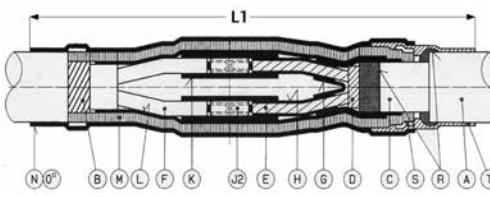
- Unlimited shelf life



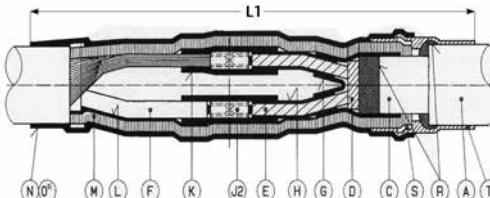
Dimensions



GKN – GN-CLN



GN-CLN – PPb



GKN – PPb

- A = Outer sheath
- B = CL armouring
- C = Lead sheath
- D = Paper belt
- E = Paper insulated conductor
- F = Conductor
- G = Spreader cap SEMH4
- H = Heat shrinkable tube SR2
- J1 = Connector
- J2 = Connector with separator
- K = Heat shrinkable tube SRH3
- L = High voltage insulation tape No. 62/38 mm
- M = Copper braid tape No. 63/60 mm
- N/O = Heat shrinkable cuff / Outer sleeve SRH2
- R = Mastic tape HKB
- S = High voltage insulation tape No. 62/19 mm
- T = Heat shrinkable tube SRH

Scope of delivery

Outer sleeve, copper braid tape, inner protective sleeve (belt sleeve), inner sleeves, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)
Accessory kit ZS-PPb (required for PPb cables)



Particularly for the
Swiss market

→ Continued on the next page



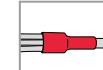
Straight-through joints

→ Continuation

SM, SM-MA Heat shrinkable universal straight-through jointParticularly for the
Swiss market

Polymeric cable unarmoured / armoured	Mass-impregnated paper cable (with accessory kit ZS-PPb)
 4x	 4x

Type	L1 mm	Nominal cross section per conductor mm ²		Art.-No.
Heat shrinkable tube for outer protection				
SM	4-10	4 - 10	4 - 10	126713
	16-50	16 - 50	16 - 35	126714
	50-95	50 - 95	50 - 95	126715
	95-150	95 - 150	95 - 150	180739
	120-240	120 - 240	120 - 240	126716
Sleeve for outer protection				
SM-MA	4-10	4 - 10	4 - 10	126717
	16-50	16 - 50	16 - 35	126696
	50-95	50 - 95	50 - 95	126697
	95-150	95 - 150	95 - 150	180760
	120-240	120 - 240	120 - 240	126698



SMSV

Heat shrinkable universal straight-through joint

with screw connectors (with shear head bolts), for polymeric cables with concentric conductor

Universally suitable for connecting polymeric-insulated cables and conductors with concentric conductors and insulations made of PVC, PE and XLPE, e.g. GKN and GN-CLN.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

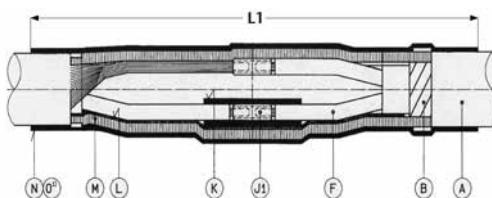
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



A = Outer sheath

B = CL armouring

F = Conductor

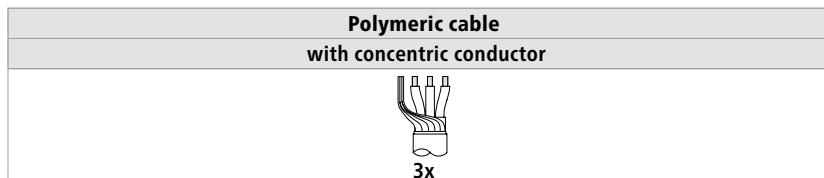
J1 = Connector

K = Heat shrinkable tube SRH3

L = High voltage insulation tape No. 62/38 mm

M = Copper braid tape No. 63/60 mm

N/O = Heat shrinkable cuff / Outer sleeve SRH2



Type	L1 mm	Nominal cross section per conductor mm ²	Art.-No.
SMSV	4-16	4 - 16	335141
	16-95	16 - 95	335143
	95-240	95 - 240	335144



Straight-through joints

ZS-PPb Accessory kit

for mass-impregnated paper cables for heat shrinkable universal straight-through joints SM and SM-MA

To build a transition joint for mass-impregnated paper cables for the heat shrinkable universal straight-through joints.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- High electrical insulating values
- High mechanical strength

Application/Suitability

- For heat shrinkable universal straight-through joints SM and SM-MA

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

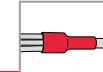
**Scope of delivery**

Spreader cap, heat shrinkable tubes, roughening strip



Particularly for the
Swiss market

Type		Art.-No.
ZS-PPb	4-10	126773
	16-35	126769
	25-50	366132
	50-95	126770
	95-150	180761
	120-240	126771



SMDH

Heat shrinkable straight-through joint

for armoured polymeric cables

Universally suitable for connecting light armoured polymeric cables insulated with PVC, PE and XLPE (e.g. GN-CLN). Suitable for compression connectors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

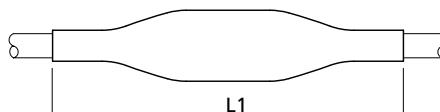
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



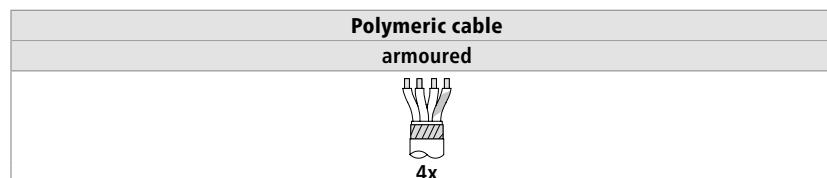
Scope of delivery

Outer sleeve, copper braid tape, inner protective sleeve (belt sleeve), inner sleeves, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)



Particularly for the
Swiss market



Type	L1 mm	Nominal cross section per conductor mm ²	Art.-No.
SMDH	1.5-10	1.5 - 10	126740
	16-35	16 - 35	126719
	50-95	50 - 95	126720
	120-240	120 - 240	126721



Straight-through joints

EASY-FIX

SRMH Cable repair kit

for damaged cables and conductors

For fast connecting and insulation of drilled or otherwise damaged cables without the necessity to insert the new lines. The cable repair kit restores the electric and mechanical properties in the installed cable.

Characteristics

- With hot melt adhesive
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- High flexibility
- High tensile strength
- Resistant to cold flow (thermally stable)
- Self-extinguishing

Application/Suitability

- For repairing of damaged sheaths of all plastic- and rubber-insulated cables and conductors

Storage conditions/Shelf life

- Unlimited shelf life



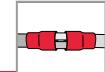
Scope of delivery

SRMH3: 1 heat shrinkable tube, 3 heat shrinkable crimp connectors, 4 cable ties

SRMH5: 1 heat shrinkable tube, 5 heat shrinkable crimp connectors, 5 cable ties

Note: Sales display with 20 SRMH cable repair kits, packed individually.

Polymeric cable unarmoured			
Type	Nominal cross section per conductor mm ²		Art.-No.
SRMH	3	1.5 - 2.5	254684
	5	1.5 - 2.5	345619



SMH4...Pb-RF

Heat shrinkable transition joint

with solderless earthing wire connection, for polymeric cables and mass-impregnated paper cables

Universally suitable for transition from mass-impregnated paper cables to polymeric-insulated cables made of PVC, PE and XLPE, e.g. N(A)KBA on N(A)YY.
Suitable for compression connectors on aluminium or copper cables.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

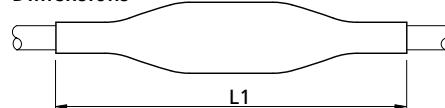
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions

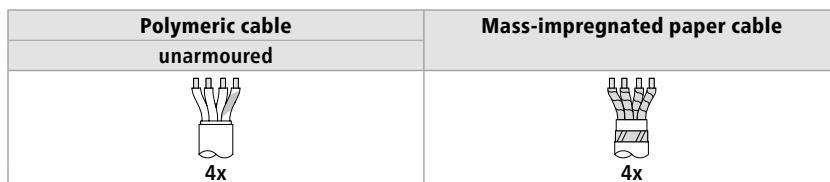


Scope of delivery

Outer sleeve, earthing wire, pressure spring, spreader cap, inner sleeves, core insulating tubes, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Note: Use only connectors with separator.



Type	L1 mm	Nominal cross section per conductor mm ²		Art.-No.
SMH4	25-70 Pb-RF	800	25 - 70	150825
	70-150 Pb-RF	1000	70 - 150	145354
	150-300 Pb-RF	1200	150 - 300	150826



Transition joints

SMHSV4...Pb-RF**Heat shrinkable transition joint**

with screw connectors, with solderless earthing wire connection, for polymeric cables and mass-impregnated paper cables

Universally suitable for transition from mass-impregnated paper cables to polymeric-insulated cables made of PVC, PE and XLPE, e.g. NAKLEY, N(A)KBA or N(A)YY. With mechanical connectors with shear heads bolts suitable for aluminium or copper cables.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

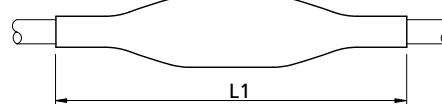
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions****Scope of delivery**

Outer sleeve, earthing wire, pressure spring, spreader cap, inner sleeves, screw connectors CSV-T with shear head bolts, core insulating tubes, cleaning tissue, emery cloth, assembly instructions

Type	L1 mm	Polymeric cable unarmoured	Nominal cross section per conductor mm ²		Art.-No.
		4x	NAKLEY	N(A)KBA	
SMHSV4	6-50 Pb-RF	750	6 - 50	6 - 50	268322
	25-95 Pb-RF	900	25 - 95	25 - 95	268323
	50-150 Pb-RF	1000	50 - 150	50 - 150	268324
	95-240 Pb-RF	1200	95 - 240	95 - 240	307669



SEMH...-K

Voltage-resistant pot end joint

with inner caps and outer cap, for polymeric cables and conductors

Universal pot end cable terminations of unarmoured polymeric-insulated cables and conductors as well as polymeric-insulated cables with concentric conductors with insulation made of PVC, PE and XLPE, e.g. N(A)YY, N(A)XY, TT, N(A)2Y2Y, N(A)2X2Y, N(A)YC(W).

Characteristics

- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

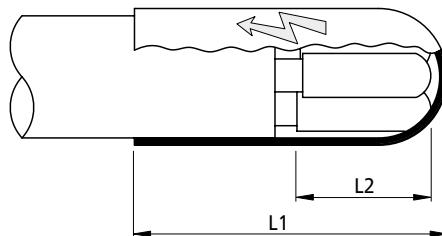
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Sealing caps, heat shrinkable cap with voltage arrow, cleaning tissue, emery cloth, assembly instructions

Type	Polymeric cable			Nominal cross section per conductor mm ²	Art.-No.
	unarmoured		with concentric conductor		
	4x	5x	4x		
SEMH4-K 6-35	100	47	6 - 35	6 - 35	145388
SEMH4-K 35-150	150	75	35 - 150	35/35 - 150/150	145386
SEMH4-K 185-300	215	100	185 - 300	185/185 - 300/300	145391
SEMH5-K 6-35	100	47	6 - 35	6 - 35	360710



Pot end joints

SEMHK4...Pb**Voltage-resistant pot end joint**

with inner cap, for mass-impregnated paper cables

Pot end cable terminations for mass-impregnated paper cables (e.g. N(A)KBA, NAKLEY, PPb).

Characteristics

- Wide conductor and cross-section range
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

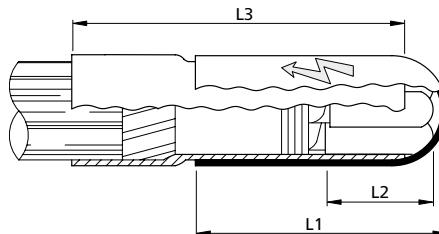
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

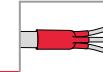
Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions****Scope of delivery**

Sealing tube, heat shrinkable cap with voltage arrow, sealing caps, cleaning tissue, emery cloth, assembly instructions

Mass-impregnated paper cable					
Type	L1 mm	L2 mm	L3 mm	Nominal cross section per conductor mm ²	Art.-No.
SEMHK4	16-50 Pb	75	50	200	16 - 50
	70-120 Pb	145	70	200	70 - 120
	95-300 Pb	140	100	250	95 - 300



SFEX

Heat shrinkable cable termination

for unarmoured polymeric cables and conductors

Universally suitable for connecting the polymeric-insulated cables to electrical equipment, for cables insulated with PE, XLPE, PVC and cable sheaths insulated with PVC or PE. Suitable for compression cable lugs on aluminium and copper cables.

Characteristics

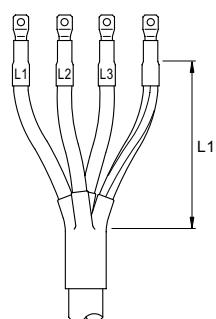
- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- 100 % waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Outdoor
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Note**
- SFEX4 for power cables and conductors with green-yellow wire marking
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Unlimited shelf life



Dimensions



Scope of delivery

Core insulating tubes, spreader cap, sealing tubes, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression cable lugs (see Connecting technology)

Note: Waterproof cable lugs must be used for outdoor cable terminations.

Polymeric cable unarmoured	
 4x	

Type	L1 mm	Nominal cross section per conductor mm ²	Art.-No.
SFEX4	4-16	4 - 16	145436
	25-50	25 - 50	145439
	70-150	70 - 150	145444
	150-300	150 - 300	145449

**SFEH****Heat shrinkable cable termination**

for unarmoured polymeric cables

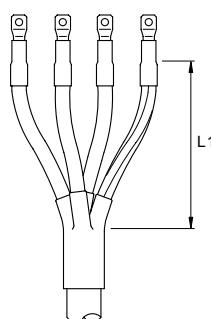
Universally suitable to terminate polymeric cables and electrical equipment.
 Suitable for cables insulated with PE, VPE, PVC und cable sheaths insulated with PVC or PE suitable for compression lugs on aluminium and copper conductors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Voltage level**
 - $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
 - DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
 - Unlimited shelf life

**Dimensions**

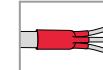
L1 = user-defined

Scope of delivery

Spreader cap, sealing tubes, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression cable lugs (see Connecting technology)

Polymeric cable unarmoured			
Type	Nominal cross section per conductor mm^2		Art.-No.
SFEH4	1.5-6	1.5 - 6	145434
	4-16	4 - 16	145435
	25-50	25 - 50	145438
	70-150	70 - 150	145443
	150-300	150 - 300	145448



SESCW

Heat shrinkable cable termination

for polymeric cables with concentric conductor

Universally suitable to terminate polymeric cables with concentric conductor and electrical equipment. Suitable for cables insulated with PVC, cable sheaths insulated with PVC and PE and for compression connectors on aluminium and copper conductors.

Characteristics

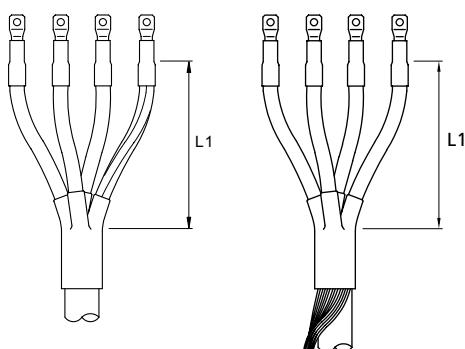
- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- 100 % waterproof
- High electrical insulating values
- High mechanical strength

Application/Suitability

- Indoor
- Outdoor
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, sealing tubes, insulating tube for concentric conductor (Ceander), cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression cable lugs (see Connecting technology)

Note: Waterproof cable lugs must be used for outdoor cable terminations.

Polymeric cable with concentric conductor				
Type	L1 mm	Nominal cross section per conductor mm ²		Art.-No.
SESCW	4-16	300	4/4 - 16/16	148168
	25-50	400	25/25 - 50/50	154637
	70-150	500	70/70 - 150/150	145401
	150-300	500	150/150 - 300/300	145400



SEH4...V-S

Heat shrinkable indoor cable termination

for armoured polymeric cables

For connecting polymeric cables to distribution cupboards and panels. Suitable for PVC and XLPE insulated cables and PVC and PE cable sheaths with protective armouring (e.g. GN-CLN). Suitable for compression lugs on aluminium and copper conductors.

Characteristics

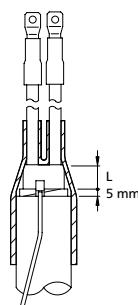
- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
 - $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
 - DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
 - Unlimited shelf life



Dimensions



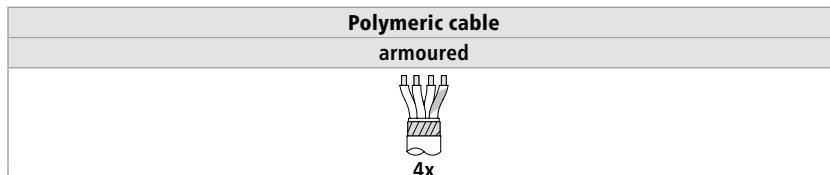
Scope of delivery

Sealing tubes, spreader cap, cleaning tissue, emery cloth, assembly instructions

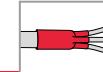
Optional accessory: Compression cable lugs (see Connecting technology)



Particularly for the
Swiss market



Type	L mm	Nominal cross section per conductor mm^2	Art.-No.
SEH4	10-35 V-S	20	131999
	95-150 V-S	20	126821



SEH4...V-C

Heat shrinkable indoor cable termination

for polymeric cables with concentric conductor

For connecting polymeric cables to distribution cupboards and panels. Suitable for PVC and XLPE insulated cables and PVC and PE cable sheaths with concentric conductor (e.g. GKN). Suitable for compression lugs on aluminium and copper conductors.

Characteristics

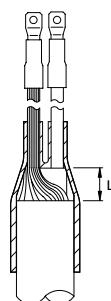
- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Unlimited shelf life



Dimensions



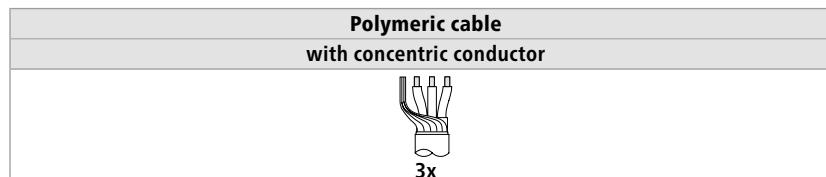
Scope of delivery

Sealing tubes, heat shrinkable tube (Green-Yellow), spreader cap, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression cable lugs (see Connecting technology)



Particularly for the
Swiss market



Type	L mm	Nominal cross section per conductor mm^2	Art.-No.
SEH4	4-10 V-C	20	131100
	10-35 V-C	20	126822
	50-95 V-C	20	126823
	95-150 V-C	20	126832
	120-240 V-C	20	126824



SEH4...S-C

Heat shrinkable indoor cable termination

for polymeric cables with concentric conductor

For connecting polymeric cables to distribution cupboards and panels. Suitable for PVC and XLPE insulated cables and PVC and PE cable sheaths with concentric conductor (e.g. GKN). Suitable for compression lugs on aluminium and copper conductors.

Characteristics

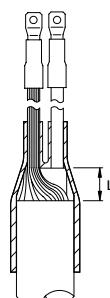
- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
 - $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
 - DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
 - Unlimited shelf life



Dimensions



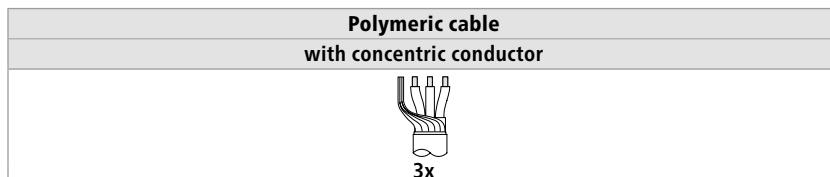
Scope of delivery

Sealing tubes, heat shrinkable tube (Green-Yellow), spreader cap, cleaning tissue, emery cloth, assembly instructions

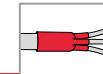
Optional accessory: Compression cable lugs (see Connecting technology)



Particularly for the
Swiss market



Type	L mm	Nominal cross section per conductor mm^2	Art.-No.
SEH4	4-10 S-C	10	126854
	10-35 S-C	20	126855
	50-95 S-C	20	126856
	95-150 S-C	20	126847



SEH4...A+Z

Heat shrinkable indoor and outdoor cable termination

for polymeric cable with concentric conductor and armoured polymeric cables, with connectors

Universally suitable for connecting polymeric cables and cable sheaths insulated with PVC and PE with concentric conductor (e.g. GKN) or protective armour (e.g. GN-CLN). Suitable for compression lugs or compression connectors on aluminium and copper conductors.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Transversely waterproof
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- For double compression connectors with separators complying with DIN 46267

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

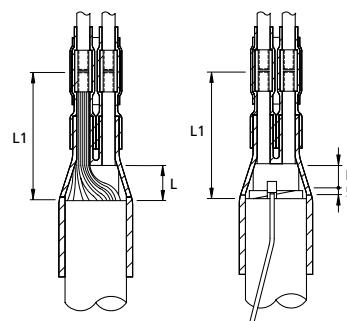
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Sealing tubes, spreader cap, core insulating tubes, double compression connectors (according type, on choice), cleaning tissue, emery cloth, assembly instructions

Optional accessory: Compression cable lugs (see Connecting technology)
Compression connectors (see Connecting technology)

Note: Use only connectors with separator.



Particularly for the
Swiss market

Type	L mm	L1 mm	Polymeric cable		Art.-No.
			with concentric conductor	armoured	
incl. 4 compression type connectors with separator					
SEH4	16 A+Z	20	85	16/16	16 126804
	25 A+Z	20	85	25/25	25 126805
	35 A+Z	20	105	35/35	35 126806
	50 A+Z	20	105	50/50	50 126807



SR2LK, SR2LK-PEN

Heat shrinkable tube kit

for phase marking

Universally suitable for phase marking, for polymeric-insulated cables and conductors in connection area.

Characteristics

- Resistant to chemical agents
- Stabilized against UV rays
- Halogen-free
- Non-corrosive
- Infusible
- Superior electrical properties
- High mechanical strength
- Resistant to cold flow (thermally stable)

Application/Suitability

- Phase marking
- Material**
- Cross-linked polyolefin
 - Free of lead and cadmium
- Storage conditions/Shelf life**
- Unlimited shelf life



Scope of delivery

SR2LK: Black heat shrinkable tube with white markings,
1 kit = L1, L2, L3, N per each piece

SR2LK-PEN: Black heat shrinkable tube with white markings,
1 kit = L1, L2, L3, PEN per each piece

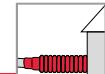
Colours



Black

Note: Green-Yellow heat shrinkable tube with black inscription on request.

Type	L mm	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
Imprint: L1, L2, L3, N						
SR2LK	25-70	50	22	6	2.5	145093
	70-240	80	40	12	2.5	145096
	150-500	125	56	17	2.5	145097
Imprint: L1, L2, L3, PEN						
SR2LK-PEN	25-70	50	22	6	2.5	165612
	70-240	80	40	12	2.5	154982



SHE

Heat shrinkable wall duct

for cables and conductors

Universally suitable for insertion of all types of cables and conduits through building walls.

Characteristics

- Wide conductor and cross-section range
- Extension possible
- Sealant-coated on the inside
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- 100 % waterproof
- Longitudinally watertight up to 1.0 bar
- High mechanical strength

Application/Suitability

- Mechanical protection for cables and conduits routed through walls

Note

- For very thick walls two wall ducts may be joined together. To seal the wall duct, we recommend our putty/sealing compound LG or universal sealing compound Duct Seal and to centre the wall duct to use our KZ centering aid, which consists of PE foam.

Storage conditions/Shelf life

- Unlimited shelf life



Scope of delivery

Wall duct, assembly instructions

Optional accessory: Putty/sealing compound LG (see Accessories)

Universal sealing compound DUCT SEAL (see Accessories)

Centring aid KZ (see Accessories)

Type	L1 mm	Cable-Ø mm	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	max. Wall thickness mm	Wall breakthrough mm	Art.-No.	
SHE	14-8	800	8 - 14	25	6	500	40	145600
	26-12	800	12 - 26	35	10	500	55	145604
	41-16	800	16 - 41	47	16	500	70	145616
	54-26	800	26 - 54	65	25	500	90	145611
	95-54	800	54 - 95	115	35	500	140	145614



Overview: BBC Cellpack Heat shrinkable tubes

Products	Properties					
	with adhesive	without adhesive	black	coloured	halogen-free	self-extinguishing
Thin wall heat shrinkable tubes						
Shrink ratio 2:1						
SRC1	-	●	●	-	●	-
SR1F	-	●	●	●	-	●
SB	-	●	●	●	-	●
SBS	-	●	●	-	-	●
MBS	-	●	●	- / ●	● / -	- / ●
Shrink ratio 3:1						
SR1F3	-	●	●	●	-	●
SB	-	●	●	●	-	●
Medium wall heat shrinkable tubes						
Shrink ratio 3:1						
SRUM	●	-	●	-	-	●
SR2	-	●	●	●	●	-
SRH2	●	-	●	-	●	-
SRFH2	●	-	●	-	-	●
MMK	●	-	●	-	-	●
Shrink ratio 4:1						
SRUM	●	-	●	-	-	●
Thick wall heat shrinkable tubes						
Shrink ratio 3:1						
SR3	-	●	●	-	●	-
SRH3	●	-	●	-	●	-
SRFH3	●	-	●	-	-	●
SRBK	●	-	●	-	●	-

- available
- not available

**SRC1****Heat shrinkable thin wall tube**

halogen-free, shrink ratio 2 : 1, without adhesive

Characteristics

- Thin wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Non-corrosive
- Infusible
- High flexibility
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)

Application/Suitability

- Insulating
- Bundling
- Marking
- Corrosion protection
- Mechanical protection

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to MIL-I-23053/5 class 1 and 2

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

Black

Scope of delivery

Thin wall heat shrinkable tube, on spool or in lengths

Note: A standard spool may include sections which have been tied together.

Other lengths available on request.

Type	L m	Inner-Ø inch before shrinking	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Spool Colour: Black						
SRC1	1.2-0.6	300	3/64	1.2	0.6	0.41
	1.6-0.8	300	1/16	1.6	0.8	0.43
	2.4-1.2	300	3/32	2.4	1.2	0.51
	3.2-1.6	300	1/8	3.2	1.6	0.51
	4.8-2.4	300	3/16	4.8	2.4	0.52
	6.4-3.2	300	1/4	6.4	3.2	0.64
	9.5-4.8	150	3/8	9.5	4.8	0.64
	12.7-6.4	100	1/2	12.7	6.4	0.64
	19.1-9.5	50	3/4	19.1	9.5	0.76
	25.4-12.7	50	1	25.4	12.7	0.89
	38.1-19.1	50	1 1/2	38.1	19.1	1.02
	51.0-25.4	50	2	51	25.4	1.14
	Lengths Colour: Black					
	1.2-0.6	1	3/64	1.2	0.6	0.41
	1.6-0.8	1	1/16	1.6	0.8	0.43
	2.4-1.2	1	3/32	2.4	1.2	0.51
	3.2-1.6	1	1/8	3.2	1.6	0.51
	4.8-2.4	1	3/16	4.8	2.4	0.52
	6.4-3.2	1	1/4	6.4	3.2	0.64
	9.5-4.8	1	3/8	9.5	4.8	0.64
	12.7-6.4	1	1/2	12.7	6.4	0.64
	19.1-9.5	1	3/4	19.1	9.5	0.76
	25.4-12.7	1	1	25.4	12.7	0.89
	38.1-19.1	1	1 1/2	38.1	19.1	1.02
	51.0-25.4	1	2	51	25.4	1.14

→ Continued on the next page



→ Continuation

SRC1 Heat shrinkable thin wall tube

Technical data	Value	Test standard
Physical properties		
Elongation at break	200 %	ASTM D 638
Tensile strength at break	10 MPa	ASTM D 638
Longitudinal shrinkage	≤ 10 %	ASTM D 2671
Shrink ratio	2:1	
Thermal properties		
Operating temperature range	-30 °C up to 105 °C	IEC 216
Shrinkage temperature	> 90 °C	CPT Test
Flexibility at low temperatures	-30 °C	ASTM-D 2671 C
Electrical properties		
Specific volume resistivity	$10^{14} \Omega \times \text{cm}$	ASTM D 257
Chemical properties		
Corrosion	None	ASTM D 2671 B
Resistance to fungus and decay	No growth	AMS-DTL-7444

**SR1F****Heat shrinkable thin wall tube**

self-extinguishing, shrink ratio 2 : 1, without adhesive

Characteristics

- Thin wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Non-corrosive
- Infusible
- High flexibility
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)
- Self-extinguishing (except transparent)

Application/Suitability

- Insulating
 - Bundling
 - Marking
 - Corrosion protection
 - Mechanical protection
- Material**
- Cross-linked polyolefin
 - Free of lead and cadmium
- Test standards**
- Approved according to UL File No.: E 172094
 - Corresponds to MIL-I-23053/5 class 1
- Storage conditions/Shelf life**
- Unlimited shelf life

**Scope of delivery**

Thin wall heat shrinkable tube, on spool or in lengths

Note: A standard spool may include sections which have been tied together.

Other lengths available on request.

Colours

	Black		Blue		Yellow		Red		White
	Transparent		Green		Grey		Brown		Green-Yellow

Type	L m	Inner-Ø inch before shrinking	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Spool Colour: Black						
SR1F	1.6-0.8	300	1/16	1.6	0.8	0.43
	2.4-1.2	300	3/32	2.4	1.2	0.51
	3.2-1.6	300	1/8	3.2	1.6	0.51
	4.8-2.4	300	3/16	4.8	2.4	0.52
	6.4-3.2	300	1/4	6.4	3.2	0.64
	9.5-4.8	150	3/8	9.5	4.8	0.64
	12.7-6.4	100	1/2	12.7	6.4	0.64
	19.1-9.5	50	3/4	19.1	9.5	0.76
	25.4-12.7	50	1	25.4	12.7	0.89
	38.1-19.1	50	1 1/2	38.1	19.1	1.02
	51.0-25.4	50	2	51	25.4	1.14
	76.0-38.0	25	3	76	38	1.27
	102.0-51.0	25	4	102	51	1.40
Lengths Colour: Black						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	76.0-38.0	1.2	3	76	38	1.27
	102.0-51.0	1.2	4	102	51	1.40

→ Continued on the next page



Type	L m	Inner-Ø inch before shrinking	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
(Continuation) Lengths Colour: Blue						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	76.0-38.0	1.2	3	76	38	1.27
	102.0-51.0	1.2	4	102	51	1.40
Lengths Colour: Yellow						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	102.0-51.0	1.2	4	102	51	1.40
Lengths Colour: Red						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	76.0-38.0	1.2	3	76	38	1.27
	102.0-51.0	1.2	4	102	51	1.40
Lengths Colour: White						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	76.0-38.0	1.2	3	76	38	1.27
	102.0-51.0	1.2	4	102	51	1.40
Lengths Colour: Transparent						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76



Type	L m	Inner-Ø inch before shrinking	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
(Continuation) Lengths Colour: Transparent						
SR1F	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	76.0-38.0	1.2	3	76	38	1.27
SR1F	102.0-51.0	1.2	4	102	51	1.40
	Lengths Colour: Green					
	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	102.0-51.0	1.2	4	102	51	1.40
Lengths Colour: Grey						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	76.0-38.0	1.2	3	76	38	1.27
	102.0-51.0	1.2	4	102	51	1.40
Lengths Colour: Brown						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	76.0-38.0	1.2	3	76	38	1.27
	102.0-51.0	1.2	4	102	51	1.40
Lengths Colour: Green-Yellow						
SR1F	1.2-0.6	1.2	3/64	1.2	0.6	0.41
	1.6-0.8	1.2	1/16	1.6	0.8	0.43
	2.4-1.2	1.2	3/32	2.4	1.2	0.51
	3.2-1.6	1.2	1/8	3.2	1.6	0.51
	4.8-2.4	1.2	3/16	4.8	2.4	0.52
	6.4-3.2	1.2	1/4	6.4	3.2	0.64
	9.5-4.8	1.2	3/8	9.5	4.8	0.64
	12.7-6.4	1.2	1/2	12.7	6.4	0.64
	19.1-9.5	1.2	3/4	19.1	9.5	0.76
	25.4-12.7	1.2	1	25.4	12.7	0.89
	38.1-19.1	1.2	1 1/2	38.1	19.1	1.02
	51.0-25.4	1.2	2	51	25.4	1.14
	102.0-51.0	1.2	4	102	51	1.40

→ Continued on the next page



→ Continuation

SR1F Heat shrinkable thin wall tube

Technical data	Value	Test standard
Physical properties		
Elongation at break	350 %	ASTM D 638
Tensile strength at break	13 MPa	ASTM D 638
Longitudinal shrinkage	≤ 10 %	ASTM D 2671
Shrink ratio	2:1	IEC 811-1-1
Thermal properties		
Operating temperature range	-55 °C up to 135 °C	IEC 216
Shrinkage temperature	> 90 °C	CPT Test
Burning behaviour	self-extinguishing	UL 224
Flexibility at low temperatures	-55 °C	ASTM-D 2671 C
Electrical properties		
Dielectric strength	20 kV/mm	ASTM D 2671
Specific volume resistivity	10 ¹⁴ Ω x cm	ASTM D 257
Chemical properties		
Corrosion	None	ASTM D 2671 B
Resistance to fungus and decay	No growth	AMS-DTL-7444

**SR1F3****Heat shrinkable thin wall tube**

self-extinguishing, shrink ratio 3 : 1, without adhesive

Characteristics

- Thin wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Non-corrosive
- Infusible
- High flexibility
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)
- Self-extinguishing (except transparent)

Application/Suitability

- Insulating
- Bundling
- Marking
- Corrosion protection
- Mechanical protection

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Approved according to UL File No.: E 172094
- Corresponds to MIL-I-23053/5 class 1

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

	Black		Blue		Yellow		Red		White
	Transparent		Green		Grey		Brown		Green-Yellow

Scope of delivery

Thin wall heat shrinkable tube, on spool or in lengths

Note: A standard spool may include sections which have been tied together.

Other lengths available on request.

Type	L m	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Spool Colour: Black					
SR1F3	1.5-0.5	300	1.5	0.5	126977
	3.0-1.0	300	3	1	0.55
	6.0-2.0	300	6	2	0.65
	9.0-3.0	150	9	3	0.75
	12.0-4.0	100	12	4	0.75
	18.0-6.0	50	18	6	0.75
	24.0-8.0	50	24	8	1.00
	39.0-13.0	30	39	13	1.15
Lengths Colour: Black					
SR1F3	1.5-0.5	1	1.5	0.5	144362
	3.0-1.0	1	3	1	0.55
	6.0-2.0	1	6	2	0.65
	9.0-3.0	1	9	3	0.75
	12.0-4.0	1	12	4	0.75
	18.0-6.0	1	18	6	0.75
	24.0-8.0	1	24	8	1.00
	39.0-13.0	1	39	13	1.15
Lengths Colour: Blue					
SR1F3	3.0-1.0	1	3	1	0.55
	6.0-2.0	1	6	2	0.65
	9.0-3.0	1	9	3	0.75
	12.0-4.0	1	12	4	0.75
	18.0-6.0	1	18	6	0.75
	24.0-8.0	1	24	8	1.00
	39.0-13.0	1	39	13	1.15
Lengths Colour: Yellow					
SR1F3	3.0-1.0	1	3	1	0.55
	6.0-2.0	1	6	2	0.65
	9.0-3.0	1	9	3	0.75
	12.0-4.0	1	12	4	0.75
	18.0-6.0	1	18	6	0.75
	24.0-8.0	1	24	8	1.00
	39.0-13.0	1	39	13	1.15

→ Continued on the next page



Type	L m	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
(Continuation) Lengths Colour: Red						
SR1F3	1.5-0.5	1	1.5	0.5	0.45	144366
	3.0-1.0	1	3	1	0.55	144374
	6.0-2.0	1	6	2	0.65	144383
	9.0-3.0	1	9	3	0.75	144390
	12.0-4.0	1	12	4	0.75	144397
	18.0-6.0	1	18	6	0.75	144403
	24.0-8.0	1	24	8	1.00	144410
	39.0-13.0	1	39	13	1.15	144417
Lengths Colour: White						
SR1F3	1.5-0.5	1	1.5	0.5	0.45	144367
	3.0-1.0	1	3	1	0.55	144375
	6.0-2.0	1	6	2	0.65	144384
	9.0-3.0	1	9	3	0.75	144391
	12.0-4.0	1	12	4	0.75	144398
	18.0-6.0	1	18	6	0.75	144404
	24.0-8.0	1	24	8	1.00	144411
	39.0-13.0	1	39	13	1.15	144418
Lengths Colour: Transparent						
SR1F3	1.5-0.5	1	1.5	0.5	0.45	144363
	3.0-1.0	1	3	1	0.55	144369
	6.0-2.0	1	6	2	0.65	144379
	9.0-3.0	1	9	3	0.75	144386
	12.0-4.0	1	12	4	0.75	144393
	18.0-6.0	1	18	6	0.75	144400
	24.0-8.0	1	24	8	1.00	144407
	39.0-13.0	1	39	13	1.15	144414
Lengths Colour: Green						
SR1F3	1.5-0.5	1	1.5	0.5	0.45	204010
	3.0-1.0	1	3	1	0.55	204014
	6.0-2.0	1	6	2	0.65	154613
	9.0-3.0	1	9	3	0.75	204021
	12.0-4.0	1	12	4	0.75	204025
	24.0-8.0	1	24	8	1.00	204031
	39.0-13.0	1	39	13	1.15	144419
Lengths Colour: Grey						
SR1F3	1.5-0.5	1	1.5	0.5	0.45	204008
	3.0-1.0	1	3	1	0.55	204012
	6.0-2.0	1	6	2	0.65	204016
	9.0-3.0	1	9	3	0.75	204019
	12.0-4.0	1	12	4	0.75	204023
	18.0-6.0	1	18	6	0.75	204027
	24.0-8.0	1	24	8	1.00	204030
	39.0-13.0	1	39	13	1.15	204033
Lengths Colour: Brown						
SR1F3	3.0-1.0	1	3	1	0.55	204013
	6.0-2.0	1	6	2	0.65	204017
	9.0-3.0	1	9	3	0.75	204020
	12.0-4.0	1	12	4	0.75	204024
	18.0-6.0	1	18	6	0.75	204028
	24.0-8.0	1	24	8	1.00	144412
	39.0-13.0	1	39	13	1.15	204034
Lengths Colour: Green-Yellow						
SR1F3	1.5-0.5	1	1.5	0.5	0.45	204011
	3.0-1.0	1	3	1	0.55	204015
	6.0-2.0	1	6	2	0.65	204018
	9.0-3.0	1	9	3	0.75	204022
	12.0-4.0	1	12	4	0.75	204026
	18.0-6.0	1	18	6	0.75	204029
	24.0-8.0	1	24	8	1.00	204032
	39.0-13.0	1	39	13	1.15	204035

→ Continued on the next page



→ Continuation

SR1F3 Heat shrinkable thin wall tube

Technical data	Value	Test standard
Physical properties		
Elongation at break	300 %	ASTM D 638
Tensile strength at break	13 MPa	ASTM D 638
Longitudinal shrinkage	≤ 10 %	ASTM D 2671
Shrink ratio	3:1	IEC 811-1-1
Thermal properties		
Operating temperature range	-55 °C up to 135 °C	IEC 216
Shrinkage temperature	> 90 °C	CPT Test
Burning behaviour	self-extinguishing	UL 224
Flexibility at low temperatures	-55 °C	ASTM-D 2671 C
Electrical properties		
Dielectric strength	20 kV/mm	ASTM D 2671
Specific volume resistivity	10 ¹⁴ Ω x cm	ASTM D 257
Chemical properties		
Corrosion	None	ASTM D 2671 B
Resistance to fungus and decay	No growth	AMS-DTL-7444

**SB****Heat shrinkable tube in dispenser box**

thin wall, self-extinguishing, shrink ratio 2 : 1, without adhesive

Characteristics

- Back-winding mechanism facilitates rolling up of tube
- User friendly, notch prevents tube from rolling back into the box

Note

- Self-extinguishing (except transparent)
- See „SR1F“ heat shrinkable tube for further information on product properties and technical data

Application/Suitability

- Insulating
- Bundling
- Marking
- Corrosion protection
- Mechanical protection

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Approved according to UL File No.: E 172094
- Corresponds to MIL-I-23053/5 class 1

Storage conditions/Shelf life

- Unlimited shelf life

**Scope of delivery**

Thin wall heat shrinkable tube in dispenser box

Note: A standard spool may include sections which have been tied together.

Colours

	Black		Blue		Yellow		Red		White
	Transparent		Green		Grey		Brown		Orange
	Green-Yellow								

Type	L m	Inner-Ø inch before shrinking	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Colour: Black						
SB	1.2-0.6	15	3/64	1.2	0.6	0.41
	1.6-0.8	15	1/16	1.6	0.8	0.43
	2.4-1.2	15	3/32	2.4	1.2	0.51
	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
Colour: Blue						
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
Colour: Yellow						
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
Colour: Red						
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64

→ Continued on the next page



Type	L m	Inner-Ø inch before shrinking	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
(Continuation) Colour: Red						
SB	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
Colour: White						
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
	Colour: Transparent					
SB	1.2-0.6	15	3/64	1.2	0.6	0.41
	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
Colour: Green						
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
	Colour: Grey					
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
	Colour: Brown					
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	10	1/4	6.4	3.2	0.64
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
	Colour: Orange					
SB	3.2-1.6	15	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	9.5-4.8	10	3/8	9.5	4.8	0.64
	12.7-6.4	8	1/2	12.7	6.4	0.64
	19.1-9.5	7	3/4	19.1	9.5	0.76
	25.4-12.7	4	1	25.4	12.7	0.89
	Colour: Green-Yellow					
	SB	3.2-1.6	15	1/8	3.2	1.6
		4.8-2.4	10	3/16	4.8	0.51
		6.4-3.2	10	1/4	6.4	0.64
		9.5-4.8	10	3/8	9.5	0.64
		12.7-6.4	8	1/2	12.7	0.64
		19.1-9.5	7	3/4	19.1	0.76
		25.4-12.7	4	1	25.4	0.89
		Colour: Red				

**SB****Heat shrinkable tube in dispenser box**

thin wall, self-extinguishing, shrink ratio 3 : 1, without adhesive

Characteristics

- Back-winding mechanism facilitates rolling up of tube
 - User friendly, notch prevents tube from rolling back into the box
 - Self-extinguishing (except transparent)
- Note**
- See „SR1F3“ heat shrinkable tube for further information on product properties and technical data

Application/Suitability

- Insulating
- Bundling
- Marking
- Corrosion protection
- Mechanical protection

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Approved according to UL File No.: E 172094
- Corresponds to MIL-I-23053/5 class 1

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

	Black		Blue		Yellow		Red		White
	Transparent		Green		Grey		Brown		Green-Yellow

Scope of delivery

Thin wall heat shrinkable tube in dispenser box

Note: A standard spool may include sections which have been tied together.

Type	L m	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Colour: Black					
SB	1.5-0.5	15	1.5	0.5	127097
	3.0-1.0	15	3	1	0.55
	6.0-2.0	10	6	2	0.65
	9.0-3.0	10	9	3	0.75
	12.0-4.0	8	12	4	0.75
	18.0-6.0	7	18	6	0.75
	24.0-8.0	4	24	8	1.00
Colour: Blue					
SB	1.5-0.5	15	1.5	0.5	127099
	3.0-1.0	15	3	1	0.55
	6.0-2.0	10	6	2	0.65
	9.0-3.0	10	9	3	0.75
	12.0-4.0	8	12	4	0.75
	18.0-6.0	7	18	6	0.75
	24.0-8.0	4	24	8	1.00
Colour: Yellow					
SB	1.5-0.5	15	1.5	0.5	127100
	3.0-1.0	15	3	1	0.55
	6.0-2.0	10	6	2	0.65
	9.0-3.0	10	9	3	0.75
	12.0-4.0	8	12	4	0.75
	18.0-6.0	7	18	6	0.75
	24.0-8.0	4	24	8	1.00
Colour: Red					
SB	1.5-0.5	15	1.5	0.5	127101
	3.0-1.0	15	3	1	0.55
	6.0-2.0	10	6	2	0.65
	9.0-3.0	10	9	3	0.75
	12.0-4.0	8	12	4	0.75
	18.0-6.0	7	18	6	0.75
	24.0-8.0	4	24	8	1.00
Colour: White					
SB	1.5-0.5	15	1.5	0.5	127102
	3.0-1.0	15	3	1	0.55

→ Continued on the next page



Type	L m	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
(Continuation) Colour: White						
SB	6.0-2.0	10	6	2	0.65	127116
	9.0-3.0	10	9	3	0.75	127123
	12.0-4.0	8	12	4	0.75	127130
	18.0-6.0	7	18	6	0.75	127137
	24.0-8.0	4	24	8	1.00	127144
Colour: Transparent						
SB	1.5-0.5	15	1.5	0.5	0.45	127098
	3.0-1.0	15	3	1	0.55	144462
	6.0-2.0	10	6	2	0.65	127112
	9.0-3.0	10	9	3	0.75	127119
	12.0-4.0	8	12	4	0.75	127126
	18.0-6.0	7	18	6	0.75	127133
	24.0-8.0	4	24	8	1.00	127140
Colour: Green						
SB	1.5-0.5	15	1.5	0.5	0.45	200294
	3.0-1.0	15	3	1	0.55	127110
	6.0-2.0	10	6	2	0.65	127117
	9.0-3.0	10	9	3	0.75	200295
	12.0-4.0	8	12	4	0.75	127131
	24.0-8.0	4	24	8	1.00	127145
Colour: Grey						
SB	1.5-0.5	15	1.5	0.5	0.45	203674
	3.0-1.0	15	3	1	0.55	203675
	6.0-2.0	10	6	2	0.65	203676
	9.0-3.0	10	9	3	0.75	203677
	12.0-4.0	8	12	4	0.75	203678
	18.0-6.0	7	18	6	0.75	203679
	24.0-8.0	4	24	8	1.00	203680
Colour: Brown						
SB	3.0-1.0	15	3	1	0.55	203787
	6.0-2.0	10	6	2	0.65	203788
	9.0-3.0	10	9	3	0.75	203789
	12.0-4.0	8	12	4	0.75	203790
	18.0-6.0	7	18	6	0.75	203791
	24.0-8.0	4	24	8	1.00	203792
Colour: Green-Yellow						
SB	1.5-0.5	15	1.5	0.5	0.45	204297
	3.0-1.0	15	3	1	0.55	204298
	6.0-2.0	10	6	2	0.65	204299
	9.0-3.0	10	9	3	0.75	204310
	12.0-4.0	8	12	4	0.75	204311
	18.0-6.0	7	18	6	0.75	204312
	24.0-8.0	4	24	8	1.00	204313

**SBS****Heat shrinkable tube in dispenser box**

thin wall, self-extinguishing, shrink ratio 2 : 1, without adhesive

Characteristics

- Back-winding mechanism facilitates rolling up of tube
- User friendly, notch prevents tube from rolling back into the box

Note

- Self-extinguishing (except transparent)
- See „SR1F“ heat shrinkable tube for further information on product properties and technical data

Application/Suitability

- Insulating
- Bundling
- Marking
- Corrosion protection
- Mechanical protection

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Approved according to UL File No.: E 172094
- Corresponds to MIL-I-23053/5 class 1

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

Black

Scope of delivery

Thin wall heat shrinkable tube in dispenser box

Note: A standard spool may include sections which have been tied together.

Type	L m	Inner-Ø inch before shrinking	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Colour: Black						
SBS	1.2-0.6	10	3/64	1.2	0.6	0.41
	1.6-0.8	10	1/16	1.6	0.8	0.43
	2.4-1.2	10	3/32	2.4	1.2	0.51
	3.2-1.6	10	1/8	3.2	1.6	0.51
	4.8-2.4	10	3/16	4.8	2.4	0.51
	6.4-3.2	5	1/4	6.4	3.2	0.64
	9.5-4.8	5	3/8	9.5	4.8	0.64
	12.7-6.4	5	1/2	12.7	6.4	0.64
	19.1-9.5	5	3/4	19.1	9.5	0.76
	25.4-12.7	3	1	25.4	12.7	0.89
						145189



MBS1

Assortment box

with thin wall heat shrinkable tubes and cable ties

Characteristics

- Practice-oriented product assortment
- Note**
- See „SR1F“ and „SRC1“ heat shrinkable tubes and „KS“ cable ties for further information on product properties and technical data

Application/Suitability

- For marking and insulation of cables and conductors
- Corrosion protection
- Mechanical protection

Test standards

- Approved according to UL File No.: E 172094
- Corresponds to MIL-I-23053/5 class 1

Storage conditions/Shelf life

- Unlimited shelf life



Scope of delivery

Assortment box, cable ties, heat shrinkable tubes in various dimensions, lengths and colours

Heat shrinkable tubes				
SR1F	1.6-0.8	Red	30 mm	50 pieces
	2.4-1.2	Red	50 mm	10 pieces
	3.2-1.6	Yellow	30 mm	30 pieces
	3.2-1.6	Transparent	50 mm	40 pieces
	4.8-2.4	Yellow	100 mm	10 pieces
	4.8-2.4	Transparent	100 mm	10 pieces
	4.8-2.4	Blue	50 mm	25 pieces
	4.8-2.4	Red	50 mm	25 pieces
	6.4-3.2	Red	100 mm	10 pieces
	6.4-3.2	Blue	100 mm	10 pieces
	6.4-3.2	White	50 mm	10 pieces
	6.4-3.2	Transparent	50 mm	10 pieces
	2.4-1.2	Black	50 mm	30 pieces
SRC1	9.5-4.8	Black	50 mm	10 pieces
	12.7-6.4	Black	100 mm	5 pieces
	12.7-6.4	Black	150 mm	5 pieces
	19.1-9.5	Black	100 mm	5 pieces
	19.1-9.5	Black	200 mm	5 pieces
	25.4-12.7	Black	250 mm	3 pieces
	Cable ties			
KS	3.6-140	Black	140 mm	100 pieces

Type	Art.-No.
MBS1	144420

**MMK****Mini joint case**

with medium wall heat shrinkable tubes and heat shrinkable crimp connectors, for joints up to 2.5 mm²

Characteristics

- Practical multi-purpose case with adjustable compartments, containing heat shrinkable tubes and heat shrinkable crimp connectors

Note

- See „SRUM“ heat shrinkable tube and „DR“ heat shrinkable crimp connectors for further information on product properties and technical data

Application/Suitability

- Fast-assembly kit for up to 16 straight-through joints ranging between 0.5 and 2.5 mm²

**Scope of delivery**

Multi-purpose case, heat shrinkable tubes and heat shrinkable crimp connectors in various dimensions, lengths and colours

Heat shrinkable tubes				
SRUM	18-6	Black	160 mm	10 pieces
	24-8	Black	160 mm	6 pieces
Heat shrinkable crimp connectors				
DR	1	Red		20 pieces
	2	Blue		30 pieces

Type	Art.-No.
MMK	193442

**SRUM****Heat shrinkable medium wall tube**

self-extinguishing, flexible, shrink ratio 3 : 1 or 4 : 1, with adhesive

Characteristics

- Medium wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Non-corrosive
- Infusible
- High flexibility
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)
- Self-extinguishing

Application/Suitability

- Insulating
- Bundling
- Corrosion protection
- Mechanical protection

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to MIL-I-23053/4

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

Black

Scope of delivery

Medium wall heat shrinkable tube, on spool or in lengths

Note: A standard spool may include sections which have been tied together.
Other lengths available on request.

Type	L m	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
Shrink ratio 3:1						
Spool Colour: Black						
SRUM	3-1	300	3	1	1.4	127471
	6-2	300	6	2	1.7	127472
	9-3	150	9	3	1.9	127473
	12-4	100	12	4	2.3	127474
	18-6	50	18	6	2.7	127475
	24-8	50	24	8	3.1	127476
	39-13	30	39	13	3.1	127477
Lengths Colour: Black						
SRUM	3-1	1	3	1	1.4	148840
	6-2	1	6	2	1.7	149433
	9-3	1	9	3	1.9	152008
	12-4	1	12	4	2.3	148842
	18-6	1	18	6	2.7	150148
	24-8	1	24	8	3.1	150278
	39-13	1	39	13	3.1	150149
Shrink ratio 4:1						
Spool Colour: Black						
SRUM	4-1	300	4	1	1.4	145064
	8-2	150	8	2	1.7	145065
	16-4	100	16	4	2.3	145069
	24-6	50	24	6	2.7	145071
	32-8	30	32	8	3.1	145073
	52-13	30	52	13	3.1	145075
Lengths Colour: Black						
SRUM	4-1	1	4	1	1.4	240160
	8-2	1	8	2	1.7	240163
	16-4	1	16	4	2.3	240167
	24-6	1	24	6	2.7	240168
	32-8	1	32	8	3.1	240170
	52-13	1	52	13	3.1	155962

→ Continued on the next page



→ Continuation

SRUM Heat shrinkable medium wall tube

Technical data	Value	Test standard
Physical properties		
Elongation at break	300 %	ASTM D 638
Tensile strength at break	11 MPa	ASTM D 638
Longitudinal shrinkage	≤ 15 %	ASTM D 2671
Thermal properties		
Operating temperature range	-55 °C up to 110 °C	IEC 216
Shrinkage temperature	> 110 °C	
Burning behaviour	self-extinguishing	UL 224
Flexibility at low temperatures	-55 °C up to + 110 °C	ASTM-D 2671 C
Electrical properties		
Dielectric strength	15 kV/mm	ASTM D 2671
Specific volume resistivity	10 ¹⁴ Ω x cm	ASTM D 257
Chemical properties		
Corrosion	None	ASTM D 2671 B
Resistance to fungus and decay	No growth	AMS-DTL-7444



SR2, SRH2

Heat shrinkable medium wall tube

halogen-free, shrink ratio 3 : 1, with or without adhesive

Characteristics

- Medium wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
(Colour: Black)
- Free from paint-wetting inhibiting substances
- Halogen-free
- Non-corrosive
- Infusible
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)

Application/Suitability

- Insulating
- Protection against moisture and pressure
- Suitable for heat shrinkable joints and terminations

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life



Colours



Black



Green-Yellow

Scope of delivery

Medium wall heat shrinkable tube, on spool or in lengths

Note: A standard spool may include sections which have been tied together.

Other lengths available on request.

Type	L m	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
without adhesive						
Spool Colour: Black						
SR2	12-3	30	12	3	2.2	143759
	22-6	30	22	6	2.6	143764
	34-7	30	34	7	2.6	143766
	40-12	30	40	12	2.6	143770
	56-16	30	56	16	2.7	143803
Spool Colour: Green-Yellow						
SR2	12-4	5	12	4	1.5	127383
	12-4	25	12	4	1.5	127384
	27-9	5	27	9	1.5	127386
	27-9	25	27	9	1.5	127387
Lengths Colour: Black						
SR2	12-3	1	12	3	2.2	127391
	22-6	1	22	6	2.6	127394
	34-7	1	34	7	2.6	127397
	40-12	1	40	12	2.6	127400
	56-16	1	56	16	2.7	127403
	63-19	1	63	19	2.8	143818
	75-22	1	75	22	3	127406
	95-26	1	95	26	3.2	127407
	120-34	1	120	34	3.3	127408
	140-42	1	140	42	3.5	143806
	160-50	1	160	50	3.5	143811
with adhesive						
Lengths Colour: Black						
SRH2	8-2	1	8	2	1.7	127416
	12-3	1	12	3	2.2	127417
	22-6	1	22	6	2.6	127418
	34-7	1	34	7	2.6	127421
	40-12	1	40	12	2.6	127423
	56-16	1	56	16	2.7	127425
	63-19	1	63	19	2.8	135859
	75-22	1	75	22	3	127427
	95-26	1	95	26	3.2	127429
	120-34	1	120	34	3.3	127431
	140-42	1	140	42	3.5	144013
	160-50	1	160	50	3.5	144018

→ Continued on the next page



→ Continuation

SR2, SRH2 Heat shrinkable medium wall tube

Technical data	Value	Test standard
Physical properties		
Hardness	55 Shore D	DIN 53 505
Elongation at break	350 %	IEC 60684-2
Tensile strength at break	13 MPa	IEC 60684-2
Longitudinal shrinkage	≤ 10 %	IEC 60684-2
Shrink ratio	3:1	IEC 60684-2
Eccentricity expanded recovered	50 % 85 %	IEC 60684-2
Thermal properties		
Operating temperature range	-40 °C up to 120 °C	IEC 60684-2
Shrinkage temperature	> 125 °C	
Burning behaviour	not self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	IEC 60684-2
Thermal ageing (168 h at 150 °C)		
Elongation at break	250 %	
Tensile strength at break	12 MPa	IEC 60684-2
Electrical properties		
Dielectric strength	25 kV/mm	IEC 60684-2
Specific volume resistivity	10 ¹⁴ Ω x cm	IEC 60684-2
Chemical properties		
Corrosion	None	IEC 60684-2
Resistance to fungus and decay	Rate 1	IEC 60684-2

**SRFH2****Heat shrinkable medium wall tube**

self-extinguishing, shrink ratio 3 : 1, with adhesive

Characteristics

- Medium wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Non-corrosive
- Infusible
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)
- Self-extinguishing

Application/Suitability

- Insulating
- Protection against moisture and pressure
- Suitable for heat shrinkable joints and terminations

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

Black

Scope of delivery

Medium wall heat shrinkable tube in lengths

Note: Other lengths available on request.

Type	L m	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Lengths Colour: Black					
SRFH2	8-2.5	1	8	2.5	156847
SRFH2	12-4	1	12	4	144493
SRFH2	21-7	1	21	7	144498

Technical data	Value	Test standard
Physical properties		
Hardness	51 Shore D	DIN 53 505
Elongation at break	350 %	IEC 60684-2
Tensile strength at break	13 MPa	IEC 60684-2
Longitudinal shrinkage	≤ 10 %	IEC 60684-2
Shrink ratio	3:1	IEC 60684-2
Eccentricity expanded recovered	50 % 85 %	IEC 60684-2
Thermal properties		
Operating temperature range	-40 °C up to 120 °C	IEC 60684-2
Shrinkage temperature	> 125 °C	
Burning behaviour	self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	IEC 60684-2
Thermal ageing (168 h at 150 °C)		
Elongation at break	250 %	
Tensile strength at break	12 MPa	IEC 60684-2
Electrical properties		
Dielectric strength	25 kV/mm	IEC 60684-2
Specific volume resistivity	10 ¹⁴ Ω x cm	IEC 60684-2
Chemical properties		
Corrosion	None	IEC 60684-2
Resistance to fungus and decay	Rate 1	IEC 60684-2



SR3, SRH3

Heat shrinkable thick wall tube

halogen-free, shrink ratio 3 : 1, with or without adhesive

Characteristics

- Thick wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Non-corrosive
- Infusible
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)

Application/Suitability

- Insulating
- Protection against moisture and pressure
- Suitable for heat shrinkable joints and terminations

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life



Colours



Black

Scope of delivery

Thick wall heat shrinkable tube in lengths

Note: Other lengths available on request.

Type	L m	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
without adhesive						
Lengths Colour: Black						
SR3	22-6	1	22	6	2,7	127488
	33-8	1	33	8	4	144613
	45-12	1	45	12	4,4	127490
	55-15	1	55	15	4,4	144620
	75-20	1	75	20	4,5	144596
	92-25	1	92	25	4,7	127493
with adhesive						
Lengths Colour: Black						
SRH3	12-3	1	12	3	2,6	127503
	16-4	1	16	4	2,8	135860
	22-6	1	22	6	2,7	127505
	33-8	1	33	8	4	127507
	45-12	1	45	12	4,3	127510
	55-15	1	55	15	4,4	127511
	75-20	1	75	20	4,4	127522
	92-25	1	92	25	4,6	127515
	130-34	1	130	34	4,8	144863
	160-50	1	160	50	4,8	158903

→ Continued on the next page



→ Continuation

SR3, SRH3 Heat shrinkable thick wall tube

Technical data	Value	Test standard
Physical properties		
Hardness	55 Shore D	DIN 53 505
Elongation at break	350 %	IEC 60684-2
Tensile strength at break	13 MPa	IEC 60684-2
Longitudinal shrinkage	≤ 10 %	IEC 60684-2
Shrink ratio	3:1	IEC 60684-2
Eccentricity expanded recovered	50 % 85 %	IEC 60684-2
Thermal properties		
Operating temperature range	-40 °C up to 120 °C	IEC 60684-2
Shrinkage temperature	> 125 °C	
Burning behaviour	not self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	IEC 60684-2
Thermal ageing (168 h at 150 °C)		
Elongation at break	250 %	
Tensile strength at break	12 MPa	IEC 60684-2
Electrical properties		
Dielectric strength	25 kV/mm	IEC 60684-2
Specific volume resistivity	10 ¹⁴ Ω x cm	IEC 60684-2
Chemical properties		
Corrosion	None	IEC 60684-2
Resistance to fungus and decay	Rate 1	IEC 60684-2

**SRFH3****Heat shrinkable thick wall tube**

self-extinguishing, shrink ratio 3 : 1, with adhesive

Characteristics

- Thick wall
- Inscribable
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Non-corrosive
- Infusible
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)
- Self-extinguishing

Application/Suitability

- Insulating
- Protection against moisture and pressure
- Suitable for heat shrinkable joints and terminations

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

Black

Scope of delivery

Thick wall heat shrinkable tube in lengths

Note: Other lengths available on request.

Type	L m	Inner-Ø mm before shrinking	Inner-Ø mm after shrinking	Recovered wall thickness mm	Art.-No.
Lengths Colour: Black					
SRFH3	30-8	1	30	8	3.5
	40-13	1	40	13	3.5
	55-18	1	55	18	3.8
	80-26	1	80	26	3.8

Technical data	Value	Test standard
Physical properties		
Hardness	51 Shore D	DIN 53 505
Elongation at break	350 %	IEC 60684-2
Tensile strength at break	13 MPa	IEC 60684-2
Longitudinal shrinkage	≤ 10 %	IEC 60684-2
Shrink ratio	3:1	IEC 60684-2
Eccentricity expanded recovered	50 % 85 %	IEC 60684-2
Thermal properties		
Operating temperature range	-40 °C up to 120 °C	IEC 60684-2
Shrinkage temperature	> 125 °C	
Burning behaviour	self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	IEC 60684-2
Thermal ageing (168 h at 150 °C)		
Elongation at break	250 %	
Tensile strength at break	12 MPa	IEC 60684-2
Electrical properties		
Dielectric strength	25 kV/mm	IEC 60684-2
Specific volume resistivity	10 ¹⁴ Ω x cm	IEC 60684-2
Chemical properties		
Corrosion	None	IEC 60684-2
Resistance to fungus and decay	Rate 1	IEC 60684-2



SRBK-Set

Heat shrinkable thick wall tube

anti-slip, halogen-free, shrink ratio 3 : 1, with adhesive

Protection and mechanical connection of telecommunication cable plug-in systems.

Characteristics

- Thick wall
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Non-corrosive
- Infusible
- Superior electrical properties
- Excellent adhesion to all cable materials
- High tensile strength
- Resistant to cold flow (thermally stable)

Application/Suitability

- Telecommunications terminal block system

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life



Colours



Black

Scope of delivery

10 thick wall heat shrinkable tubes in lengths, 20 fire protection wrapping, 10 cleaning tissues, 10 emery cloths

Type	L mm	before shrinking Inner-Ø mm	after shrinking Inner-Ø mm	Recovered wall thickness mm	Art.-No.
SRBK-Set	25-7	170	25	7	3.1
	32-8	210	32	8	3.2

Technical data		Value	Test standard
Physical properties			
Hardness		50 Shore D	DIN 53 505
Elongation at break		350 %	IEC 60684-2
Tensile strength at break		13 MPa	IEC 60684-2
Longitudinal shrinkage		≤ 10 %	IEC 60684-2
Shrink ratio		3:1	IEC 60684-2
Eccentricity expanded		50 %	
recovered		85 %	IEC 60684-2
Thermal properties			
Operating temperature range		-40 °C up to 120 °C	IEC 60684-2
Shrinkage temperature		> 125 °C	
Burning behaviour		self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures		-40 °C	IEC 60684-2
Thermal ageing (168 h at 150 °C)			
Elongation at break		350 %	
Tensile strength at break		13 MPa	IEC 60684-2
Electrical properties			
Dielectric strength		20 kV/mm	IEC 60684-2
Specific volume resistivity		10 ¹⁴ Ω x cm	IEC 60684-2
Chemical properties			
Corrosion		None	IEC 60684-2
Resistance to fungus and decay		Rate 1	IEC 60684-2



SKH, SKHD

Heat shrinkable end cap

with adhesive, optionally with additional sealing material

Protection against humidity and pressure for cables, conductors and pipes with a diameter of 5 - 105 mm.

Characteristics

- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- 100 % waterproof
- Pressure-tight
- Superior electrical properties
- High mechanical strength
- Resistant to chemical agents

Application/Suitability

- Protection against moisture and pressure for cables, conductors and pipes

Note

- Length tolerance $\pm 10\%$

Material

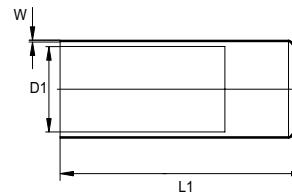
- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life

**Colours****Dimensions****Scope of delivery**

Heat shrinkable end cap

Type	L1 mm	L1* mm	Inner-Ø D1 mm before shrinking	Inner-Ø D1 mm after shrinking	W* Recovered wall thickness mm	Art.-No.
with adhesive						
SKH	10-4	46	45	10	4	2,9
	15-5	47	43	15	5	2,2
	22-9	76	65	22	9	2,8
	35-15	111	103	35	15	3,2
	55-25	165	155	55	25	3,5
	75-30	181	148	75	30	4,4
	95-40	215	183	95	40	3,8
	100-45	176	156	100	45	4,1
with adhesive and sealing						
SKHD	35-15	100	97	35	15	3
	55-25	150	135	55	25	3,5
	75-30	180	150	75	30	4
	95-40	170	130	95	40	4

* recovered dimension after shrinking

Technical data	Value	Test standard
Physical properties		
Elongation at break	300 %	EN 62677-2 or EN ISO 527-2
Tensile strength at break	10 MPa	EN 62677-2 or EN ISO 527-2
Thermal properties		
Operating temperature range	-40 °C up to 100 °C	EN 62677-2
Shrinkage temperature	> 110 °C	
Burning behaviour	not self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	EN 62677-2
Thermal ageing (168 h at 150 °C)		
Elongation at break	200 %	
Tensile strength at break	8 MPa	EN 62677-2 or EN ISO 527-2
Electrical properties		
Dielectric strength	10 kV/mm	EN 60243-1
Specific volume resistivity	$10^{12} \Omega \times \text{cm}$	EN 62677-2
Chemical properties		
Corrosion	None	EN 62677-2
Resistance to fungus and decay	Rate 1	EN 62677-2 and ISO 846

**SEH****Heat shrinkable spreader cap**

for 2-, 3-, 4-, 5-core cables and conductors, with adhesive

Sealing spreader caps for plastic-, rubber- and paper-insulated cables.

Characteristics

- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- 100 % waterproof
- Pressure-tight
- Superior electrical properties
- Superior mechanical properties

Application/Suitability

- Indoor
- Outdoor

Note

- Length tolerance $\pm 10\%$

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

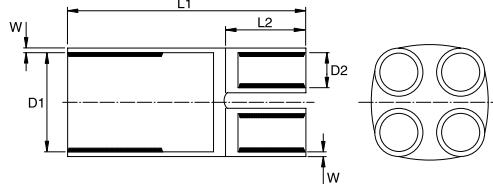
- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

Black

Dimensions**Scope of delivery**

Heat shrinkable spreader cap

Type	L1 mm	L1* mm	L2 mm	Inner-Ø D1 mm before shrinking	Inner-Ø D1 mm after shrinking	Inner-Ø D2 mm before shrinking	Inner-Ø D2 mm after shrinking	W* Recovered wall thickness mm	Nominal cross section mm²	Art.-No.
2-fingers spreader cap										
SEH2	30-10	67	89	17	30	10	16	3.7	3.1	2.5 - 25
	50-24	86	120	24	50	24	21	7	3	25 - 120
	60-20	103	130	33	60	20	45 / 32	18 / 6	3.5	95 - 150
3-fingers spreader cap										
SEH3	25-9	52	70	16	25	9	9	3	2.5	1.5 - 16
	35-15	87	100	22	35	15	13	4	2.5	6 - 35
	55-23	134	170	33	55	23	24	7	3.9	35 - 150
	75-28	175	212	36	75	28	35	12	4	120 - 300
	110-35	182	218	45	110	35	51	17	4	185 - 400
	125-59	208	268	51	125	59	67	27	4.4	240 - 500
4-fingers spreader cap										
SEH4	28-9	57	72	16	28	9	8	3	2.5	1.5 - 10
	35-15	81	100	22	35	15	14	4	3.9	6 - 35
	47-23	134	169	36	47	23	20	7	4.1	35 - 95
	60-25	155	177	32	60	25	25	6	3.9	35 - 150
	78-36	172	220	43	78	36	30	12	3.8	95 - 240
	95-36	172	221	50	95	36	35	14	3.9	120 - 300
	150-55	190	245	47	150	55	57	22	4.2	240 - 500
5-fingers spreader cap										
SEH5	65-15	84	108	22	65	15	20	4	4.4	4 - 70
	80-33	160	179	49	80	33	27	8	3.4	35 - 150
	100-42	170	198	52	100	42	34	10	3.6	95 - 240

* recovered dimension after shrinking

→ Continued on the next page



→ Continuation

SEH Heat shrinkable spreader cap

Technical data	Value	Test standard
Physical properties		
Elongation at break	300 %	EN 62677-2 or EN ISO 527-2
Tensile strength at break	10 MPa	EN 62677-2 or EN ISO 527-2
Thermal properties		
Operating temperature range	-40 °C up to 100 °C	EN EN 62677-2
Shrinkage temperature	> 110 °C	
Burning behaviour	not self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	EN 62677-2
Thermal ageing (168 h at 150 °C)	200 %	
Elongation at break	8 MPa	EN 62677-2 or EN ISO 527-2
Tensile strength at break		
Electrical properties		
Dielectric strength	10 kV/mm	EN 60243-1
Specific volume resistivity	$10^{12} \Omega \times \text{cm}$	EN 62677-2
Chemical properties		
Corrosion	None	EN 62677-2
Resistance to fungus and decay	Rate 1	EN 62677-2 and ISO 846



SRMAHV

Heat shrinkable repair sleeve

with adhesive and stainless steel channel

For repairing damaged sheaths of all polymeric- and rubber-insulated cables and conductors.

Characteristics

- Medium wall
- Resistant to chemical agents
- Stabilized against UV rays
- Free from paint-wetting inhibiting substances
- Halogen-free
- Non-corrosive
- Infusible
- Maximum inner pressure: 1.5 bar
- Superior electrical properties
- High tensile strength
- Resistant to cold flow (thermally stable)

Application/Suitability

- Sealing
- Repair of damaged cable sheaths

Material

- Cross-linked polyolefin
- Free of lead and cadmium

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life



Colours



Scope of delivery

Heat shrinkable repair sleeve, stainless steel channel, assembly instructions

Type	Inner-Ø mm		Application range mm		Recovered wall thickness mm	Art.-No.
	before shrinking	after shrinking	min. shrinking	max. shrinking		
28-10 / 250	32	10	10	28	2.3	143595
28-10 / 500	32	10	10	28	2.3	143601
28-10 / 750	32	10	10	28	2.3	143605
28-10 / 1000	32	10	10	28	2.3	143592
43-12 / 250	52	12	12	43	3.4	165912
43-12 / 500	52	12	12	43	3.4	166012
43-12 / 750	52	12	12	43	3.4	166013
43-12 / 1000	52	12	12	43	3.4	166016
43-12 / 1500	52	12	12	43	3.4	143627
72-18 / 250	82	18	18	72	3.4	143630
72-18 / 500	82	18	18	72	3.4	143632
72-18 / 750	82	18	18	72	3.4	143637
72-18 / 1000	82	18	18	72	3.4	143628
72-18 / 1500	82	18	18	72	3.4	143646
72-18 / 2000	82	18	18	72	3.4	143629
SRMAHV	93-26 / 250	105	26	93	3.4	143649
	93-26 / 500	105	26	93	3.4	143650
	93-26 / 750	105	26	93	3.4	143654
	93-26 / 1000	105	26	93	3.4	143647
	93-26 / 2000	105	26	93	3.4	143648
	115-30 / 250	130	30	115	2.3	143661
	115-30 / 500	130	30	115	2.3	143663
	115-30 / 750	130	30	115	2.3	143665
	115-30 / 1000	130	30	115	2.3	143659
	115-30 / 1500	130	30	115	2.3	143669
	125-32 / 250	143	32	125	2.3	143671
	125-32 / 500	143	32	125	2.3	143672
	125-32 / 750	143	32	125	2.3	143673
	125-32 / 1000	143	32	125	2.3	143670
	125-32 / 1500	143	32	125	2.3	143679
	198-50 / 1000	220	50	198	2.3	143680

→ Continued on the next page



→ Continuation

SRMAHV Heat shrinkable repair sleeve

Technical data	Value	Test standard
Physical properties		
Hardness	50 Shore D	IEC 60684-2
Elongation at break	300 %	IEC 60684-2
Tensile strength at break	13 MPa	IEC 60684-2
Longitudinal shrinkage	≤ 10 %	IEC 60684-2
Shrink ratio	> 3:1	IEC 60684-2
Thermal properties		
Operating temperature range	-40 °C up to 120 °C	IEC 60684-2
Shrinkage temperature	> 125 °C	
Flexibility at low temperatures	-40 °C	IEC 60684-2
Thermal ageing (168 h at 150 °C)		
Tensile strength at break	12 MPa	IEC 60684-2
Electrical properties		
Dielectric strength	12 kV/mm	IEC 60684-2
Specific volume resistivity	10 ¹⁵ Ω x cm	IEC 60684-2
Dielectric constant	5.0	IEC 60684-2
Chemical properties		
Corrosion	None	IEC 60684-2
Resistance to fungus and decay	Rate 1	IEC 60684-2

LOW VOLTAGE

Cast resin technology

	Straight-through joints	75
	Branch joints	84
	Universal connection and branch boxes	101
	Cast resins	102

Overview: BBC Cellpack Cast resin straight-through and branch joints / Universal connection and branch boxes

Products	Version		Type of cast resins				
	with screw connector(s)	with branch clamp(s)	EG	GG	CG	FG	UWR
Straight-through joints							
MR 0	-	-	●	-	-	-	-
M...EG	-	-	●	-	-	-	-
M...GG	-	-	-	●	-	-	-
M-Euroline	-	-	●	-	-	-	-
M...V-Euroline	●	-	●	-	-	-	-
MZ	-	-	●	-	-	-	-
MZ...FG	-	-	-	-	-	●	-
PV...EG, PVM...EG, PVS...EG	-	-	●	-	-	-	-
PVS...GG	-	-	-	●	-	-	-
Branch joints							
KAV	-	-	●	-	-	-	-
H	-	-	●	-	-	-	-
H 5-SYS	-	●	-	-	-	-	●
P...EG	-	-	●	-	-	-	-
P...GG	-	-	-	●	-	-	-
T...EG	-	-	●	-	-	-	-
T...GG	-	-	-	●	-	-	-
T...V AK	-	●	●	-	-	-	-
Y...EG	-	-	●	-	-	-	-
Y...GG	-	-	-	●	-	-	-
Y...V AK	-	●	●	-	-	-	-
YCP	-	-	●	-	-	-	-
D1	-	-	●	-	-	-	-
Universal connection and branch boxes							
Universal Box CG	-	●	-	-	●	-	-

- included in the scope of delivery
- not included in the scope of delivery

**MR 0****Cast resin straight-through joint**

particularly for small cross sections, for polymeric cables and conductors, control cables and signal cables

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT). Suitable for compression connectors on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Funnel clips for easy casting
- Suitable for vertical casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Submersible pumps
- Installation ducts

Voltage level

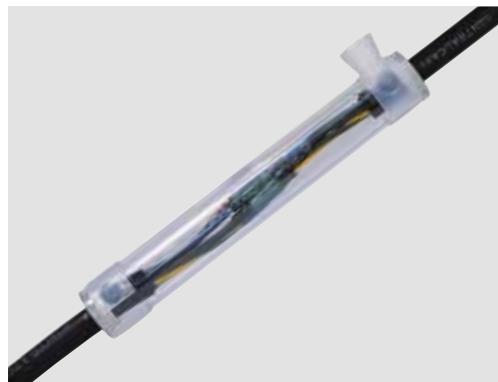
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions****Scope of delivery**

Cover, hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, PVC insulation tape, protective gloves, funnel clips, assembly instructions

Optional accessory: Funnel set/Filling in funnel (on request)

Heat shrinkable crimp connector (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Polymeric cable unarmoured										Art.-No.
Type	L mm	D mm	H mm	max. Cable-Ø mm	Nominal cross section per conductor mm²					
MR 02	120	26	40	16	25	6	4	2.5	1.5	124507
MR 05	180	26	40	16	25	6	4	4	2.5	124508

Control and signal cable										Art.-No.
Type	L mm	D mm	H mm	max. Cable-Ø mm	Number of conductors					
MR 02	120	26	40	16	8			5		124507
MR 05	180	26	40	16	16			8		124508

**M...EG****Cast resin straight-through joint**

for polymeric cables and conductors, control cables and signal cables

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT). Suitable for compression or screw connectors on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

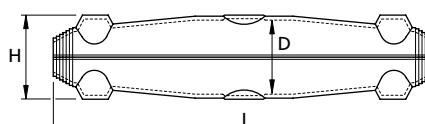
- $U_0/U(U_m)$ 0.6/1 (1.2) kV

Test standards

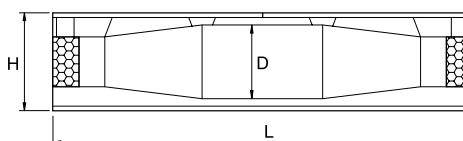
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions**

M 0 EG - M 6 EG



M 7 EG - M 8 EG

Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Shield continuity wire SVL (see Accessories)

Connectors (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: Armour continuity kit for armoured cable available on request.

Type	L mm	D mm	H mm	max. Cable-Ø mm	Polymeric cable								Art.-No.	
					unarmoured				with concentric conductor					
					1x	2x	3x	4x	5x	3x	4x	3x	4x	
M	0 EG	185	32	37	15	25	10	6	6	4	10/10			124293
	1 EG	240	40	45	22	95	25	16	16	10	25/25	16/16	16	124294
	2 EG	265	45	50	30	185	50	35	25	16	35/35	25/25	35	124295
	2.5 EG	310	58	65	37	300	70	70	50	35	50/50	50/25	50	16 - 35
	3 EG	355	70	80	42	400	120	95	70	50	95/95	70/35	95	124297
	4 EG	430	90	98	52	500		120	95	70	150/150	120/70	120	50 - 95
	5 EG	550	110	120	62	1000		240	185	120	240/240	240/120	240	95 - 120
	6 EG	660	145	165	80		300	240	185					124300
	7 EG	900	150	190	90		400	300	240		400/400	300/150	400	124308
	8 EG	1100	150	190	90									124309

Type	L mm	D mm	H mm	max. Cable-Ø mm	Control and signal cable					Art.-No.		
					0,4 mm		0,6 mm		0,8 mm			
					Number of wire pairs							
M	0 EG	185	32	37	15	6 - 20	6 - 10	6	16	8	124293	
	1 EG	240	40	45	22	30 - 70	20 - 30	10 - 20	56	21	124294	
	2 EG	265	45	50	30	100 - 150	40 - 70	30 - 40	114	56	124295	
	2.5 EG	310	58	65	37	200 - 250	100 - 120	50 - 70	154	96	124296	
	3 EG	355	70	80	42	300	150	100 - 120	200	133	124297	

Shield continuity wire SVL required for telecommunication cables.

**M...GG****Cast resin straight-through joint**

for polymeric cables and conductors, control cables and signal cables

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT). Suitable for compression or screw connectors on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

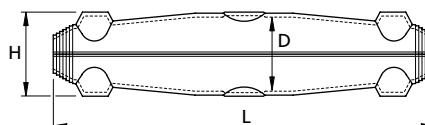
- $U_0/U(U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 24 months

**Dimensions**

M 0 GG - M 6 GG

Scope of delivery

Hydrolysis resistance PUR type GG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Shield continuity wire SVL (see Accessories)

Connectors (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: Armour continuity kit for armoured cable available on request.

Type	L mm	D mm	H mm	max. Cable-Ø mm	Polymeric cable								Art.-No.	
					unarmoured				with concentric conductor					
					1x	2x	3x	4x	5x	3x	4x	3x	4x	
M	0 GG	185	32	37	15	25	10	6	6	4				353703
	1 GG	240	40	45	22	95	25	16	16	10	10/10			353717
	2 GG	265	45	50	30	185	50	35	25	16	25/25	16/16	16	353718
	2.5 GG	310	58	65	37	300	70	70	50	35	35/35	25/25	35	16 - 35
	3 GG	355	70	80	42	400	120	95	70	50	50/50	50/25	50	35 - 50
	4 GG	430	90	98	52	500		120	95	70	95/95	70/35	95	50 - 95
	5 GG	550	110	120	62	1000		240	185	120	150/150	120/70	120	95 - 120
	6 GG	660	145	165	80			300	240	185	240/240	240/120	240	120 - 240

Type	L mm	D mm	H mm	max. Cable-Ø mm	Control and signal cable					Art.-No.		
					0,4 mm		0,6 mm		0,8 mm			
					Number of wire pairs		Number of conductors					
M	0 GG	185	32	37	15	6 - 20	6 - 10	6	16	8	353703	
	1 GG	240	40	45	22	30 - 70	20 - 30	10 - 20	56	21	353717	
	2 GG	265	45	50	30	100 - 150	40 - 70	30 - 40	114	56	353718	
	2.5 GG	310	58	65	37	200 - 250	100 - 120	50 - 70	154	96	353719	
	3 GG	355	70	80	42	300	150	100 - 120	200	133	353740	

Shield continuity wire SVL required for telecommunication cables.

**M-Euroline****Cast resin straight-through joint**

for polymeric cables and conductors

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT). Suitable for compression or screw connectors on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

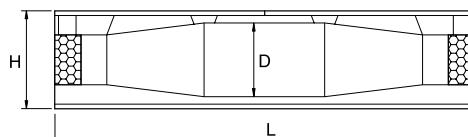
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions****M 11 - M 16****M 17****Scope of delivery**

Cover, hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, spacers (up to M13), PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Connectors (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: Armour continuity kit for armoured cable available on request.

Type	L mm	D mm	H mm	max. Cable-Ø mm	Polymeric cable						Art.-No.		
					unarmoured			with concentric conductor					
					1x	3x	4x	5x	3x	4x	4x		
M	11	190	36	50	26	50	10	10	6	10/10		4	124169
	12	260	47	63	34	150	25	25	16	25/25	16/16	10	124170
	13 S	310	55	68	43	240	35	35	25	35/35	25/16	25	124171
	13	360	55	75	43	400	50	50	35	50/50	25/16	35	124172
	14 S	350	70	95	48	630	70	70	50	70/70	50/50	50	124173
	14	400	70	95	48	630	95	95	70	95/95	50/50	70	124174
	15	530	100	120	63	1000	150	150	120	150/150	120/70	120	124175
	16	700	125	160	81		240	240	185	240/120	185/70	240	124176
	17	900	150	190	90		300	400	240	300/300	240/120	240	169406



M...V-Euroline

Cast resin straight-through joint

with screw connectors, for polymeric cables and conductors

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT). With screw connectors, suitable for aluminium or copper conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

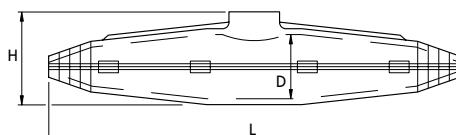
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months



Dimensions



Scope of delivery

Cover, hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, screw connectors, spacers, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	L mm	D mm	H mm	max. Cable-Ø mm	Polymeric cable					Art.-No.	
					unarmoured			with concentric conductor			
					3x	4x	5x	3x	4x		
11 V	190	36	50	26	1.5 - 6	1.5 - 6	1.5 - 6	1.5/1.5 - 6/6	1.5/1.5 - 6/6	131863	
12 V	260	47	63	34	10 - 16	10 - 16	10 - 16	10/10 - 16/16	10/10 - 16/16	131867	
M 13 SV	310	55	68	43	16 - 25	16 - 25		16/16 - 25/25		131866	
13 V	360	55	75	43	25 - 35	25 - 35		25/25 - 35/35		131864	
14 V	400	70	95	48	50 - 70	50 - 70		50/50 - 70/70		131865	

**MZ****Cast resin straight-through joint**

for control cables and signal cables

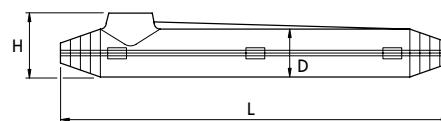
Universally suitable for connecting control cables and signal cables or as a cable sheath repair protection joint. Suitable for compression connectors.

Characteristics

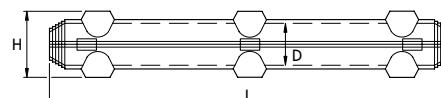
- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Cast resin up to 40 months

**Dimensions**

MZ 00 - MZ 0



MZ 1 - MZ 3

Scope of delivery

Cover, hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, spacer mesh, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Shield continuity wire SVL (see Accessories)

Compression connectors (see Connecting technology)
Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	L mm	D mm	H mm	max. Cable-Ø mm	Control and signal cable					Art.-No.
					0.4 mm	0.6 mm	0.8 mm	1.5 mm ²	2.5 mm ²	
00	180	23	35	20	10 - 15	5 - 10	5 - 10	7	5	124505
0	250	35	55	32	15 - 30	10 - 20	10 - 20	15	10	124506
MZ 1	400	33	57	30	30 - 60	20 - 50	20 - 40	30	20	124510
2	500	41	67	40	70 - 100	60 - 100	50 - 70	50	40	124513
3	600	51	78	50	150 - 200	150 - 250	100 - 150	60	50	124511

Shield continuity wire SVL required for telecommunication cables.



MZ...FG

Cast resin straight-through joint

drummable, with flexibel cast resin, for unarmoured polymeric cables and conductors

Universally applicable as repair joints for flexible rubber cable.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

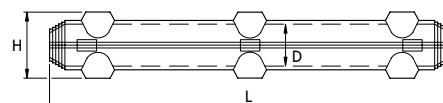
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 24 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type FG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, heat shrinkable tubes for connectors, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	L mm	D mm	H mm	max. Cable-Ø mm	Polymeric cable unarmoured		Art.-No.
					4x	5x	
1 FG	400	33	57	30	10	6	124516
MZ 2 FG	500	41	67	40	25	16	124517
3 FG	600	51	78	50	50	25	124518



PV...EG, PVM...EG, PVS...EG

Cast resin straight-through joint

with integrated strain relief, for polymeric cables and conductors, with cast resin EG

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, TT). Suitable for compression or screw connectors on copper and aluminium conductors.

Characteristics

- Compact dimensions
- High-quality brown shockproof plastic shell
- Integrated strain relief
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

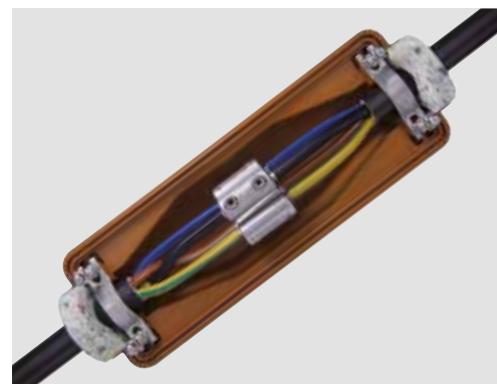
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

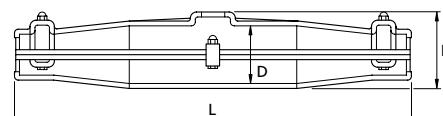
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months



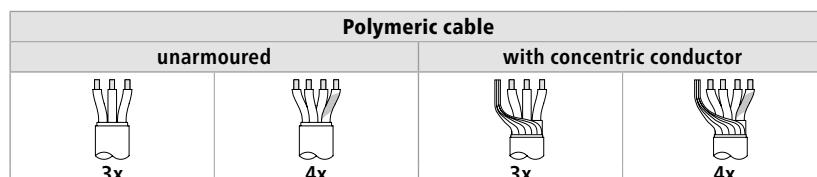
Dimensions



Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, sealing gaskets, plastic shell, protective gloves, strain relief, assembly instructions

Optional accessory: Connectors (see Connecting technology)
Cleaner UNIVERSAL CLEANER 121 (see Accessories)



Type	L mm	D mm	H mm	max. Cable-Ø mm	Nominal cross section per conductor mm ²				Art.-No.
PV 3 EG	427	100	120	40	50 - 95	35 - 70	70/70	50/50	127705
PVM 5 EG	642	116	135	58	95 - 150	95 - 150	150/150	120/120	127706
PVS 5 EG	642	136	160	48	95 - 150	95 - 150	150/150	120/120	127708
PVM 6 EG	850	137	185	58	185 - 300	185 - 240	240/120	185/185	127707



PVS...GG

Cast resin straight-through joint

with integrated strain relief, for polymeric cables and conductors, with cast resin GG (reduced hazard-class)

Universally suitable for connecting polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, TT). Suitable for compression or screw connectors on copper and aluminium conductors.

Characteristics

- Compact dimensions
- High-quality brown shockproof plastic shell
- Integrated strain relief
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

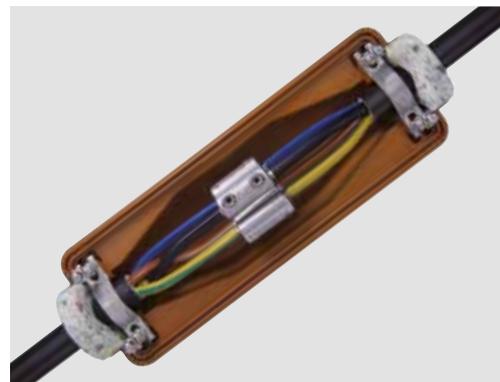
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

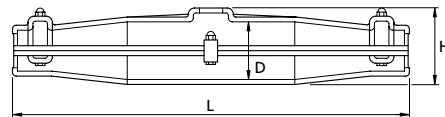
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 24 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type GG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, sealing gaskets, plastic shell, protective gloves, strain relief, assembly instructions

Optional accessory: Connectors (see Connecting technology)
Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Polymeric cable			
unarmoured		with concentric conductor	
	3x	4x	3x

Type	L mm	D mm	H mm	max. Cable-Ø mm	Nominal cross section per conductor mm ²	Art.-No.			
PVS 5 GG	642	136	160	48	95 - 150	95 - 150	150/150	120/120	335567

**KAV****Cast resin branch joint**

for polymeric cables and conductors

Universally suitable for branching cables and conductors insulated with PVC, PE and XLPE (e.g. N(A)YY, GKN). Suitable for cable branch clamps / ring clamps and compression connectors on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

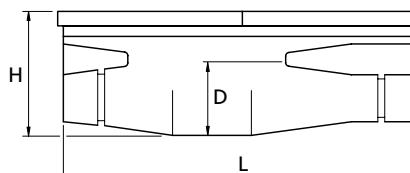
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions**

KAV 1 - KAV 2

Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, sealing gaskets, transparent plastic shell with locking bar, sealing tape, protective gloves, assembly instructions

Optional accessory: Ring clamp (see Connecting technology)

Screw branch clamp AK (see Connecting technology)

Split bolt clamp FK (see Connecting technology)

Compression connectors (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: Additional earthing set available on request.

Particularly for the
Swiss market

Type	L mm	D mm	H mm	max. Cable-Ø mm		Nominal cross section per conductor mm ²				Art.-No.
				Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
KAV 1	230	58	78	30	20	16	6			131095
KAV 2	270	58	78	33	20	25	10	6	4	124861

**H****Cast resin branch joint**

for polymeric cables and conductors

Universally suitable for branching cables and conductors insulated with PVC, PE and XLPE (e.g. N(A)YY, TT..). Suitable for assembly of individual one-core branch clamps according to type (split bolt clamps for H 1 and H 2) or branch clamps (H 5...and H 6) and compression or screw connectors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Can be used as double-branch joint (H 1 and H 2)
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

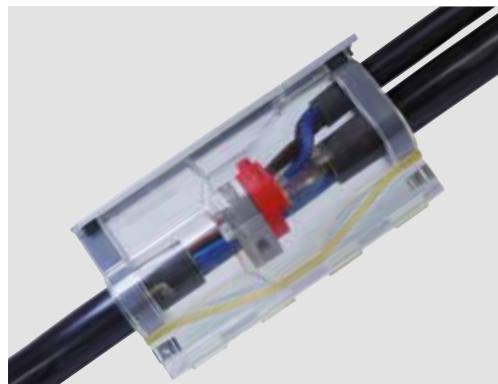
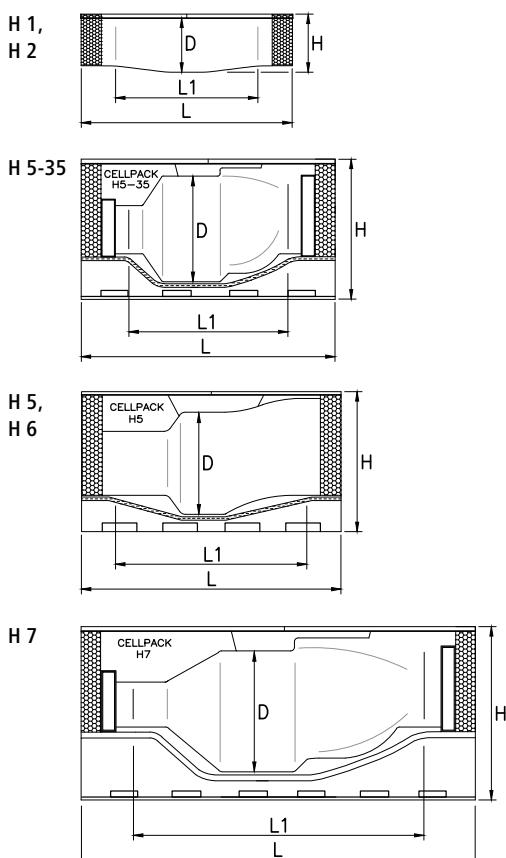
- $U_0/U(U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions****Scope of delivery**

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, sealing gaskets, transparent plastic shell, centring elements (H 5-35 and H 7), steel clamps (H 5 and H 6), protective gloves, assembly instructions

Optional accessory: Screw branch clamp AK (see Connecting technology)
 Branch clamp HE 1/70/150 (see Connecting technology)
 Split bolt clamp FK (see Connecting technology)
 Connectors (see Connecting technology)
 Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: H5 branch joints can be used with branch clamps HE 1/70/150 (see Connecting technology).

		Polymeric cable										
		unarmoured	with concentric conductor									
Type	L mm	L1 mm	D mm	H mm	max. Cable-Ø mm	Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	Art.-No.
H	1	235	155	60	70	25	20	16	6			124789
	2	270	180	60	80	32	22	16 - 25	6 - 10			124790
	5	300	246	115	170	50	32	95 - 150	16 - 50			124787
	5-35	290	180	135	185	52	36	95 - 150	16 - 70			124815
	6	350	296	135	190	55	39	120 - 185	50 - 70	120/70 - 150/70	35/16 - 70/35	124788
	7	490	330	180	230	59	54	95 - 240	70 - 150	95/95 - 240/240	70/70 - 150/150	124786



H 5-SYS

Cast resin branch joint for house connections

with branch clamp, for unarmoured polymeric cables

For branching of cables with insulation made of PVC, PE and XLPE (e.g. N(A)YY, GN-CLN...). With branch clamp, suitable for copper and aluminium conductors.

Characteristics

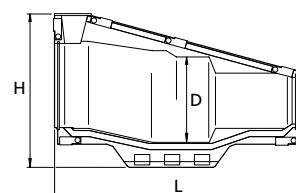
- High-quality transparent shockproof plastic shell
- Cast resin can be poured in with an angle up to 45° or laterally up to 45°
- Compatible with a branching system with specific contact geometry designed to facilitate connection of branch cable in visible area, ensuring safe handling
- Easy seal application
- Large filler aperture to facilitate casting
- Can be installed / operated while under voltage
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Cast resin up to 24 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type UWR cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, branch clamp HE 1/70/150, sealing tapes, protective gloves, assembly instructions

Optional accessory: Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	L mm	D mm	H mm	max. Cable-Ø mm		Nominal cross section per conductor mm²			Art.-No.
				Main cable	Branch cable	Main cable SE	Main cable SM	Branch cable	
H 5-SYS 70-150	270	110	180	46	36	95 - 150	70 - 120	16 - 50	195816



P...EG

Cast resin branch joint

with integrated strain relief, for polymeric cables and mass-impregnated paper cables, with cast resin EG

Universally suitable for branching polymeric cables insulated with PVC, PE, XLPE and paper (e.g. N(A)YY, N(A)KBA, GN-CLN, TT) with or without concentric conductor and mass-impregnated paper cables. Suitable for branch clamps on copper and aluminium conductors.

Characteristics

- High-quality brown shockproof plastic shell
- Compact design
- Integrated strain relief
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

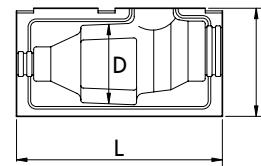
Storage conditions/Shelf life

- Cast resin up to 40 months

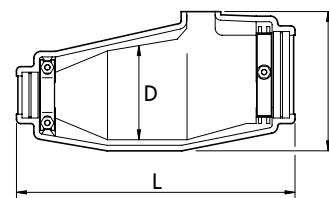


Dimensions

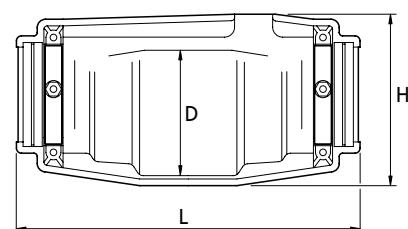
P 2 EG



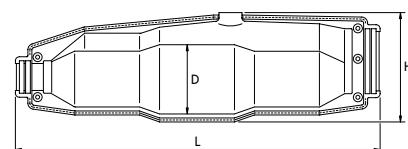
P 3 EG,
PC 5 EG,
PC 7 EG



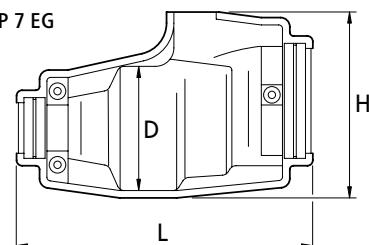
PD 5 EG



PB 4 EG,
PE 7 EG



P 4 EG - P 7 EG



Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, sealing gaskets, plastic shell with integrated strain relief, hexagon head screws and nuts, assembly instructions

Optional accessory: Branch clamp HE 1/70/150 (see Connecting technology)

Branch clamp KP (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: For branch joints sizes larger than P 5 EG, branch clamps HE 1/70/150 can be used (see Connecting technology).

→ Continued on the next page



→ Continuation

P...EG Cast resin branch joint

Type	L mm	D mm	H mm	max. Cable-Ø mm		Nominal cross section per conductor mm²				Art.-No.
				Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
P	2 EG	240	90	127	13 - 25	13 - 25		2.5 - 16	2.5 - 16	127697
	3 EG	342	90	160	15 - 35	12 - 30	10 - 16	10 - 25	4 - 16	127703
	4 EG	302	113	200	28 - 45	21 - 34		50 - 95	16 - 35	127698
	5 EG	325	135	200	37 - 54	20 - 36		95 - 150	16 - 50	127733
	6 EG	432	135	210	44 - 59	28 - 45		150 - 185	50 - 95	127695
	7 EG	442	150	245	40 - 59	40 - 59		120 - 185	120 - 150	127696
PD	5 EG	427	130	212	37 - 54	20 - 36		95 - 150	16 - 50	127701
PC	5 EG	392	130	210	35 - 54	20 - 36		95 - 185	16 - 50	127699
	7 EG	472	150	225	40 - 59	40 - 50		150 - 240	50 - 95	127700
PB	4 EG	532	120	200	30 - 50	27 - 44	95 - 150	95 - 150	50 - 95	127763
PE	7 EG	692	180	285	40 - 59	40 - 59		150 - 240	120 - 185	127709

Type	L mm	D mm	H mm	max. Cable-Ø mm		Nominal cross section per conductor mm²				Art.-No.
				Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
P	2 EG	240	90	127	13 - 25	13 - 25				127697
	3 EG	342	90	160	15 - 35	12 - 30	10/10 - 16/16	4/4 - 16/16	10/10 - 16/16	4/4 - 16/16
	4 EG	302	113	200	28 - 45	21 - 34				127698
	5 EG	325	135	200	37 - 54	20 - 36				127733
	6 EG	432	135	210	44 - 59	28 - 45				127695
	7 EG	442	150	245	40 - 59	40 - 59				127696
PD	5 EG	427	130	212	37 - 54	20 - 36				127701
PC	5 EG	392	130	210	35 - 54	20 - 36	95/95 - 150/150	16/16 - 50/50	95/95 - 150/150	16/16 - 50/50
	7 EG	472	150	225	40 - 59	40 - 50	150/150 - 185/185	50/50 - 95/95	150/150 - 185/185	50/50 - 95/95
PB	4 EG	532	120	200	30 - 50	27 - 44		50/50 - 95/95		50/25 - 95/50
PE	7 EG	692	180	285	40 - 59	40 - 59				127709



P...GG

Cast resin branch joint

with integrated strain relief, for polymeric cables and mass-impregnated paper cables, with cast resin GG (reduced hazard-class)

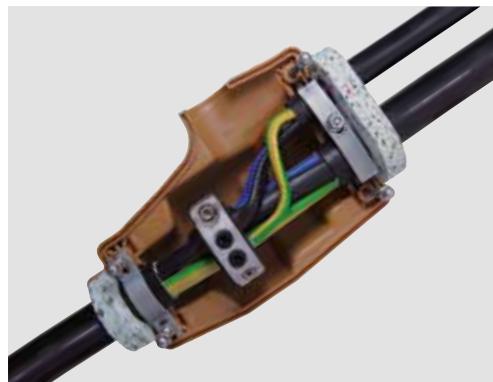
Universally suitable for branching polymeric cables insulated with PVC, PE, XLPE and paper (e.g. N(A)YY, N(A)KBA, GN-CLN, TT) with or without concentric conductor and mass-impregnated paper cables. Suitable for branch clamps on copper and aluminium conductors.

Characteristics

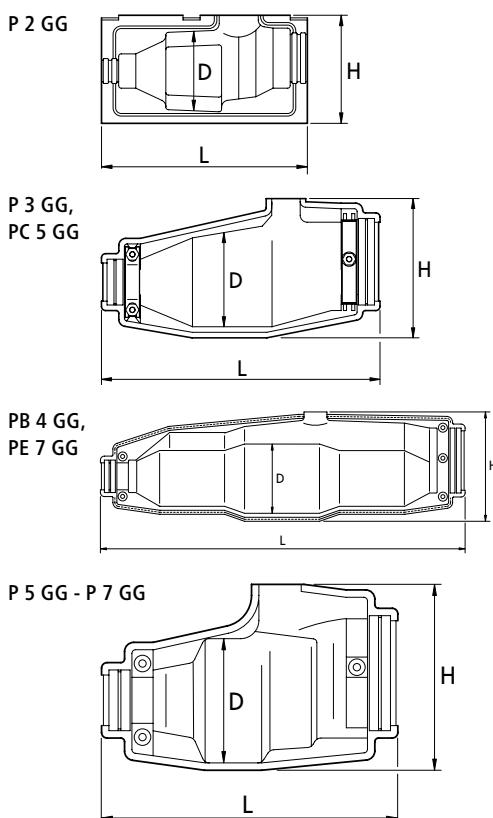
- High-quality brown shockproof plastic shell
- Compact design
- Integrated strain relief
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Cast resin up to 24 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type GG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, sealing gaskets, plastic shell with integrated strain relief, hexagon head screws and nuts, assembly instructions

Optional accessory: Branch clamp HE 1/70/150 (see Connecting technology)
Branch clamp KP (see Connecting technology)
Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: For branch joints sizes larger than P 5 GG, branch clamps HE 1/70/150 can be used (see Connecting technology).

→ Continued on the next page



→ Continuation

P...GG Cast resin branch joint

Type	L mm	D mm	H mm	max. Cable-Ø mm		Nominal cross section per conductor mm²				Art.-No.
				Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
P	2 GG	240	90	127	13 - 25	13 - 25		2.5 - 16	2.5 - 16	329587
	3 GG	342	90	160	15 - 35	12 - 30	10 - 16	10 - 25	4 - 16	329589
	5 GG	325	135	200	37 - 54	20 - 36		95 - 150	16 - 50	329567
	6 GG	432	135	210	44 - 59	28 - 45		150 - 185	50 - 95	329569
	7 GG	442	150	245	40 - 59	40 - 59		120 - 185	120 - 150	329588
PC	5 GG	392	130	210	35 - 54	20 - 36		95 - 185	16 - 50	335566
PB	4 GG	532	120	200	30 - 50	27 - 44	95 - 150	95 - 150	50 - 95	329572
PE	7 GG	692	180	285	40 - 59	40 - 59		150 - 240	120 - 185	335565

Type	L mm	D mm	H mm	max. Cable-Ø mm		Nominal cross section per conductor mm²				Art.-No.	
				Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable		
P	2 GG	240	90	127	13 - 25	13 - 25				329587	
	3 GG	342	90	160	15 - 35	12 - 30	10/10 - 16/16	4/4 - 16/16	10/10 - 16/16	4/4 - 16/16	
	5 GG	325	135	200	37 - 54	20 - 36				329567	
	6 GG	432	135	210	44 - 59	28 - 45				329569	
	7 GG	442	150	245	40 - 59	40 - 59				329588	
PC	5 GG	392	130	210	35 - 54	20 - 36	95/95 - 150/150	16/16 - 50/50	95/95 - 150/150	16/16 - 50/50	335566
PB	4 GG	532	120	200	30 - 50	27 - 44		50/50 - 95/95		50/25 - 95/50	329572
PE	7 GG	692	180	285	40 - 59	40 - 59					335565



T...EG

Cast resin branch joint

for polymeric cables and conductors

Universally suitable for branching polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT) with or without concentric conductor. Suitable for branch clamps on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

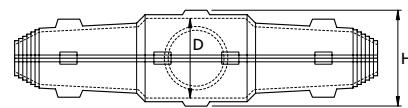
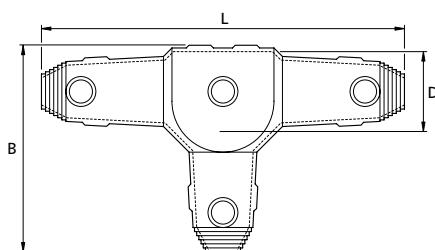
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Screw branch clamp AK (see Connecting technology)

Branch clamp KP (see Connecting technology)

Split bolt clamp FK (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Polymeric cable unarmoured					
		3x	4x	5x	
Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm
1 EG	240	138	50	60	22
2 EG	267	154	60	70	30
2.5 EG	310	183	75	85	37
3 EG	354	212	90	100	42
4 EG	432	262	110	125	52
5 EG	550	290	130	155	62

Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm	max. Nominal cross section per conductor mm ²						Art.-No.
						Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
1 EG	240	138	50	60	22	10	10	6	6	4	4	131149
2 EG	267	154	60	70	30	25	25	16	10	10	10	133024
2.5 EG	310	183	75	85	37	50	50	35	16	16	10	131855
3 EG	354	212	90	100	42	70	70	50	25	25	16	131151
4 EG	432	262	110	125	52	120	120	95	50	50	35	131778
5 EG	550	290	130	155	62	185	150	185	70			131854

Polymeric cable with concentric conductor					
		3x	4x		
Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm
1 EG	240	138	50	60	22
2 EG	267	154	60	70	30
2.5 EG	310	183	75	85	37
3 EG	354	212	90	100	42
4 EG	432	262	110	125	52
5 EG	550	290	130	155	62

Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm	max. Nominal cross section per conductor mm ²				Art.-No.
						Main cable	Branch cable	Main cable	Branch cable	
1 EG	240	138	50	60	22	6/6	6/6			131149
2 EG	267	154	60	70	30	16/16	10/10	16/16	16/16	133024
2.5 EG	310	183	75	85	37	35/35	16/16	35/16	25/16	131855
3 EG	354	212	90	100	42	50/50	25/25	50/25	35/16	131151
4 EG	432	262	110	125	52	95/95	50/50	95/50	70/35	131778
5 EG	550	290	130	155	62	185/185	70/70	150/70	95/50	131854



T...GG

Cast resin branch joint

for polymeric cables and conductors

Universally suitable for branching polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT) with or without concentric conductor. Suitable for branch clamps on copper and aluminium conductors.

Characteristics

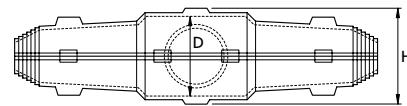
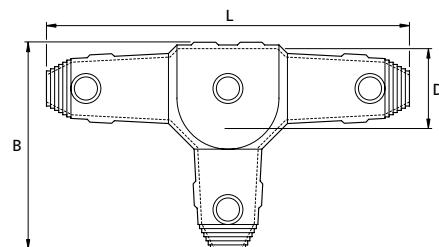
- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Cast resin up to 24 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type GG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Screw branch clamp AK (see Connecting technology)

Branch clamp KP (see Connecting technology)

Split bolt clamp FK (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	Polymeric cable unarmoured										Art.-No.	
	L mm	B mm	D mm	H mm	max. Cable-Ø mm	max. Nominal cross section per conductor mm²						
						Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
T	1 GG	240	138	50	60	22	10	10	6	6	4	353846
	2 GG	267	154	60	70	30	25	25	16	10	10	353847
	2.5 GG	310	183	75	85	37	50	50	35	16	16	353848
	3 GG	354	212	90	100	42	70	70	50	25	25	353849
	4 GG	432	262	110	125	52	120	120	95	50	35	353860

→ Continued on the next page



T...V AK

Cast resin branch joint

with screw branch clamps, for polymeric cables and conductors

Universally suitable for branching polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT) with or without concentric conductor. With one-core branch clamps, suitable for copper and aluminium conductors.

Characteristics

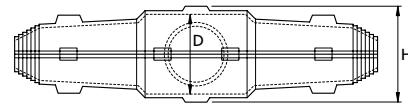
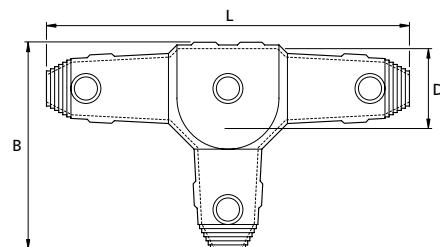
- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 0.6/1 (1.2) kV
- Test standards**
- DIN EN 50393 (corresponds to VDE 0278)
- Storage conditions/Shelf life**
- Cast resin up to 40 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, fill and air-release funnels, screw branch clamps, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	Polymeric cable unarmoured						Nominal cross section per conductor mm ²	Art.-No.		
	L mm	B mm	D mm	H mm	max. Cable-Ø mm	Main cable	Branch cable			
						4x	5x			
T 1 V AK	240	138	50	60	22	1.5 - 6	1.5 - 6	1.5 - 6	1.5 - 6	345343
T 2 V AK	267	154	60	70	30	4 - 16	4 - 16	4 - 16	4 - 16	345344
T 2.5 V AK	310	183	75	85	37	6 - 25	6 - 16	6 - 25	6 - 16	345345

**Y...EG****Cast resin branch joint**

for polymeric cables and conductors

Universally suitable for branching polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT) with or without concentric conductor. Suitable for branch clamps on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

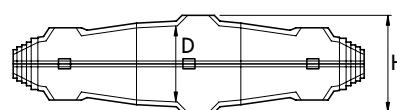
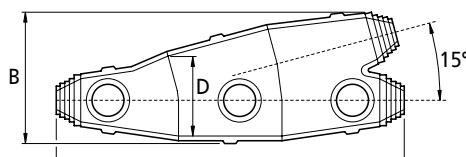
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

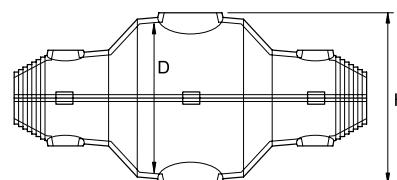
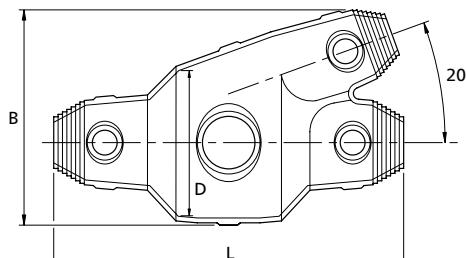
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions**

Y 0 EG, Y 3.5 EG, Y 6 EG



Y 0 EG, Y 1 EG, Y 2 EG, Y 3 EG, Y 4 EG, Y 4.5 EG, Y 5 EG

Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, closing stops, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Screw branch clamp AK (see Connecting technology)
 Branch clamp KP (see Connecting technology)
 Branch clamp HE 1/70/150 (see Connecting technology)
 Split bolt clamp FK (see Connecting technology)
 Cleaner UNIVERSAL CLEANER 121 (see Accessories)

→ Continued on the next page



→ Continuation

Y...EG Cast resin branch joint

Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm		max. Nominal cross section per conductor mm ²						Art.-No.	
					Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable		
Y	00 EG	150	75	38	50	19	19	4	2.5	4	2.5	4	2.5	133841
	0 EG	185	80	45	55	17	17	6	6	6	6	6	6	152932
	1 EG	240	110	60	70	22	22	10	10	10	10	10	10	124730
	2 EG	285	120	65	75	34	30	25	25	25	25	25	25	147533
	3 EG	240	145	100	110	42	37	50	25	50	35	25	25	131123
	3.5 EG	300	150	110	120	54	38	70	25	50	35	35	35	131118
	4 EG	285	170	110	120	53	37	95	35	95	50	50	35	124763
	4.5 EG	335	193	120	130	56	42	150	70	150	70	120	70	131119
	5 EG	382	220	140	150	62	52	240	150	240	95	150	95	157645
	6 EG	570	275	180	190	90	80	300	240	300	185	150	150	131126

Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm		max. Nominal cross section per conductor mm ²			Art.-No.	
					Main cable	Branch cable	Main cable	Branch cable	Branch cable		
Y	00 EG	150	75	38	50	19	19				133841
	0 EG	185	80	45	55	17	17	6/6		6/6	152932
	1 EG	240	110	60	70	22	22	10/10		10/10	124730
	2 EG	285	120	65	75	34	30	16/16		10/10	147533
	3 EG	240	145	100	110	42	37	25/25		16/16	131123
	3.5 EG	300	150	110	120	54	38	35/35		25/25	131118
	4 EG	285	170	110	120	53	37	70/70		25/25	124763
	4.5 EG	335	193	120	130	56	42	120/120		95/95	131119
	5 EG	382	220	140	150	62	52	150/150		95/95	157645
	6 EG	570	275	180	190	90	80	240/120		185/95	131126

**Y...GG****Cast resin branch joint**

for polymeric cables and conductors

Universally suitable for branching polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT) with or without concentric conductor. Suitable for branch clamps on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

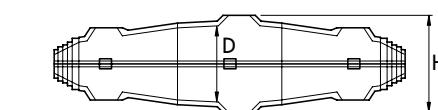
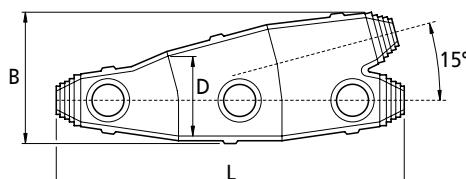
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

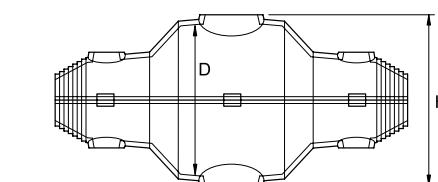
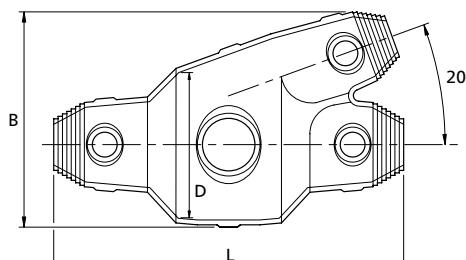
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 24 months

**Dimensions**

Y 0 GG



Y 1 GG, Y 2 GG, Y 3 GG, Y 4 GG,

Scope of delivery

Hydrolysis resistance PUR type GG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, closing stops, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Screw branch clamp AK (see Connecting technology)
 Branch clamp KP (see Connecting technology)
 Branch clamp HE 1/70/150 (see Connecting technology)
 Split bolt clamp FK (see Connecting technology)
 Cleaner UNIVERSAL CLEANER 121 (see Accessories)

→ Continued on the next page



→ Continuation

Y...GG Cast resin branch joint

Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm		max. Nominal cross section per conductor mm ²						Art.-No.
					Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
					3x	4x	5x	6	6	6	6	6	
Y	0 GG	185	80	45	55	17	17	6	6	6	6	6	353813
	1 GG	240	110	60	70	22	22	10	10	10	10	10	353814
	2 GG	285	120	65	75	34	30	25	25	25	25	25	353815
	3 GG	240	145	100	110	42	37	50	25	50	35	25	353816
	4 GG	285	170	110	120	53	37	95	35	95	50	50	353817

Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm		max. Nominal cross section per conductor mm ²				Art.-No.	
					Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable		
					3x	6x	10x	16x	25x	70x70		
Y	0 GG	185	80	45	55	17	17		6/6		6/6	353813
	1 GG	240	110	60	70	22	22		10/10		10/10	353814
	2 GG	285	120	65	75	34	30		16/16		10/10	353815
	3 GG	240	145	100	110	42	37		25/25		16/16	353816
	4 GG	285	170	110	120	53	37		70/70		25/25	353817



Y...V AK

Cast resin branch joint

with screw branch clamps, for polymeric cables and conductors

Universally suitable for branching polymeric cables or conductors insulated with PVC, PE, XLPE and EPR (e.g. N(A)YY, NYM, TT) with or without concentric conductor. With one-core branch clamps, suitable for copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U (U_m)$ 0.6/1 (1.2) kV - 5 kV DC

Test standards

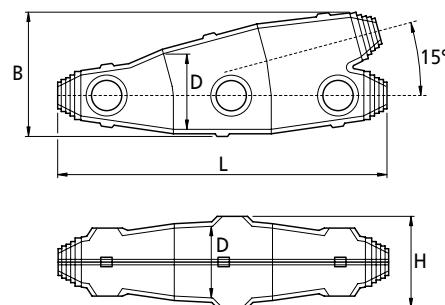
- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months



Dimensions



Scope of delivery

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, closing stops, fill and air-release funnels, screw branch clamps, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	L mm	B mm	D mm	H mm	max. Cable-Ø mm		Nominal cross section per conductor mm²				Art.-No.
					Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
					17	17	1.5 - 4	1.5 - 4	1.5 - 4	1.5 - 4	299001
Y	0 V AK	185	80	45	55	17	17	1.5 - 4	1.5 - 4	1.5 - 4	299001
	1 V AK	240	110	60	70	22	22	2.5 - 6	2.5 - 6	2.5 - 6	299002
	2 V AK	285	120	65	75	37	33	4 - 16	4 - 16	4 - 16	299003

**YCP****Cast resin branch joint**

for polymeric cables and conductors

Suitable for branching the 1-core cables or conductors, e.g. wires for cathodic corrosion protection from chemical and electrochemical reactions in underground area and under water. Pipes, warehouse containers, electric supply lines and other metal constructions are economically and effectively protected against passive corrosion (polymeric casings, mastic glass fibre casings). Suitable for branch clamps on copper and aluminium conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

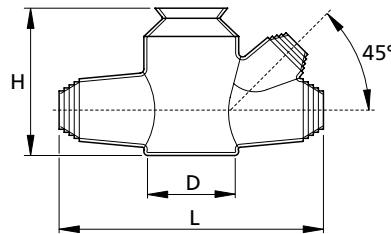
- $U_0/U (U_m)$ 0.6/1 (1.2) kV

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions****Scope of delivery**

Hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, closing stops, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Screw branch clamp AK (see Connecting technology)

Split bolt clamp FK (see Connecting technology)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type	Polymeric cable unarmoured						Nominal cross section per conductor mm ²	Art.-No.	
	L mm	B mm	D mm	H mm	max. Cable-Ø mm	Main cable	Branch cable		
YCP	135	48	44	75	23	20	10 - 50	4 - 50	124683

**D1****Cast resin branch / straight-through joint**

particularly for small cross sections for polymeric cables and conductors, control cables and signal cables

The parallel-branch joint (dual connection joint) is suitable for branching polymeric cables or conductors mainly used for 1-core special cables for airport runways lighting. Suitable for compression connectors on copper conductors.

Characteristics

- Compact dimensions
- Splice area visible before casting
- High-quality transparent shockproof plastic shell
- Large filler aperture to facilitate casting
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Longitudinally and transversely watertight
- High electrical insulating values
- High mechanical strength
- Ready for immediate operation
- Quick and easy assembly saves time and reduces costs

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

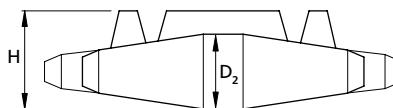
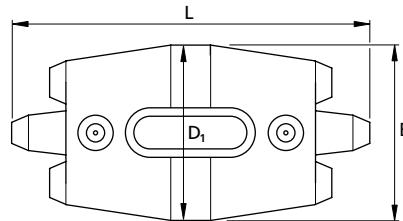
- $U_0/U (U_m)$ 0,6/1 (1,2) kV - 5kV DC

Test standards

- DIN EN 50393 (corresponds to VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions****Scope of delivery**

Cover, hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)
Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Polymeric cable unarmoured								Nominal cross section per conductor mm ²	Art.-No.
Type	L mm	B mm	D1 mm	D2 mm	H mm	max. Cable-Ø mm			
D1	185	90	84	30	48	16	6	2.5	124685

Control and signal cable								Number of conductors	Art.-No.		
Type	L mm	B mm	D1 mm	D2 mm	H mm	max. Cable-Ø mm	Number of wire pairs				
D1	185	90	84	30	48	16	6 - 10	6 - 6	6	4	124685



Universal Box CG

Connection and branch box

with clamps and non-labelled

The connection and branch box combines the advantages of a traditional box with the well-known professional cast resin technology. Complex connections in a very small volume can be done with this universal box. The system guarantees an absolute waterproof protection, excluding all condensation risks.

Characteristics

- OBO BETTERMANN Kabelabzweigkasten T40 mit der Einstektdichtung
- Practical connection and branch box with 7 x M20 membran entries
- Schutzart: IP68 mit Gießharz
- Schutzart: IP68 mit Gießharz
- Halogenfrei
- UV-beständige Abzweigdose
- 5-pole clamps for conductor crosssections of 0.5 - 2.5 mm²
- Free hazardous labelling (isocyanate and silicon free)
- Not harmful to the environment
- High flexibility due to removable cast resin
- Translucent before and after curing
- Cable retaining rings for additional stabilisation of the cable
- Withstands long-term exposure to moisture

Application/Suitability

- Outdoor
- Indoor areas (also with high humidity level)
- Underground

Voltage level

- 230/400 V

Test standards

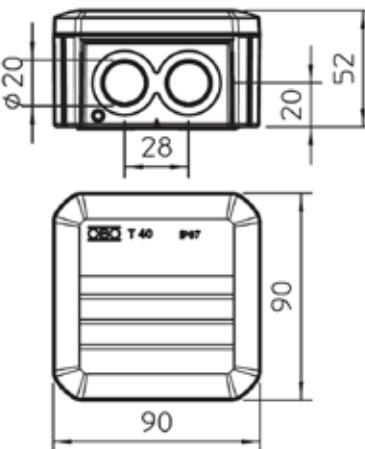
- DIN EN 60529 (VDE 0470)
- DIN EN 50393 (VDE 0278)

Storage conditions/Shelf life

- Cast resin up to 24 months



Dimensions



Scope of delivery

250 ml 2-component hydrocarbon resin CG (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, box with membran entries, 5 clamps 5-pole 0.5 - 2.5 mm², 12 cable retaining rings CP-Z1, funnel for easy vertical filling, emery cloth, assembly instructions

Optional accessory: Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: Type CG cast resin refills may be ordered separately.

Type	L mm	B mm	H mm	max. Cable-Ø mm	Polymeric cable unarmoured		Art.-No.
					Nominal cross section per conductor mm ²		
Universal Box CG 250 ml	90	90	52	20		0,5 - 2,5	420083

**EG****Two-component PUR cast resin**

universal

Cast resin EG is suitable for the following types of cables: Low voltage polymeric-insulated and mass-impregnated paper cables up to 1 kV, polymeric-insulated and mass-impregnated paper telecommunication and signal cables and medium voltage cables (as mechanical protection and protection against moisture).

Characteristics

- Two-component PUR cast resin
- In practical and easy-to-use two-chamber bags
- Favourable flow properties
- High hydrolysis resistance
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Halogen-free
- Not harmful to the environment
- Flexibility ensures mechanical stress absorption
- No fracturing under electrical stress
- No fracturing under mechanical tension
- Excellent adhesion to all cable materials
- Low hardening temperature

Test standards

- DIN VDE 0278-631-1

Storage conditions/Shelf life

- In aluminium bag 40 months at ambient temperatures between 15 °C and 35 °C

**Scope of delivery**

1 PU

Note: Other sizes available on request.

Type	Content ml	Art.-No.
EG	80	134999
	143	124909
	286	124986
	370	124962
	464	124989
	730	124990
	1000	124992
	1150	124901
	1500	124991
	2000	132206

→ Continued on the next page



→ Continuation

EG Two-component PUR cast resin

Technical data	Value
Flash point of cast resin component (open cup)	> 200 °C
Flash point of reactant (open cup)	> 200 °C
Processing time (pot life) of 300 ml mixture at	
5 °C	40 minutes
23 °C	23 minutes
35 °C	15 minutes
max. Reaction temperature	80 °C
Total volume shrinkage during curing	4.0 %
Density	1.10 g/cm ³
Impact strength	> 10 kJ/m ²
Hardness	55 Shore D
Water absorption in warm water (42 d at 50 °C)	350 mg
Electrolytic corrosion	A 1
1 minute test voltage at	
23 °C	> 20 kV
80 °C	> 20 kV
Dielectric dissipation factor at	
23 °C and 1 kHz	0.05
23 °C and 50 Hz	0.08
Dielectric constant at	
23 °C and 1 kHz	5.3
23 °C and 50 Hz	5.1
Tracking resistance	KA 3c
Operating temperature range	-40 °C up to +105 °C

**GG****Two-component PUR cast resin**

reduced hazard-class

Cast resin GG is a special development to fulfill reduced hazard-classification. It's labelling identification, according to the CLP-Regulation (EC) No. 1272/2008, does not contain the H351 statement. The cast resin GG has similar properties as the known polyurethane cast resins. Cast resin GG is suitable for low voltage polymeric-insulated and mass-impregnated paper cables up to 1 kV.

**Characteristics**

- Two-component PUR cast resin
- In practical and easy-to-use two-chamber bags
- Favourable flow properties
- High hydrolysis resistance
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Halogen-free
- Not harmful to the environment
- Flexibility ensures mechanical stress absorption
- No fracturing under electrical stress
- No fracturing under mechanical tension
- Excellent adhesion to all cable materials
- Low hardening temperature
- Reduced hazardous labelling identification according to the CLP-Regulation (EC) No. 1272/2008

Test standards

- DIN VDE 0278-631-1

Storage conditions/Shelf life

- In aluminium bag 24 months at ambient temperatures between 15 °C and 35 °C

Scope of delivery

1 PU

Note: Other sizes available on request.

Type	Content ml	Art.-No.
GG	80	353869
	143	353890
	286	353891
	370	353892
	464	353893
	730	353894
	1000	353818
	1700	335750
	2150	317353

Technical data	Value
Flash point of cast resin component (open cup)	> 200 °C
Flash point of reactant (open cup)	> 200 °C
Processing time (pot life) 300 ml mixture at 5 °C	68 minutes
23 °C	24 minutes
35 °C	15 minutes
max. Reaction temperature	60 °C
Total volume shrinkage during curing	< 6.0 %
Density	1.32 g/cm³
Impact strength	> 10 kJ/m²
Hardness	30 Shore D
Operating temperature range	-40 °C up to +90 °C

**CG**

Two-component hydrocarbon resin

non-labelled, free of silicone and isocyanate

Cast resin CG is an environment-friendly and removable 2-component cold curing casting compound based on hydrocarbon resins which does not require hazardous label acc. to CLP-Regulation (EC) No. 1272/2008. The translucent cast resin allows a visual inspection even after the casting. The connection is accessible at any time by removing the cast resin. Typical application areas: cable branch-off cabinet, connection boxes, telecommunication cable connections, electronic components.



Characteristics

- Two-component hydrocarbon cast resin
- In practical and easy-to-use two-chamber bags
- Exceptional electrical insulation
- Free hazardous labelling identification according to the CLP-Regulation (EC) No. 1272/2008
- Free of isocyanate and silicon
- Removable
- Translucent before and after curing
- Favourable flow properties
- Low volume shrinkage
- Cold curing (no heat during reaction)
- Halogen free
- No fracturing under electrical stress
- Excellent adhesion to all cable materials

Note

- Due to its soft elastic mechanical properties, which are favourable for removal, it is advised to implement a cable relief, if stresses on the cable are likely to occur.

Test standards

- DIN EN 60455-3-8
- DIN EN 50655-1

Storage conditions/Shelf life

- In aluminium bag 24 months at ambient temperatures between 15 °C and 30 °C

Scope of delivery

1 PU

Note: Other sizes available on request.

Type	Content ml	Art.-No.
CG	143	362398
	250	362399
	730	362410
	1000	363564
	2000	362411

Technical data*	Value	Test standard
Processing time (pot life) 300 ml mixture at 5 °C	24 minutes	DIN EN 60455-2
23 °C	21 minutes	
40 °C	16 minutes	
Hardness (PEN/Hardness)	57 1/10 mm	DIN ISO 2137
Resin - Viscosity at 23°C	2010 mPa x s	EN ISO 2555
Hardener - Viscosity at 23°C	7500 mPa x s	EN ISO 2555
Mix viscosity 5 minutes after mixing at 23°C	4200 mPa x s	EN ISO 2555
Density cured casting compound	0,92 g/cm³	EN ISO 1183-1
Resistance to electrical breakdown	> 25 kV/mm	DIN EN 60243-1
Volume resistance at 23°C	> 10¹⁴ Ωcm	DIN IEC 60093
Storage temperature	0 - 40 °C	DIN EN 60455-2
Operating temperature range	< 80 °C	DIN EN 60455-2

*The given values are typical values and not a specification

**FG****Two-component PUR cast resin**

flexible

Cast resin FG is suitable for repairing damaged cable-sheaths and for connecting flexible cables. It provides an excellent resistance to abrasion.

Characteristics

- Two-component PUR cast resin
- In practical and easy-to-use two-chamber bags
- Favourable flow properties
- High hydrolysis resistance
- Halogen-free
- Not harmful to the environment
- Resin remains highly flexible after hardening
- Flexibility ensures mechanical stress absorption
- No fracturing under electrical stress
- No fracturing under mechanical tension
- Excellent adhesion to all cable materials
- Low hardening temperature

Test standards

- DIN VDE 0278-631-1

Storage conditions/Shelf life

- In aluminium bag 24 months at ambient temperatures between 15 °C and 35 °C

**Scope of delivery**

1 PU

Note: Other sizes available on request.

Type	Content ml	Art.-No.
FG	143	135534
	286	125153
	464	125154
	730	131233
	1000	125155

→ Continued on the next page

**UG****Two-component PUR cast resin**

flame retardant

Cast resin UG meets the higher fire protection requirements and was specially developed for use in mining. It meets the requirements for cast resin moulding according to DIN VDE 0291 Section 2 on filling the cable sets or parts thereof for the following types of cables: Power cables with a nominal voltage up to 1 kV - GNH, power cables with a nominal voltage up to 10 kV - GMH and telecommunication and signal cables - GFH.

Characteristics

- Two-component PUR cast resin
- In practical and easy-to-use two-chamber bags
- Favourable flow properties
- Fast-hardening
- High hydrolysis resistance
- Resistant to chemical agents
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Halogen-free
- Flame retardant
- Not harmful to the environment
- Low smoke emission in case of fire
- No fracturing under electrical stress
- No fracturing under mechanical tension
- Excellent adhesion to all cable materials

Test standards

- Flame retardation in accordance with DIN VDE 0472 Section 804, test typ C
 - Properties of insulation against flames in accordance with DIN VDE 0472 Section 814
 - Corrosiveness of combustion gases in accordance with DIN VDE 0472 Section 813
 - DIN VDE 0278-631-1
- Storage conditions/Shelf life**
- In aluminium bag 24 months at ambient temperatures between 15 °C and 35 °C

**Scope of delivery**

1 PU

Note: Other sizes available on request.

Type	Content ml	Art.-No.
UG	80	125286
	143	125287
	286	125288
	464	125289
	730	125290
	1000	125291
	1850	131331
	2000	135533

→ Continued on the next page



→ Continuation

UG Two-component PUR cast resin

Technical data	Value
Flash point of cast resin component (open cup)	> 200 °C
Flash point of reactant (open cup)	> 200 °C
Processing time (pot life) 300 ml mixture at	
5 °C	23 minutes
23 °C	16 minutes
35 °C	12 minutes
max. Reaction temperature	78 °C
Total volume shrinkage during curing	2.5 %
Density	1.40 g/cm ³
Impact strength	> 20 kJ/m ²
Hardness	80 Shore D
Water absorption in warm water (42 d at 50 °C)	250 mg
Water absorption in cold water (24 h at 23 °C)	18 mg
Electrolytic corrosion	A 1.2
1 minute test voltage at	
23 °C	38 kV
80 °C	35 kV
Dielectric dissipation factor at	
23 °C and 1kHz	0.02
23 °C and 50 Hz	0.03
50 °C and 50 Hz	0.06
80 °C and 50 Hz	0.15
Dielectric constant at	
23 °C and 1 kHz	4.1
23 °C and 50 Hz	4.3
50 °C and 50 Hz	5.5
80 °C and 50 Hz	7.2
Tracking resistance	KA 3c



UWR

Two-component PUR cast resin

low reactivity to water

Cast resin UWR has been specially developed for filling the cable joints exposed to high levels of humidity. It is characterised by its resistance to water in the liquid and in the solid state and is suitable for the encapsulation which are exposed to high levels of humidity for the following cable types: low voltage polymeric-insulated and mass-impregnated paper cables up to 1 kV

Characteristics

- Two-component PUR cast resin
- In practical and easy-to-use two-chamber bags
- Favourable flow properties
- High hydrolysis resistance
- Halogen-free
- Not harmful to the environment
- No fracturing under electrical stress
- No fracturing under mechanical tension
- Excellent adhesion to all cable materials

Test standards

- DIN VDE 0278-631-1

Storage conditions/Shelf life

- In aluminium bag 24 months at ambient temperatures between 15 °C and 35 °C



Scope of delivery

1 PU

Note: Other sizes available on request.

Type	Content ml	Art.-No.
UWR	143	139163
	286	138162
	464	148876
	1175	137406
	1350	137358
	1500	137712
	2000	137877

Technical data	Value
Flash point of cast resin component (open cup)	140 °C
Processing time (pot life) 300 ml mixture at	
5 °C	30 minutes
23 °C	15 minutes
35 °C	8 minutes
max. Reaction temperature	88 °C
Total volume shrinkage during curing	4.2 %
Density	1,20 g/cm³
Impact strength	> 28 kJ/m²
Hardness	60 Shore D
Elongation at break	40 %
Effect of long-term warm storage on impact strength (38 d)	15 kJ/m²
Tear resistance	16 N/mm²
Tensile strength	15 N/mm²
Residual deformation (after 24 h)	0,4 %
Pressure required for 30 % deformation	27 N/mm²
Curing under water	< 10 ml glass
Hydrolysis resistance after water immersion (28 d at 70 °C)	passed
Physical structure	passed (homogeneous and bubble-free)

**WG****Two-component PUR cast resin**

removable

The unfilled thin two-component polyurethane cast resin (PUR) WG was particularly developed for cable joints. The hardened moulding material is permanently elastic and can be removed at any time with simple tools.

Characteristics

- Two-component PUR cast resin
- In practical and easy-to-use two-chamber bags
- Favourable flow properties
- High hydrolysis resistance
- Halogen-free
- Not harmful to the environment
- No fracturing under electrical stress
- Excellent adhesion to all cable materials
- Low hardening temperature
- Permanently flexible after hardening

Note

- Connection requires mechanical tension relief due to the flexibility of the resin e.g. by means of a mechanically stable joint housing.

Test standards

- DIN VDE 0278-631-1

Storage conditions/Shelf life

- In aluminium bag 18 months at ambient temperatures between 15 °C and 35 °C

**Scope of delivery**

1 PU

Note: Other sizes available on request.

Type	Content ml	Art.-No.
WG	286	125202
	464	125203
	730	125204
	1000	125205
	1150	125206
	1500	125207
	2000	125208
	2200	125209

Technical data	Value
Flash point of cast resin component (open cup)	200 °C
Flash point of reactant (open cup)	
Processing time (pot life) 300 ml mixture at	
5 °C	33 minutes
23 °C	24 minutes
35 °C	21 minutes
max. Reaction temperature	60 °C
Total volume shrinkage during curing	1,2 %
Density	1,10 g/cm³
Hardness	44 Shore A
Elongation at break	60 %
Tensile strength	0,6 N/mm²
Tracking resistance	KA 3c
Water absorption in warm water (42 d at 50 °C)	450 mg
Electrolytic corrosion	A 1,2
1 minute test voltage at	
23 °C	> 20 kV
80 °C	> 10 kV
Dielectric dissipation factor at	
23 °C and 50 Hz	0,04
Dielectric constant at	
23 °C and 50 Hz	5,7



AMX-C

Automatic cast resin mixing system

with static mixer

Cartridge filled with two-component PUR cast resin for easy casting of connection and branch boxes and cast resin joints in a single operation without time-consuming preparation of cast resin components. Suitable for low voltage polymeric-insulated cables up to 1 kV; ideal for boxes with smaller volume.

Characteristics

- Mixing and casting in one step
- Less workload as no preparatory work such as kneading is necessary
- Safe and automatic mixing of cast resin components during application
- Favourable flow properties for clean application and precise dosing
- Individually dosable
- Reclosable cartridge for multiple use
- Resistant to alkaline earth elements
- Stabilized against UV rays
- Halogen-free
- Not harmful to the environment
- No fracturing under electrical stress
- Excellent adhesion to all cable materials
- No fracturing under mechanical tension
- Low hardening temperature

Application/Suitability

- Indoor
- Outdoor
- Underground
- Connection and branch boxes
- Cast resin joints

Voltage level

- $U_0/U (U_m) 0.6/1 (1.2) \text{ kV}$

Test standard

- DIN VDE 0278-631-1

Storage conditions/Shelf life

- 24 months at ambient temperatures between 15 °C and 35 °C

Note on multiple use:

Clean cartridge opening and (cartridge) cap after use.
Replace static mixer.



Scope of delivery

Cast resin cartridge, static mixer

Note: Static mixer can be ordered separately or as part of the AMX cleaning accessory kit (static mixer, cleaning tissue and gloves).

Optional accessory: Caulking gun AMX-HPT 310 (see Accessories)

Caulking gun AMX-HPT 1200 (see Accessories)

Accu caulking gun AMX-APT 310 (see Accessories)

Typ	Content ml	Art.-No.
AMX-C265-EGK	265	292688
AMX-1200-EGK	1200	249007

Technical data	Value
Density	1.11 g/cm ³
Hardness	50 Shore D
Tensile strength	13 N/mm ²
Elongation at break	60 %
Viscosity (20 °C)	1700 mPa s
Operating temperature range	-40 °C up to +105 °C

LOW VOLTAGE

Gel technology



Gelboxes 114



Straight-through joints 116



Branch joints 119



Casting compounds 120

**EASY-PROTECT****Gel box**

with WAGO COMPACT Splicing Connectors

Gel filled housings for easy, fast and safe moisture protection of WAGO COMPACT Splicing Connectors

Characteristics

- Protects the splicing connector against moisture and water ingress according to IPX8
- VDE type-tested system according to EN 60998-2 for approval in conjunction with WAGO COMPACT Splicing Connectors 221
- Rigid, label-free and silicone-free gel
- UV-resistant housing, robust and re-accessible housing
- Fast application, easy mounting and direct commissioning
- Ready to use and immediately operational

Application/Suitability

- Indoor and Outdoor
- Can be used in the low-voltage range without an additional housing
- Can be used in the low-voltage range with additional housing (double insulation / observe protection class II)

Note

- Not reusable

Voltage level

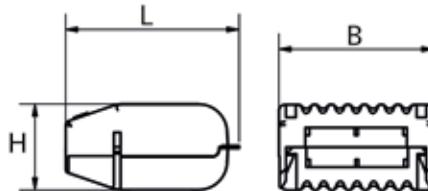
- $U_0/U (U_m) 0,6/1 (1,2) \text{ kV}$

Test standards

- VDE type-tested system according to EN 60998-2

Storage conditions/Shelf life

- Unlimited shelf life at ambient temperature between 0 °C und 40 °C

**Dimensions****Scope of delivery**

pre-filled gel box, WAGO COMPACT Splicing Connector type 221

Designation	L mm	B mm	H mm	Assignment with WAGO COMPACT Splicing Connectors, type 221					
				221-412	221-413	221-415	221-612	221-613	221-615
Size 1	33,6	32,0	17,8	1	1	-	-	-	-
Size 2	33,6	45,9	17,8	2	-	1	-	-	-
Size 3	33,6	52,7	17,8	3	2	-	-	-	-
Size 4	40,1	38,0	21,3	-	-	-	1	1	-
Size 5	40,1	49,4	21,3	-	-	-	2	-	1
Size 6	40,1	66,4	21,3	-	-	-	3	2	-

Typ	Housing size	Type WAGO COMPACT Splicing Connector	Nominal cross section mm ²	Number of Gel boxes	Art.-No.
EASY-PROTECT	112	1 x 412	0,14 f / 0,2 - 4 mm ²	1	407858
	113	1 x 413		1	407859
	222	2 x 412		1	407860
	215	1 x 415		1	407861
	332	3 x 412		1	407862
	323	2 x 413		1	407863
	412	1 x 612		1	410356
	413	1 x 613		1	410357
	522	2 x 612		1	410358
	515	1 x 615		1	410359
	632	3 x 612	0,5 - 6 mm ²	1	410360
	623	2 x 613		1	410361

→ Continued on the next page

WAGO is a registered trademark of WAGO Verwaltungsgesellschaft mbH



→ Continuation

Technical data	Value	Test standard
Physical properties		
IP protection class	IPX8	EN 60529
Storage period	Indefinite storage capacity	-
Housing colour	Black	-
Housing material	Polypropylene	-
Closure type	Latching	-
Wiring direction	One-sided	-
Gel colour	Translucent amber	-
Gel material	Polyurethan	-
Thermodynamic properties		
Continuous service temperature	105 °C	EN 60998-2
Ambient temperature (operation)	85°C according to T85 marking	EN 60998-2
Working temperature / Storage temperature	0 - 40 °C	
Flammability class housing	V2*	UL 94
Electrical properties**		
Voltage range	450 V	EN 60998-2
Rated surge voltage	4 kV	EN 60998-2
Rated current	32 A respectively 41 A (WAGO COMPACT Splicing Connectors)	EN 60998-2
Resistance to electrical breakdown gel	≥ 15 kV / mm	EN 60243-1

* Approximately comparable to the glow wire test according to EN 60695

** Double insulation / observe protection class II for low voltage



EASYCELL® EASY...V

Gel straight-through joint

with connection block

Universally suitable for connecting all polymeric cables and conductors (e.g. N(A)YY, NYM, H05), cross section range from 1.5 mm² to 25 mm². Suitable for aluminium and copper conductors.

Characteristics

- Connector area completely sealed by gel
- Re-accessible and ready for immediate operation
- Multi range one-piece connection block
- High-quality shockproof plastic shells, flame retardant and UV-resistant
- Quick and easy assembly

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water (according to test standard)

Voltage level

- U₀/U (U_m) 0.6/1 (1.2) kV

Test standards

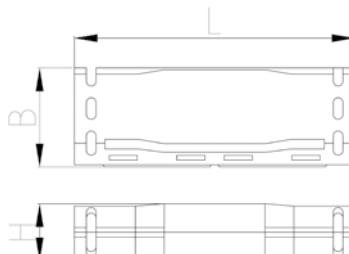
- DIN EN 50393
- DIN EN 60695-2-11

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

EASY 2 V: Gel straight-through joint, lustre terminal, cable ties, assembly instruction

EASY 3 V - 5 V: Gel straight-through joint, connection block, allen key, cable ties, assembly instruction

Optional accessory: EASYCELL® Strain relief, available for connecting joints from 6 mm² to 25 mm² (EASY 4 V and EASY 5 V)

Polymeric cable unarmoured			
	3x	4x	5x

Type	L mm	B mm	H mm	Nominal cross section per conductor mm ²	Art.-No.	Art.-No. for german market
EASY	2 V	86	47	1.5 - 2.5	320436	389676
	3 V	146	55	1.5 - 6	309445	389677
	4 V	180	69	6 - 16	309446	389678
	5 V	240	75	16 - 25	309447	389679



EASYCELL® EASY... Gel straight-through joint

without connection block

Universally suitable for connecting all polymeric cables and conductors (e.g. N(A)YY, NYM, H05), cross section range from 1.5 mm² to 25 mm². Suitable for aluminium and copper conductors.

Characteristics

- Connector area completely sealed by gel
- Re-accessible and ready for immediate operation
- Multiple type of connectors can be used, e. g. terminal strips, push wire connectors, mechanical blocks and c-crimp connectors
- High-quality shockproof plastic shells, flame retardant and UV-resistant
- Quick and easy assembly

Application/Suitability

- Indoor
- Outdoor
- Underground

Voltage level

- U₀/U (U_m) 0.6/1 (1.2) kV

Test standards

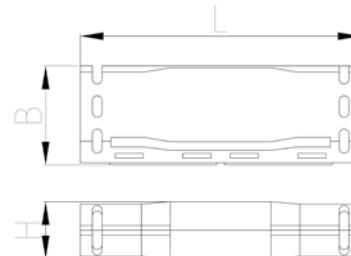
- DIN EN 50393
- DIN EN 60695-2-11

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

EASY 2: Gel straight-through joint, cable ties, assembly instructions

EASY 3 - 5: Gel straight-through joint, spacer, cable ties, assembly instruction

Note: For connections of up to 5-core polymeric cables we recommend to use standard EASYCELL® gel straight through joints (EASY ... V) with connection block.

Polymeric cable unarmoured	
3x	
4x	

Type	L mm	B mm	H mm	Cable-Ø mm	Nominal cross section per conductor mm ²	Art.-No.
EASY	2	86	47	27	11 - 13	360366
	3	146	55	35	11 - 19	360368
	4	180	69	40	15 - 23	360369
	5	240	75	44	19 - 28	360400



Straight-through joints

EASYCELL®
Strain relief

for gel straight-through joints EASY 4 V and EASY 5 V

For the application with high mechanical loads and forces.

Characteristics

- Quick and easy assembly

Application/Suitability

- Mechanical protection

Scope of delivery

Strain relief



Type	Art.-No.
Strain relief	310553



EASYCELL® EASY...V Gel branch joint

with branch-off block

Universally applicable for branching all polymeric cables and conductors (e.g. N(A)YY, NYM, H05) cross section range from 6 mm² to 25 mm². Suitable for aluminium and copper conductors.

Characteristics

- Connector area completely sealed by gel
- Re-accessible and ready for immediate operation
- Multi range one-piece branch-off block
- High-quality shockproof plastic shells, flame retardant and UV-resistant
- Quick and easy assembly

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water (according to test standard)

Voltage level

- U₀/U (U_m) 0.6/1 (1.2) kV

Test standards

- DIN EN 50393
- DIN EN 60695-2-11

Storage conditions/Shelf life

- Unlimited shelf life

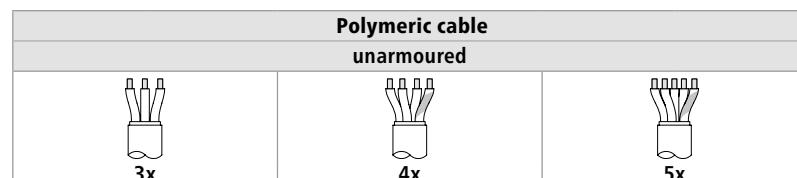
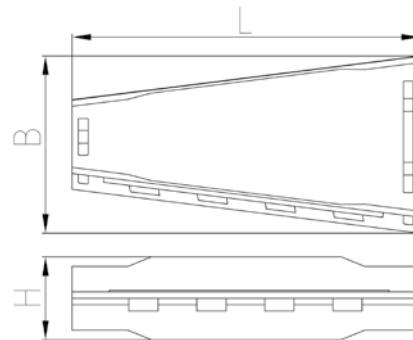


Scope of delivery

Gel branch joint, branch-off block, allen key, cable ties, assembly instruction

Note: Separable, main cable must not be cut.

Dimensions



Type	L mm	B mm	H mm	Nominal cross section per conductor mm ²								Art.-No.
				Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	Main cable	Branch cable	
EASY	6 V	220	110	53	6	2,5 - 6	6	2,5 - 6	6	2,5 - 6	6	371166
	7 V	260	130	65	16 - 25	2,5 - 25	16 - 25	2,5 - 25	16 - 25	2,5 - 25	16 - 25	371167



EXPRESS GEL

Two-component shaking gel based on silicon

only 5 seconds of mixing time for extremely fast casting

Innovative, two-component shaking sealing compound with mixing bottle for fast and temporal protection of electric components. Shortest mixing time in market via shaking, color changing indicates the end of the mixing process.

Characteristics

- Innovative mixing process
- The fastest working gel sealing compound in the market
- Colour change from yellow/blue to green
- Higher electrical isolation value
- Non-labelled and non-toxic
- Easy removable
- Halogen free
- UV rays stable
- Seals and protects all electrical installations

Application/Suitability

- Indoor
 - Outdoor
 - Temporary applications
 - Protection against moisture
 - For electrical systems up to 1 kV
- Storage conditions/Shelf life**
- Unlimited shelf life at ambient temperatures between 0 °C and 40 °C



Scope of delivery

EXPRESS GEL component A and component B with special mixing bottle

Type	Content ml	Art.-No.
EXPRESS GEL 400	400	364845

Technical data	Value	Test standard
Viscosity (23 °C)	100 mPa x s	ISO 2555
Pot life (23 °C)	10 min	EN 60684-2
Dielectric strength	≥ 35 kV/mm	EN 60243-1
Specific volume resistivity	2 x 10 ¹⁴ Ω x cm	HD 429
Mixing ratio	1 : 1	
Working temperature	15 °C up to 30 °C	
Temperature resistance	-40 °C up to 150 °C	



POWER GEL

Two-component gel based on silicon

to cast branch and connection boxes

Individual portioned two-component sealing compound in bottles, measuring cup and spatula, all-in-one solution for a reliable protection of electrical and electronic components.

Characteristics

- Individual portioned
- Reclosable bottles for multiple use
- Easy casting thanks to measuring cup
- Complete system
- Non-labelled and non-toxic
- Vibration damping
- Removable
- Flexible
- Halogen free
- UV rays stable
- Seals and protects all electrical installations

Application/Suitability

- Indoor (also with high humidity levels)
 - Outdoor
 - Branch and connection boxes
 - Protection against moisture (IP 68 protection class in a suitable box)
 - For electrical systems up to 1 kV
- Storage conditions/Shelf life**
- Unlimited shelf life at ambient temperatures between 0 °C and 40 °C



Scope of delivery

POWER GEL component A and component B in bottles, measuring cup and spatula

Type		Content ml	Art.-No.
POWER GEL	400	400	335120
	1000	1000	335121

Technical data	Value	Test standard
Viscosity (23 °C)	1000 mPa x s	ISO 2555
Pot life (23 °C)	15 min	EN 60684-2
Dielectric strength	≥ 15 kV/mm	EN 60243-1
Specific volume resistivity	≥ 2 x 10 ¹⁴ Ω x cm	HD 429
Mixing ratio	1 : 1	
Working temperature	15 °C up to 30 °C	
Temperature resistance	-40 °C up to 150 °C	



JUMBO GEL

Two-component gel based on silicon

cost-effective casting for big quantities

Transparent and economic two-component sealing compound in re-closable cans for serial casting and big branch and connection boxes.

Characteristics

- Special cost-effective and efficient
- Reclosable cans for multiple use
- Transparent
- Mix in standard bucket
- Non-labelled and non-toxic
- Vibration damping
- Removable
- Flexible
- Halogen free
- UV rays stable
- Seals and protects all electrical installations

Application/Suitability

- Indoor (also with high humidity level)
- Outdoor
- Serial casting and big boxes
- Protection against moisture (IP 68 protection class in a suitable box)
- For electrical systems up to 1 kV

Storage conditions/Shelf life

- Unlimited shelf life at ambient temperatures between 0 °C and 40 °C



Scope of delivery

JUMBO GEL component A and component B in cans

Type	Content ml	Art.-No.
JUMBO GEL	2000	364306
	5000	364307
	10000	364308
ZS-JUMBO GEL	5500 Accessory kit (5500 ml bucket and spatula) 12000 Accessory kit (12000 ml bucket and spatula)	366512 366513

Technical data	Value	Test standard
Viscosity (23 °C)	1000 mPa x s	ISO 2555
Pot life (23 °C)	17 min	EN 60684-2
Dielectric strength	≥ 12 kV/mm	EN 60243-1
Specific volume resistivity	≥ 2 x 10 ¹⁴ Ω x cm	HD 429
Mixing ratio	1 : 1	
Working temperature	15 °C up to 30 °C	
Temperature resistance	-25 °C up to 125 °C	



CLEAR GEL

Two-component gel based on silicon

to protect electrical components and LEDs

Sealing, high-transparent two-component sealing compound for a reliable protection to electrical components. Suitable for opto-electronic applications like e.g. sealing of LEDs and lighting installations

Characteristics

- Permanently high transparent
- In practical and easy-to-use two-chamber bags
- Favourable flow properties
- Application-oriented variants
- Non-labelled and non-toxic
- Vibration damping
- Removable
- Flexible
- Halogen free
- UV rays stable
- Seals and protects all electrical installations

Application/Suitability

- Indoor (also with high humidity level)
 - Outdoor
 - Branch and connection boxes
 - Protection against moisture (IP 68 protection class in a suitable box)
 - For electrical systems up to 1 kV
- Storage conditions/Shelf life**
- 24 months at ambient temperatures between 0 °C and 40 °C



Scope of delivery

CLEAR GEL component A and component B in two-chamber bags

Type	Content ml	Art.-No.
CLEAR GEL	80	364031
	150	364032
	250	364033
	350	364034
	500	364035

Technical data	Value	Test standard
Viscosity (23 °C)	1000 mPa x s	ISO 2555
Pot life (23 °C)	15 min	EN 60684-2
Dielectric strength	≥ 15 kV/mm	EN 60243-1
Specific volume resistivity	≥ 2 x 10 ¹⁴ Ω x cm	HD 429
Mixing ratio	1 : 1	
Working temperature	15 °C up to 30 °C	
Temperature resistance	-40 °C up to 150 °C	



SUPRA GEL

Two-component gel based on silicon

ready-to-use, delivered with static mixer for small volume boxes

Standard cartridge, filled with two-component sealing compound. User friendly casting for branch and connection boxes in one-operation without time consuming.

Characteristics

- Ready-to-use
- Mixing and casting in one step
- Clean application and precise dosing
- Reclosable cartridge for multiple use
- Favourable flow properties
- Non-labelled and non-toxic
- Removable
- Flexible
- Halogen free
- UV rays stable
- Seals and protects all electrical installations

Application/Suitability

- Indoor (also with high humidity level)
 - Outdoor
 - Branch and connection boxes
 - Protection against moisture (IP 68 protection class in a suitable box)
 - For electrical systems up to 1 kV
- Storage conditions/Shelf life**
- 24 months at ambient temperatures between 0 °C and 30 °C



Scope of delivery

SUPRA GEL component A and component B in a cartridge with static mixer

Type	Content ml	Art.-No.
SUPRA GEL	250	364036
Static mixer	SUPRA GEL	366780

Technical data	Value	Test standard
Viscosity (23 °C)	1000 mPa x s	ISO 2555
Pot life (23 °C)	15 min	EN 60684-2
Dielectric strength	≥ 15 kV/mm	EN 60243-1
Specific volume resistivity	≥ 2 x 10 ¹⁴ Ω x cm	HD 429
Mixing ratio	1 : 1	
Working temperature	15 °C up to 30 °C	
Temperature resistance	-40 °C up to 150 °C	



SOFT GEL

One-component gel based on silicon

ready-to-use, suitable for a wide range of applications

Standard cartridge, filled with extremely sticky one-component sealing compound suitable for electrical insulation and protection against corrosion, also recommended for temporal solutions.

Characteristics

- Ready-to-use
- Very sticky, does not drip
- Re-accessible
- Non-labelled and non-toxic
- Reusable
- Halogen free
- UV rays stable

Application/Suitability

- Indoor
 - Outdoor
 - Plug-in protection
 - Protection against corrosion and insects
 - For electrical systems up to 1 kV
- Storage conditions/Shelf life**
- Unlimited shelf life at ambient temperatures between 0 °C and 40 °C
 - The cartridge can be stored open



Scope of delivery

SOFT GEL in a cartridge with nozzle

Type	Content ml	Art.-No.
SOFT GEL	310	364723

Technical data	Value	Test standard
Viscosity (23 °C)	40000 mPa x s	
Pot life (23 °C)	-	EN 60684-2
Dielectric strength	≥ 10 kV/mm	EN 60243-1
Specific volume resistivity	≥ 2 x 10 ¹⁴ Ω x cm	HD 429
Mixing ratio	-	
Working temperature	0 °C up to 40 °C	
Temperature resistance	-40 °C up to 150 °C	



FLOW GEL

One-component gel based on silicon

with permanent flowability

Self-amalgamating one-component sealing compound for a reliable protection of electronic components. Ideal suitable for horizontal surfaces and complex contours, e. g. circuit boards, to cover perfectly.

Characteristics

- Ready-to-use
- Self amalgamating
- Permanently self levelling
- Removable, reaccessible, reusable
- Non-labelled and non-toxic
- Transparent
- Halogen free
- UV rays stable
- Seals and protects all electrical installations

Application/Suitability

- Suitable for covering horizontal surfaces and complex contours
- Circuit boards and displays protection
- Protection against dust
- For electrical systems up to 1 kV

Storage conditions/Shelf life

- Unlimited shelf life at ambient temperatures between 0 °C and 40 °C



Scope of delivery

FLOW GEL in plastic tin

Type		Content g	Art.-No.
FLOW GEL	400	400	365280
	1000	1000	365281

Technical data	Value	Test standard
Viscosity (23 °C)	3000×10^4 mPa x s	ISO 2555
Pot life (23 °C)	-	EN 60684-2
Dielectric strength	≥ 15 kV/mm	EN 60243-1
Specific volume resistivity	≥ 2×10^{14} Ω x cm	HD 429
Mixing ratio	-	
Working temperature	0 °C up to 40 °C	
Temperature resistance	-40 °C up to 150 °C	

MEDIUM VOLTAGE

Cable sets for unscreened polymeric cables	129
Cable sets for screened polymeric cables	135
Cable sets for mass-impregnated paper cables	177
Heat shrinkable components	197

MEDIUM VOLTAGE

Cable sets

for unscreened polymeric cables



Straight-through joints 130



Cable terminations 133



Straight-through joints

SMH3...MS6

3-core straight-through joint

for armoured 3-core polymeric cables without semi-conductive layer up to 7.2 kV

Straight-through joints SMH3...MS6 are suitable for armoured 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR) without an outer semi-conductive layer. They allow the connection of cables with different cross sections and conductor materials even with different cable design. Suitable for compression connectors.

Characteristics

- Compact dimensions
- Wide cross-section range
- Ready for immediate operation
- High mechanical strength
- Quick, safe and easy assembly

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable outer tube with hot melt adhesive, inner sheath sleeve, copper braid tube, pressure spring, cleaning tissue, emery cloth, assembly instructions

Optional accessory: Connectors (see Connecting technology)

Type	Polymeric cable armoured			Nominal cross section mm^2	Art.-No.
	L mm	max. Connector-Ø mm	max. Connector length mm		
$U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV					
SMH3	25-70 MS6	850	20	110	145630
	50-150 MS6	1000	25	135	145633
	120-300 MS6	1200	40	150	145635



SMHSV3-1...MS6

Straight-through joint

with screw connectors, for connecting from 3-core with three 1-core polymeric cables up to 7.2 kV

Straight-through joints SMHSV3-1...MS6 are suitable for connecting 3-core polymeric cables (PVC, PE, XLPE, EPR) without outer semi-conductive layer with three 1-core polymeric cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections, conductive materials and structure. With screw connectors.

Characteristics

- Compact dimensions
- Wide cross-section range
- Ready for immediate operation
- High mechanical strength
- Quick, safe and easy assembly
- Suitable for a wide range of applications due to integrated screw connector

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV
- Storage conditions/Shelf life**
- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable outer tube with hot melt adhesive, inner sheath sleeve, copper braid tape, screw connectors, assembly material, assembly instructions

Type	L mm	Polymeric cable unarmoured / armoured		Art.-No.
		Nominal cross section mm ²		
$U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV				
SMHSV3-1 120-240 MS6	750	50 - 150		311594
	800	120 - 240		369133

**M...MS6****3-core straight-through joint**

for armoured 3-core polymeric cables without semi-conductive layer up to 7.2 kV

Straight-through joints M...MS6 are suitable for armoured 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR) without an outer semi-conductive layer. They allow the connection of cables with different cross sections and conductor materials even with different cable design. They do not contain any substances which inhibit paint wetting and are suitable for use in the automotive industry. Suitable for compression connectors.

Characteristics

- Resistant to chemical agents
- Longitudinally and transversely watertight
- High mechanical strength
- Quick, safe and easy assembly

Application/Suitability

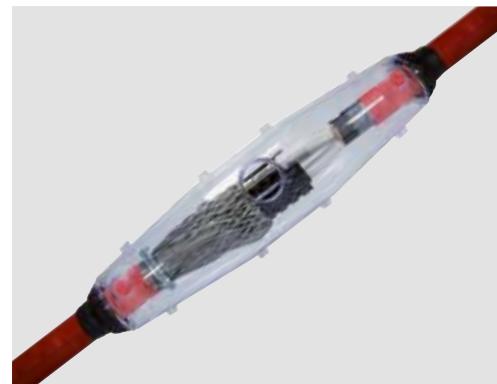
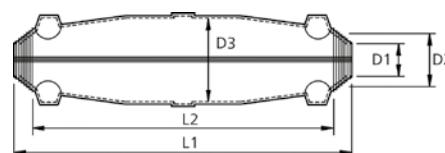
- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV

Storage conditions/Shelf life

- Cast resin up to 40 months

**Dimensions****Scope of delivery**

Spacer sleeve, hydrolysis resistance PUR type EG cast resin (containing the correct volume ready for mixing), packed in practical and easy-to-use two-chamber bags, transparent plastic shell, copper braid tube, hose clamp, fill and air-release funnels, PVC insulation tape, protective gloves, assembly instructions

Optional accessory: Connectors (see Connecting technology)

Type	L1 mm	L2 mm	D1 mm	D2 mm	D3 mm	Cable-Ø mm	Polymeric cable		Nominal cross section mm ²	Art.-No.
							armoured	armoured with concentric conductor		
$U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV										
M4 MS6	432	384	29	52	90	29 - 55	25 - 70		25/25 - 50/50	124318
M5 MS6	550	503	40	62	110	42 - 65	95 - 120		70/70 - 95/95	124319
M6 MS6	660	600	50	78	145	50 - 78	150 - 240		120/120 - 185/185	124320



SEEV

3-core indoor cable termination

for armoured 3-core polymeric cables without semi-conductive layer up to 7.2 kV

Cable terminations SEEV for indoor applications are suitable to cover armoured 3-core polymeric cables (PVC, PE, XLPE, EPR) without semi-conductive layer. Suitable for compression or screw cable lugs.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- High mechanical strength
- Quick, safe and easy assembly

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV
- Storage conditions/Shelf life**
- Unlimited shelf life

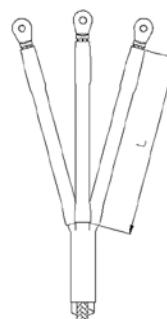


Scope of delivery

Core insulating tubes (tracking resistant), spreader cap, filling tape, earthing accessories, sealing tape, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Dimensions



Type	L mm	Polymeric cable armoured	Nominal cross section mm ²	Art.-No.
		SEEV		
$U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV				
16-50	280		16 - 50	145458
70-120	280		70 - 120	145461
150-240	280		150 - 240	145464
300-400	280		300 - 400	171791



SEEV-F

3-core outdoor cable termination

for armoured 3-core polymeric cables without semi-conductive layer up to 7.2 kV

Cable terminations SEEV-F for outdoor applications are suitable to cover armoured 3-core polymeric cables (PVC, PE, XLPE, EPR) without semi-conductive layer.
Suitable for compression or screw cable lugs.

Characteristics

- Compact dimensions
- Wide conductor and cross-section range
- High mechanical strength
- Quick, safe and easy assembly

Application/Suitability

- Outdoor
- Voltage level**
- $U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV
- Storage conditions/Shelf life**
- Unlimited shelf life

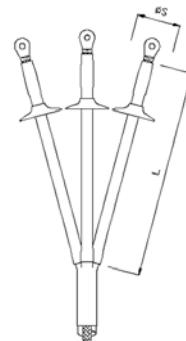


Scope of delivery

Core insulating tubes (tracking resistant), spreader cap (tracking resistant), filling tape, silicone sheds, earthing accessories, sealing tape, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Dimensions



$\varnothing S$ = Diameter of cable shed

Type	L mm	$\varnothing S$ mm	Polymeric cable armoured		Art.-No.
			Nominal cross section mm ²		
$U_0/U(U_m)$ 3.6/6 (7.2) kV - 3.8/6.6 (7.2) kV					
SEEV-F	16-50	400	80	16 - 50	148152
	70-120	400	85	70 - 120	182390
	150-240	400	85	150 - 240	148153

MEDIUM VOLTAGE

Cable sets for screened polymeric cables



Straight-through joints for 1-core cables..... 136



Cable terminations for 1-core cables..... 146



Separable connectors for 1-core cables..... 154



Straight-through joints for 3-core cables..... 169



Cable terminations for 3-core cables..... 172



Straight-through joints for 1-core cables

CHMSV

1-core straight-through joint

with screw connector, for all 1-core polymeric cables

Hybrid straight-through joints CHMSV are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable) and screen design (copper wire or tape screen). With screw connector.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- For both copper and aluminium conductors
- For all cables with copper wire or tape screen
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation
- Suitable for a wide range of applications due to integrated screw connector

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV joints must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control elements, copper braid tube, pressure springs, innovative screw connector with conductive cover, field control filling tape (blue), assembly material, assembly instructions

Note: Other straight-through joints available on request.

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 6.35/11 (12) kV							
CHMSV 12kV	25-95	600	12.6	25 - 95			258130
	70-150	600	14.7	70 - 150			258131
	95-240	600	17.3	95 - 240			258132
	240-400	650	23.1	240 - 400			258133
$U_0/U(U_m)$ 8.7/15 (17.5) kV							
CHMSV 17kV	25-95	600	14.7		25 - 95		258135
	70-150	600	18.0		70 - 150		258136
	95-240	600	19.9		95 - 240		258137
	240-400	700	24.0		240 - 400		258138
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHMSV 24kV	16-95	600	14.7			16 - 95	258140
	50-150	600	17.3			50 - 150	258141
	95-240	600	19.9			95 - 240	258142
	240-400	700	27.3			240 - 400	258143
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHMSV 36kV	50-150	600	20.9			50 - 150	258144
	95-240	600	24.2			95 - 240	258145
	240-400	700	32.0			240 - 400	258146



CHRMSV

1-core repair straight-through joint

with screw connector, for polymeric cables

Hybrid-repair-straight-through joints CHRMSV are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They enable the repair of damaged cables without the use of separate cable sections. With screw connector.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- For both copper and aluminium conductors
- For all cables with copper wire or tape screen
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation
- Suitable for a wide range of applications due to integrated screw connector

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts

Voltage level

- $U_0/U (U_m) 12/20 (24) \text{ kV} - 12.7/22 (24) \text{ kV}$

Note

- 12 kV joints must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control elements, copper braid tube, pressure springs, innovative repair screw connector with conductive cover, field control filling tape (blue), assembly material, assembly instructions

Type	L mm	Connector length mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17,5 kV	24 kV	Art.-No.
$U_0/U (U_m) 12/20 (24) \text{ kV} - 12.7/22 (24) \text{ kV}$							
CHRMSV 24kV	95-240	1000	440	17.3	150 - 240	120 - 240	95 - 240
							304741

**CHM...V****1-core straight-through joint**

with screw connector, for all 1-core polymeric cables

Hybrid straight-through joints CHM...V are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable) and screen design (copper wire or tape screen). With screw connector.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- For both copper and aluminium conductors
- For all cables with copper wire or tape screen
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation
- Suitable for a wide range of applications due to screw connector

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 12/20 (24) kV - 19/33 (36) kV

Note

- 12 kV joints must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

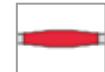
Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions****Scope of delivery**

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control elements, copper braid tube, pressure springs, screw connector, field control filling tape (blue), assembly material, assembly instructions

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
			Nominal cross section mm ²				
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHM 24kV	400-630 V	750	32.7	630	500 - 630	400 - 630	347954
	630-1000 V	750	36.8	800 - 1000	630 - 1000	630 - 1000	308543
	800 V	1000	36.8	800	800	800	331184
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHM 36kV	400-630 V	750	38.5			400 - 630	347081
	630-1000 V	750	38.5			630 - 1000	347118
	800 V	750	38.5	800	800	800	347083



CHM...V

1-core straight-through joint

with screw connector, for all 1-core polymeric cables

Hybrid straight-through joints CHM...V are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable) and screen design (copper wire or tape screen). With screw connector.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- For both copper and aluminium conductors
- For all cables with copper wire or tape screen
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation
- Suitable for a wide range of applications due to screw connector

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 20,8/36 (42) kV

Test standards

- CENELEC HD 629.1 S3

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control elements, copper braid tube, pressure springs, screw connector, field control filling tape, assembly material, assembly instructions

Type	L mm	min. - max. Ø over core insulation after removal of the outer conductive layer mm	12 kV		Art.-No.
			Nominal cross section mm ²		
U ₀ /U (U _m) 20,8/36 (42) kV					
CHM 42kV	50-150 V	700	25,5 - 33,0	50-150	421451
	95-240	700	28,5 - 36,9	95-240	414884
	185-400 V	700	33,0 - 42,1	185-400	421453
	400-630 V	850	40,5 - 48,7	400-630	421454

**CHM****1-core straight-through joint**

for all 1-core polymeric cables

Hybrid straight-through joints CHM are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable) and screen design (copper wire or tape screen). Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- For both copper and aluminium conductors
- For all cables with copper wire or tape screen
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

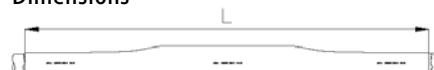
- 12 kV joints must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions****Scope of delivery**

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control elements, copper braid tube, pressure springs, field control filling tape (blue), assembly material, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	max. Connector Ø mm	max. Connector length mm	Nominal cross section mm ²		Art.-No.
					12 kV	17.5 kV	
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV							
CHM 12kV	10-25	650	9.9	16	90	10 - 25	194072
	35-95	650	12.6	25	135	35 - 95	194073
	95-240	650	17.3	32	145	95 - 240	194074
	150-300	700	19.9	40	200	150 - 300	194075
	300-400	700	23.1	40	200	300 - 400	194076
	500-800	850	27.3	60	360	500 - 800	194077
	800-1000	850	36.8	60	360	800 - 1000	194078
$U_0/U (U_m)$ 8.7/15 (17.5) kV							
CHM 17kV	35-95	650	12.6	25	135	35 - 95	194079
	70-240	650	17.3	32	145	70 - 240	194080
	240-400	700	23.1	40	200	240 - 400	194082
	400-630	850	27.3	60	360	400 - 630	194083
	630-1000	850	36.8	60	360	630 - 1000	194085

→ Continued on the next page



→ Continuation

CHM 1-core straight-through joint

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	max. Connector Ø mm	max. Connector length mm			Art.-No.
					24 kV	36 kV	
U₀/U (U_m) 12/20 (24) kV - 12.7/22 (24) kV							
CHM 24kV	10-35	650	12.6	20	100	10 - 35	193339
	50-150	650	17.3	25	135	50 - 150	193370
	70-240	700	19.9	32	145	70 - 240	194086
	150-300	700	23.1	40	200	150 - 300	194087
	400-630	850	27.3	60	360	400 - 630	194088
	630-1000	850	36.8	60	360	630 - 1000	194089
U₀/U (U_m) 18/30 (36) kV - 19/33 (36) kV							
CHM 36kV	35-70	650	19.9	20	110	35 - 70	194090
	50-150	700	23.1	25	135	50 - 150	194091
	150-300	700	27.3	38	200	150 - 300	194092
	300-500	700	27.3	45	200	300 - 500	194093
	500-1000	850	36.8	60	360	500 - 1000	194094



Straight-through joints for 1-core cables

CAM-S

1-core straight-through joint

for all 1-core polymeric cables

Contrax straight-through joints CAM-S are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable) and screen design (wire or tape screen). Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 12/20 (24) kV - 12,7/22 (24) kV

Note

- Check minimum diameter over conductor insulation

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control elements, silicone joint body with integrated semi-conductive layer (individually tested), roll, pressure springs, semiconductor tape, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	max. Connector Ø mm	max. Connector length mm	24 kV		Art.-No.
					Nominal cross section mm ²		
$U_0/U (U_m)$ 12/20 (24) kV - 12,7/22 (24) kV							
CAM-S 24kV	70-240	700	19.9	36	160	70 - 240	201395



CAMSV-C

1-core straight-through joint

with screw connector and cold shrinkable outer protection, for all 1-core polymeric cables

Contrax-Straight-through joints CAMSV-C are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (removable or strippable) and screen design (wire or tape screen). With screw connector.

Characteristics

- Slip-on silicone joint unit with integrated stress control element
- Suitable for a wide range of applications due to included screw connector
- Wide conductor and cross-section range
- For both copper and aluminium conductors
- Few components, compact design and reduced working length
- With cold shrinkable outer protection
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 12.7/22 (24) kV

Note

- Joints can be used also for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- 36 months at storage temperature between 0 °C and 40 °C



Dimensions



Scope of delivery

Cold shrinkable outer tube, silicone joint body with integrated inner and outer semi-conductive layer (individually tested), screw connector, roll, pressure springs, sealing tape, assembly instructions

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	Nominal cross section mm ²	Art.-No.
			12 kV	17.5 kV	24 kV		
$U_0/U (U_m)$ 6/10 (12) kV - 12.7/22 (24) kV							
CAMSV-C 24kV	35-95	530	16,5	70 - 150	50 - 120	35 - 95	370725
	95-300	600	22	150 - 300	120 - 300	95 - 300	354998
	400-630	600	29,15	400 - 630	400 - 630	400 - 630	370726



CAMSV-S

1-core straight-through joint

with screw connector and heat shrinkable outer protection, for all 1-core polymeric cables

Contrax-Straight-through joints CAMSV-S are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (removable or strippable) and screen design (wire or tape screen). With screw connector.

Characteristics

- Slip-on silicone joint unit with integrated stress control element
- Suitable for a wide range of applications due to included screw connector
- Wide conductor and cross-section range
- For both copper and aluminium conductors
- Few components, compact design and reduced working length
- With heat shrinkable outer protection
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 12.7/22 (24) kV

Note

- Joints can be used also for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable outer tube with hot melt adhesive, silicone joint body with integrated inner and outer semi-conductive layer (individually tested), screw connector, roll, pressure springs, assembly instructions

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	Art.-No.	
			Nominal cross section mm ²				
$U_0/U (U_m)$ 6/10 (12) kV - 12.7/22 (24) kV							
CAMSV-S 24kV	35-95	600	16,5	70 - 150	50 - 120	35 - 95	370729
	95-300	650	22	150 - 300	120 - 300	95 - 300	354999
	400-630	700	29,15	400 - 630	400 - 630	400 - 630	370730



CKM

1-core straight-through joint

with screw connector, for all 1-core polymeric cables

Compx straight-through joints CKM are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (wire or tape screen), up to maximum network voltage of 24 kV. With integrated screw connector.

Characteristics

- Compact design
- With integrated screw connector
- Resistant to alkaline earth elements
- Moisture-resistant
- Corrosion-resistant
- Superior mechanical properties
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Underground
- Installation ducts

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV

Test standards

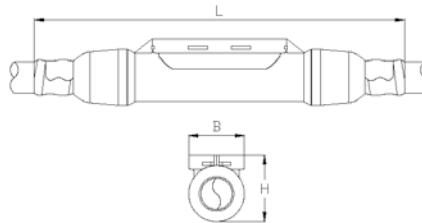
- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Outer housing with integrated joint unit (incl. silicone field control element, screw connector, double plug) pressure springs, padding tape, housing cover with integrated seal, nozzle with slide-on applicator, assembly material, assembly instructions

Type	L mm	B mm	H mm	\varnothing over core insulation after removal of the outer conductive layer mm	Nominal cross section mm ²			Art.-No.	
					12 kV	17.5 kV	24 kV		
$U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV									
CKM 24kV	50-150	470	71	85	15.1 - 28.5	70 - 150	70 - 150	50 - 150	252101
	95-240	470	71	85	19.9 - 32.6	120 - 240	120 - 240	95 - 240	251713
	240-400	585	80	110	27.4 - 40.8	300 - 400	240 - 400	240 - 400	306220
	630	585	80	110	28.6 - 40.8	AI/RE*: 630	AI/RE*: 630	AI/RE*: 630	312445

* AI = Aluminium, RE = Round, massive



CHESK-I

1-core indoor cable termination

with screw cable lugs, for all 1-core polymeric cables

Hybrid cable terminations CHESK-I are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). With screw cable lugs for main conductor and copper wire screen.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level
 - $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

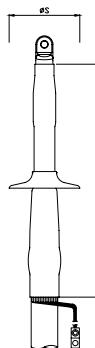
- CENELEC HD 629.1 (DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



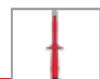
$\emptyset S$ = Diameter of cable shed

Scope of delivery

1 set for 3 phases, heat shrinkable tube (tracking resistant), silicone stress control elements, silicone sheds, sealing tape, screw cable lugs, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	$\emptyset S$ mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV									
CHESK-I 12kV	25-95	300	12.6		25 - 95				290443
	70-150	300	17.3		70 - 150				309514
	95-240	300	17.3		95 - 240				290444
	240-400	300	19.9		240 - 400				309516
	400-630	310	27.3		400 - 630				369496
	630-1000	310	36.8		630 - 1000				369497
$U_0/U (U_m)$ 8.7/15 (17.5) kV									
CHESK-I 17kV	35-95	300	17.3	1	85	35 - 95			309517
	50-150	300	17.3	1	85	50 - 150			309519
	95-240	300	19.9	1	85	95 - 240			309520
	240-400	300	23.1	1	85	240 - 400			309521
	400-630	310	27.3	1	115	400 - 630			369505
	630-1000	310	36.8	1	123	630 - 1000			369506
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CHESK-I 24kV	25-95	300	17.3	1	85		25 - 95		309522
	50-150	300	17.3	1	85		50 - 150		309523
	95-240	300	19.9	1	85		95 - 240		309525
	240-400	300	27.3	1	115		240 - 400		309526
	400-630	310	27.3	1	115		400 - 630		364848
	630-1000	310	36.8	1	123		630 - 1000		369498
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CHESK-I 36kV	16-95	500	19.9	2	85			16 - 95	309527
	50-150	500	23.1	2	85			50 - 150	309528
	95-240	500	23.1	2	85			95 - 240	309529
	240-400	500	27.3	2	115			240 - 400	309530
	400-630	500	36.8	2	115			400 - 630	369499
	630-1000	500	36.8	2	123			630 - 1000	369500

**CHE-I****1-core indoor cable termination**

for all 1-core polymeric cables

Hybrid cable terminations CHE-I are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). Suitable for compression or screw cable lugs.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions** $\varnothing S$ = Diameter of cable shed**Scope of delivery**

1 set for 3 phases, heat shrinkable tube (tracking resistant), silicone stress control elements, silicone sheds, sealing tape, assembly material, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	$\varnothing S$ mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CHE-I 12kV	10-25	300	9.9		10 - 25				193414
	25-95	300	12.6		25 - 95				193416
	95-240	300	17.3		95 - 240				194017
	150-400	300	19.9		150 - 400				194018
	240-500	300	23.1		240 - 500				194019
	400-800	300	27.3		400 - 800				194030
	800-1000	300	36.8		800 - 1000				194031
$U_0/U (U_m)$ 8.7/15 (17.5) kV									
CHE-I 17kV	10-16	300	9.9	1	80	10 - 16			194032
	16-50	300	12.6	1	80	16 - 50			194033
	70-240	300	17.3	1	85	70 - 240			194034
	120-300	300	19.9	1	85	120 - 300			194035
	185-400	300	23.1	1	85	185 - 400			194036
	300-630	300	27.3	1	115	300 - 630			194037
	630-1000	300	36.8	1	123	630 - 1000			194038
$U_0/U (U_m)$ 12/20 (24) kV - 12,7/22 (24) kV									
CHE-I 24kV	10-35	300	12,6	1	85		10 - 35		194039
	25-150	300	17,3	1	85		25 - 150		194040
	70-240	300	19,9	1	85		70 - 240		194041
	120-300	300	23,1	1	85		120 - 300		194042
	240-500	300	27,3	1	115		240 - 500		194043
	630-1000	300	36,8	1	123		630 - 1000		194044
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CHE-I 36kV	35-70	500	19,9	2	85		35 - 70		194045
	50-150	500	23,1	2	85		50 - 150		194046
	150-400	500	27,3	2	115		150 - 400		194047
	500-800	500	36,8	2	123		500 - 800		194048



CHESK-F

1-core outdoor cable termination

with screw cable lugs, for all 1-core polymeric cables

Hybrid cable terminations CHESK-F are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). With screw cable lugs for main conductor and copper wire screen.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level
 - $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

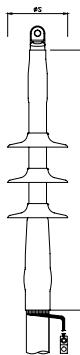
- CENELEC HD 629.1 (DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



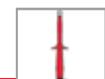
$\emptyset S$ = Diameter of cable shed

Scope of delivery

1 set for 3 phases, heat shrinkable tube (tracking resistant), silicone stress control elements, silicone sheds, sealing tape, screw cable lugs, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	$\emptyset S$ mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV									
CHESK-F 12kV	25-95	300	12.6	1	80	25 - 95			309534
	70-150	300	17.3	1	85	70 - 150			309535
	95-240	300	17.3	1	85	95 - 240			309536
	240-400	300	19.9	1	85	240 - 400			309537
	400-630	310	27,3	1	115	400 - 630			369503
	630-1000	310	36,8	1	123	630 - 1000			369504
$U_0/U(U_m)$ 8.7/15 (17.5) kV									
CHESK-F 17kV	35-95	500	17.3	2	85	35 - 95			309539
	50-150	500	17.3	2	85	50 - 150			309540
	95-240	500	19.9	2	85	95 - 240			309541
	240-400	500	23.1	2	85	240 - 400			309542
	400-630	500	27,3	2	115	400 - 630			369508
	630-1000	500	36,8	2	123	630 - 1000			369509
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CHESK-F 24kV	25-95	500	17.3	3	85		25 - 95		309545
	50-150	500	17.3	3	85		50 - 150		309546
	95-240	500	19.9	3	85		95 - 240		309548
	240-400	500	27.3	3	115		240 - 400		309550
	400-630	500	27,3	3	115		400 - 630		364847
	630-1000	500	36,8	3	123		630 - 1000		369507
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CHESK-F 36kV	16-95	700	19.9	4	85			16 - 95	309551
	50-150	700	23.1	4	85			50 - 150	309552
	95-240	700	23.1	4	85			95 - 240	309553
	240-400	700	27.3	4	115			240 - 400	309554
	400-630	700	36,8	4	115			400 - 630	369520
	630-1000	700	36,8	4	123			630 - 1000	369521



CHE-F

1-core outdoor cable termination

for all 1-core polymeric cables

Hybrid cable terminations CHE-F are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). Suitable for compression or screw cable lugs.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level
 - $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

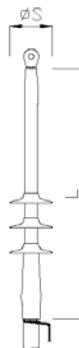
- CENELEC HD 629.1 (DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



$\emptyset S$ = Diameter of cable shed

Scope of delivery

1 set for 3 phases, heat shrinkable tube (tracking resistant), silicone stress control elements, silicone sheds, sealing tape, assembly material, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	$\emptyset S$ mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CHE-F 12kV	10-25	300	9.9	1	80	10 - 25			194049
	25-95	300	12.6	1	80	25 - 95			194050
	95-240	300	17.3	1	85	95 - 240			194051
	150-400	300	19.9	1	85	150 - 400			194052
	240-500	300	23.1	1	85	240 - 500			194053
	400-800	300	27.3	1	115	400 - 800			194054
	800-1000	300	36.8	1	123	800 - 1000			194055
	$U_0/U(U_m)$ 8.7/15 (17.5) kV								
CHE-F 17kV	10-16	500	9.9	2	80	10 - 16			194056
	16-50	500	12.6	2	80	16 - 50			194057
	70-240	500	17.3	2	85	70 - 240			194058
	120-300	500	19.9	2	85	120 - 300			194059
	185-400	500	23.1	2	85	185 - 400			194061
	300-630	500	27.3	2	115	300 - 630			194062
	630-1000	500	36.8	2	123	630 - 1000			194063
	$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV								
CHE-F 24kV	10-35	500	12,6	3	85		10 - 35		193372
	25-150	500	17,3	3	85		25 - 150		193374
	70-240	500	19,9	3	85		70 - 240		194064
	120-300	500	23,1	3	85		120 - 300		194065
	240-500	500	27,3	3	115		240 - 500		194066
	630-1000	500	36,8	3	123		630 - 1000		194067
	$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV								
	35-70	700	19,9	4	85			35 - 70	194068
CHE-F 36kV	50-150	700	23,1	4	85			50 - 150	194069
	150-400	700	27,3	4	115			150 - 400	194070
	500-800	700	36,8	4	123			500 - 800	194071



CAESK-I

1-core indoor cable termination

with screw cable lugs, for all 1-core polymeric cables

Contrax cable terminations CAESK-I are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (wire or tape). With screw cable lugs.

Characteristics

- Wide cross-section range
- Silicone slip-on components for quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions**

$\varnothing S$ = Diameter of cable shed

Scope of delivery

3 one-piece slip-on silicone cable terminations with integrated stress control element, silicone tubes, sealing tape, screw cable lugs for main conductor, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	Ø S mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CAESK-I 12kV	95-150	310	17.3	1	87	95 - 150			289945
	150-240	330	19.9	1	90	150 - 240			289947
	300-400	340	26.6	1	93	300 - 400			289948
	500-630	360	32.3	1	97	500 - 630			289949
$U_0/U (U_m)$ 8.7/15 (17.5) kV									
CAESK-I 17kV	50-95	310	17.3	1	87		50 - 95		289950
	95-150	310	19.9	1	90		95 - 150		289951
	150-240	330	23.1	1	93		150 - 240		289952
	240-400	340	27.3	1	97		240 - 400		289953
	400-500	360	32.3	1	97		400 - 500		289954
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CAESK-I 24kV	35-95	310	17.3	1	87			35 - 95	289955
	70-150	310	19.9	1	90			70 - 150	289956
	120-240	330	23.1	1	90			120 - 240	289957
	240-400	340	27.3	1	97			240 - 400	289958
	400-500	360	32.3	1	97			400 - 500	289959
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CAESK-I 36kV	16-95	360	20.9	4	93				16 - 95 289960
	70-150	360	24.2	4	93				70 - 150 289961
	120-240	380	28.6	4	97				120 - 240 289962
	240-300	390	32.3	4	97				240 - 300 289963

**CAE-I****1-core indoor cable termination**

for all 1-core polymeric cables

Contrax cable terminations CAE-I are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (wire or tape). Suitable for compression cable lugs.

Characteristics

- Wide cross-section range
- Silicone slip-on components for quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life

**Dimensions**

$\varnothing S$ = Diameter of cable shed

Scope of delivery

3 one-piece slip-on silicone cable terminations with integrated stress control element, sealing tape, assembly material, assembly instructions

Optional accessory: Compression cable lugs (see Connecting technology)
EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	$\varnothing S$ mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CAE-I 12kV	95-240	270	17.3	1	87	95 - 240			199151
	150-400	270	19.9	1	90	150 - 400			199152
	240-500	270	23.1	1	93	240 - 500			199154
	300-800	270	27.3	1	97	300 - 800			199155
$U_0/U (U_m)$ 8.7/15 (17.5) kV									
CAE-I 17kV	50-185	270	17.3	1	87		50 - 185		199157
	95-240	270	19.9	1	90		95 - 240		199158
	150-400	270	23.1	1	93		150 - 400		199159
	240-630	270	27.3	1	97		240 - 630		199160
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CAE-I 24kV	35-120	270	17.3	1	87			35 - 120	199162
	70-240	270	19.9	1	90			70 - 240	199163
	120-400	270	23.1	1	93			120 - 400	199164
	240-630	270	27.3	1	97			240 - 630	199165
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CAE-I 36kV	16-95	325	19.9	4	90			16 - 95	199166
	50-240	325	23.1	4	93			50 - 240	199167
	120-400	325	27.3	4	97			120 - 400	199168



CAESK-F

1-core outdoor cable termination

with screw cable lugs, for all 1-core polymeric cables

Contrax cable terminations CAESK-F are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (wire or tape). With screw cable lugs.

Characteristics

- Wide cross-section range
- Silicone slip-on components for quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level

- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



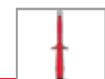
$\varnothing S$ = Diameter of cable shed

Scope of delivery

3 one-piece slip-on silicone cable terminations with integrated stress control element, silicone tubes, sealing tape, screw cable lugs for main conductor, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	$\varnothing S$ mm	Nominal cross section mm ²				Art.-No.
					12 kV	17.5 kV	24 kV	36 kV	
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CAESK-F 12kV	95-150	360	17.3	4	87	95 - 150			289894
	150-240	390	19.9	4	90	150 - 240			289897
	300-400	390	26.6	4	93	300 - 400			289898
	500-630	410	32.3	4	97	500 - 630			289899
$U_0/U (U_m)$ 8.7/15 (17.5) kV									
CAESK-F 17kV	50-95	360	17.3	4	87		50 - 95		289900
	95-150	360	19.9	4	90		95 - 150		289901
	150-240	390	23.1	4	97		150 - 240		289902
	240-400	410	27.3	4	97		240 - 400		289903
	400-500	410	32.3	4	97		400 - 500		289904
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CAESK-F 24kV	35-95	360	17.3	4	87			35 - 95	289905
	70-150	360	19.9	4	90			70 - 150	289906
	120-240	390	23.1	4	93			120 - 240	289907
	240-400	410	27.3	4	97			240 - 400	289908
	400-500	410	32.3	4	97			400 - 500	289909
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CAESK-F 36kV	70-150	470	24.2	5	93			70 - 150	289910
	120-240	500	28.6	5	97			120 - 240	289911
	240-300	500	32.3	5	97			240 - 300	289912



CAE-F

1-core outdoor cable termination

for all 1-core polymeric cables

Contrax cable terminations CAE-F are suitable for all 1-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (wire or tape). Suitable for compression cable lugs.

Characteristics

- Wide cross-section range
- Silicone slip-on components for quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level
 - $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

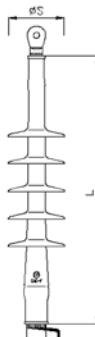
- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



\varnothing S = Diameter of cable shed

Scope of delivery

3 one-piece slip-on silicone cable terminations with integrated stress control element, sealing tape, assembly material, assembly instructions

Optional accessory: Compression cable lugs (see Connecting technology)
EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	Ø S mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CAE-F 12kV	95-240	325	17.3	4	87	95 - 240			199184
	150-400	325	19.9	4	90	150 - 400			199185
	240-500	325	23.1	4	93	240 - 500			199186
	300-800	325	27.3	4	97	300 - 800			199187
$U_0/U (U_m)$ 8.7/15 (17.5) kV									
CAE-F 17kV	50-185	325	17.3	4	87	50 - 185			199189
	95-240	325	19.9	4	90	95 - 240			199190
	150-400	325	23.1	4	93	150 - 400			199191
	240-630	325	27.3	4	97	240 - 630			199192
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CAE-F 24kV	35-120	325	17.3	4	87		35 - 120		199194
	70-240	325	19.9	4	90		70 - 240		199195
	120-400	325	23.1	4	93		120 - 400		199196
	240-630	325	27.3	4	97		240 - 630		199197
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CAE-F 36kV	50-240	440	23.1	5	93			50 - 240	199198
	120-400	440	27.3	5	97			120 - 400	199199



CWS 250A

Elbow separable connector

for all 1-core polymeric cables, for outer cone system terminals type A

Cellplux elbow separable connectors CWS are suitable for connecting all polymeric-insulated 1-core cables (PVC, PE, XLPE, EPR), with different types of semi-conductive layers (graphite-coated or strippable) and screen design (wire or tape screen), to switching equipment and transformers having an outer cone system type A, up to maximum network voltage of 24 kV in accordance with EN 50180 and EN 50181.

Characteristics

- With capacitive measuring point
- Individually tested
- Outer semi-conductive layer made of semi-conductive EPDM provides protection from exposed electrical parts
- Cable sheath insulation fault test may be performed while under voltage
- For copper and aluminium conductors
- Quick, safe and easy assembly
- Suitable for a wide range of applications due to integrated screw cable lug

Application/Suitability

- Indoor
- Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV

Test standards

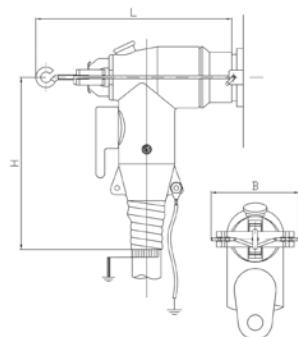
- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



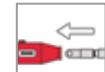
Scope of delivery

Set of 3 separable connectors, silicone stress control elements, earthing set, screw cable lug for main conductor, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Elbow separable connections for alternative cross-sections and for class 5 conductors on request

Type	L mm	B mm	H mm	min. Ø over core insulation after removal of the outer conductive layer mm	Nominal cross section mm ²			Art.-No.
					12 kV	17.5 kV	24 kV	
$U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV								
CWS 250A 24kV	16-95 M EGA	200	80	178	14.7	50 - 95	25 - 95	16 - 95
	70-150 M EGA	200	80	178	19.9	120 - 150	95 - 150	70 - 150
								295167
								293792



CGS 250A

Straight separable connector

for all 1-core polymeric cables, for outer cone system terminals type A

Cellplux straight separable connectors CGS are suitable for connecting all polymeric-insulated 1-core cables (PVC, PE, XLPE, EPR), with different types of semi-conductive layers (graphite-coated or strippable) and screen design (wire or tape screen) for switching equipment and transformers having an outer cone system type A, up to maximum network voltage of 24 kV in accordance with EN 50180 and EN 50181.

Characteristics

- With capacitive measuring point
- Individually tested
- Outer semi-conductive layer made of semi-conductive EPDM provides protection from exposed electrical parts
- Cable sheath insulation fault test may be performed while under voltage
- For copper and aluminium conductors
- Quick, safe and easy assembly
- Suitable for a wide range of applications due to integrated screw cable lug

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV

Test standards

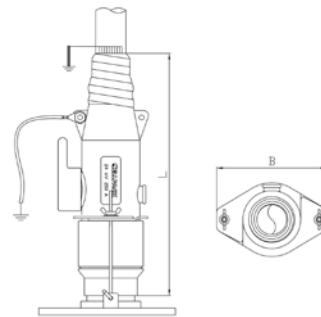
- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Set of 3 separable connectors, silicone stress control elements, earthing set, screw cable lug for main conductor, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Straight separable connections for alternative cross-sections and for class 5 conductors on request

Type	L mm	B mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	Art.-No.	
				Nominal cross section mm ²				
$U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV								
CGS 250A 24kV	25-95 M EGA	248	110	14.7	50 - 95	25 - 95	25 - 95	295283
	70-150 M EGA	248	110	19.9	120 - 150	95 - 150	70 - 150	293797



CWS 400A

Elbow separable connector

for all 1-core polymeric cables, for outer cone system terminals type B

Cellplux elbow separable connectors CWS are suitable for connecting all polymeric-insulated 1-core cables (PVC, PE, XLPE, EPR), with different types of semi-conductive layers (graphite-coated or strippable) and screen design (wire or tape screen), to switching equipment and transformers having an outer cone system type B, up to maximum network voltage of 36 kV in accordance with EN 50180 and EN 50181.

Characteristics

- With capacitive measuring point
- Individually tested
- Outer semi-conductive layer made of semi-conductive EPDM provides protection from exposed electrical parts
- Cable sheath insulation fault test may be performed while under voltage
- For copper and aluminium conductors
- Quick, safe and easy assembly
- Suitable for a wide range of applications due to integrated screw cable lug

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Test standards

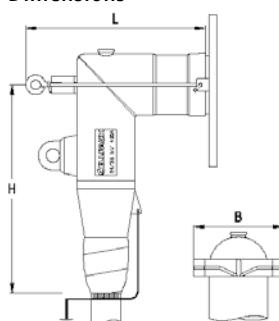
- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



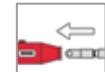
Scope of delivery

Set of 3 separable connectors, silicone stress control elements, earthing set, screw cable lug for main conductor, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Elbow separable connections for alternative cross-sections and for class 5 conductors on request

Type	L mm	B mm	H mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	36 kV	Nominal cross section mm ²	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 12.7/22 (24) kV										
CWS 400A 24kV	25-70 EGA	215	107	250	14.7	50 - 95	25 - 95	25 - 70		250720
	95-240 EGA	215	107	250	22.0	150 - 240	120 - 240	95 - 240		246176
$U_0/U (U_m)$ 12/20 (24) kV - 19/33 (36) kV										
CWS 400A 36kV	35-95 EGA	215	107	250	22.0			95 - 95	35 - 95	250726
	150-240 EGA	215	107	250	30.8			240 - 240	150 - 240	247102



CTS 630A

T-shaped separable connector

for all 1-core polymeric cables, for outer cone system terminals type C

Cellplux screwable T-shaped separable connectors CTS are suitable for connecting all polymeric-insulated 1-core cables (PVC, PE, XLPE, EPR), with different types of semi-conductive layers (graphite-coated or strippable) and screen design (wire or tape screen) to switching equipment and transformers having an outer cone system type C, up to maximum network voltage of 36 kV in accordance with EN 50180 and EN 50181.

Characteristics

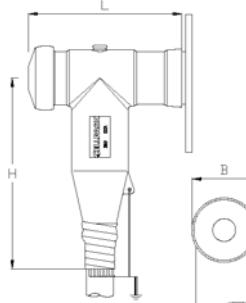
- With capacitive measuring point
- Individually tested
- Outer semi-conductive layer made of semi-conductive EPDM provides protection from exposed electrical parts
- Cable sheath insulation fault test may be performed while under voltage
- For copper and aluminium conductors
- Quick, safe and easy assembly
- Suitable for a wide range of applications due to integrated screw cable lug

Application/Suitability

- Indoor
 - Outdoor
- Voltage level**
- $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV
- Test standards**
- CENELEC HD 629.1 (DIN VDE 0278, part 629-1)
- Storage conditions/Shelf life**
- Unlimited shelf life



Dimensions



Scope of delivery

Set of 3 separable connectors, silicone stress control elements, earthing set, screw cable lug for main conductor, screw cable lug for wire screen, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Other T-shaped separable connectors (cross-sections, class 5) available on request

Type	L mm	B mm	H mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.	
					Nominal cross section mm ²					
$U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV										
CTS 630A 24kV	25-70	194	85	250	14.7	50 - 95	25 - 95	25 - 70	355434	
	95-240	194	85	250	22.0	150 - 240	120 - 240	95 - 240	355433	
	240-400	194	85	250	23.7	240 - 400	240 - 400	240 - 400	355561	
$U_0/U(U_m)$ 12/20 (24) kV - 19/33 (36) kV										
CTS 630A 36kV	35-95	194	85	250	22.0			95 - 95	35 - 95	355562
	95-150	194	85	250	22.0			95 - 240	95 - 150	355563
	150-240	194	85	250	30.8			240 - 240	150 - 240	355564
	240-400	194	85	265	31.5			300 - 400	240 - 400	356660



CTS 1250A

T-shaped separable connector

for all 1-core polymeric cables, for outer cone system terminals type C

Cellplux screwable T-shaped separable connectors CTS are suitable for connecting all polymeric-insulated 1-core cables (PVC, PE, XLPE, EPR), with different types of semi-conductive layers (graphite-coated or strippable) and screen design (wire or tape screen) to switching equipment and transformers having an outer cone system type C, up to maximum network voltage of 36 kV in accordance with EN 50180 and EN 50181.

Characteristics

- With capacitive measuring point
- Individually tested
- Outer semi-conductive layer made of semi-conductive EPDM provides protection from exposed electrical parts
- Cable sheath insulation fault test may be performed while under voltage
- For copper and aluminium conductors
- Quick, safe and easy assembly
- Suitable for a wide range of applications due to integrated screw cable lug

Application/Suitability

- Indoor
- Voltage level

- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Test standards

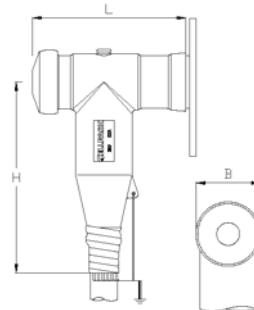
- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



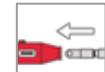
Scope of delivery

Set of 3 separable connectors, silicone stress control elements, earthing set, screw cable lug for main conductor, screw cable lug for wire screen, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Other T-shaped separable connectors (cross-sections, class 5) available on request

Type	L mm	B mm	H mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.	
					Nominal cross section mm ²					
$U_0/U (U_m)$ 6/10 (12) kV - 12.7/22 (24) kV										
CTS 1250A 24kV	400-630	EGA M12 KS	205	87	310	33.4	500 - 630	400 - 630	400 - 630	309283
$U_0/U (U_m)$ 12/20 (24) kV - 19/33 (36) kV										
CTS 1250A 36kV	400-630	EGA M12 KS	205	87	310	39.1		630	400 - 630	309284



CTKS 630A

T-shaped separable coupling connector

for all 1-core polymeric cables, for separable connector type CTS

Cellplux T-shaped separable coupling connectors CTKS are suitable for connecting all polymeric-insulated 1-core cables (PVC, PE, XLPE, EPR), with different types of semi-conductive layers (graphite-coated or strippable) and screen design (wire or tape screen) to the back of T-shaped separable connectors type CTS.

Characteristics

- With capacitive measuring point
- Individually tested
- Outer semi-conductive layer made of semi-conductive EPDM provides protection from exposed electrical parts
- Cable sheath insulation fault test may be performed while under voltage
- For copper and aluminium conductors
- Quick, safe and easy assembly
- Suitable for a wide range of applications due to integrated screw cable lug

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV
- Test standards**
- CENELEC HD 629.1 (DIN VDE 0278, part 629-1)
- Storage conditions/Shelf life**
- Unlimited shelf life



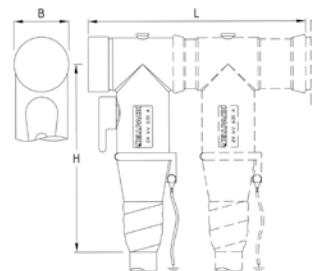
Scope of delivery

Set of 3 separable coupling connectors, silicone stress control elements, earthing set, screw cable lug for main conductor, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: T-shaped separable coupling connector for alternative cross-sections and for class 5 conductors on request

Dimensions



Type	L mm	B mm	H mm	min. Ø over core insulation after removal of the outer conductive layer mm	Nominal cross section mm ²				Art.-No.	
					12 kV	17.5 kV	24 kV	36 kV		
$U_0/U (U_m)$ 6/10 (12) kV - 12.7/22 (24) kV										
CTKS 630A 24kV	25-70 EGA	290	74	250	14.7	50 - 95	25 - 95	25 - 70	256838	
	95-240 EGA	290	74	250	22.0	150 - 240	120 - 240	95 - 240	256839	
$U_0/U (U_m)$ 12/20 (24) kV - 19/33 (36) kV										
CTKS 630A 36kV	35-95	310	85	250	22.0			95 - 95	35 - 95	257581
	150-240	310	85	250	30.8			240 - 240	150 - 240	257582
	240-400	310	85	250	31,5			300 - 400	240 - 400	353314



CTKSA

Coupling surge arrester

Class DH, for separable connector type CTS

The Cellplux surge arrester CTKSA Class DH are designed to protect encapsulated medium voltage systems. The CTKSA coupling surge arresters are specifically designed for mounting on shielded, screw-type Cellpack cable connections and comply with the international standards IEC 60099-4 and IEC 60071.

Characteristics

- With capacitive measuring point
- Individually tested
- Safe-to-touch as the EPDM body is protected by outer semiconductive screen and it is connected to earth
- Quick, safe and easy assembly

Application/Suitability

- Indoor
 - Outdoor
- Storage conditions/Shelf life**
- Unlimited shelf life

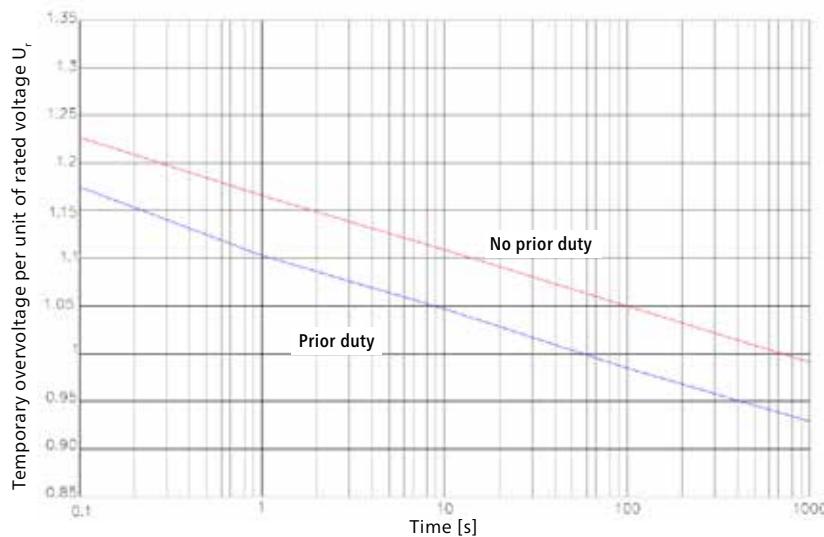


Scope of delivery

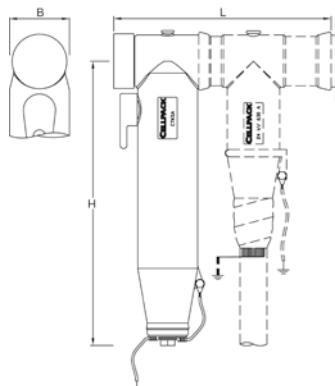
Set of 3 surge arresters, assembly material, assembly instructions

Power frequency versus time characteristic (TOV)

(initial temperature: 60°C)



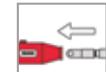
Dimensions



Type	L mm	B mm	H mm	Art.-No.
CTKSA	8 kV	290	80	423851
	12 kV	290	80	423852
	18 kV	290	80	423853
	19,5 kV	290	80	423854
	22 kV	290	80	423855
	24 kV	290	80	423856
	34 kV	290	80	423857

Technical Data

Rated discharge current, In [kA]	10						
High current impulse 4/10 µs [kA]	100						
Rated short-circuit current [kA]	20						
Repetitive charge transfer rating, Q _{rs} [C]	0,5						
Thermal charge transfer rating, Q _{th} [C]	1,1						
Technical Data / Type	8 kV	12 kV	18 kV	19,5 kV	22 kV	24 kV	34 kV
Rated voltage, U _r [kV]	10,0	15,0	22,5	24,0	27,0	30,0	42,0
Maximum continuous operating voltage, U _c [kV]	8,0	12,7	18,3	19,5	22,0	24,4	34,0
Residual voltage (IEC 60099-4) [kV] with:							
Steep current impulse (1/T, T < 20 µs)	28,3	42,5	63,8	68,0	76,5	85,0	119,0
Lightning impulse 8/20 µs:							
5 kA	24,8	37,2	55,7	59,6	67,0	74,4	104,0
10 kA	26,9	40,3	60,5	64,4	72,5	80,5	112,8
20 kA	29,3	44,0	66,0	70,4	79,2	88,0	123,2



ZS Accessory kit

for separable connectors

The ZS-CTS accessory set is designed for the reinstallation of T-shaped separable connectors CTS to switching equipment and transformers having an outer cone system type C, in accordance with EN 50180 and EN 50181. The ZS-CPS / CPES / CPAS Accessory set is suitable for installation of End-Plugs, Test Kits and Voltage Sensors in Type C separable connectors.

Characteristics

- Easy assembly

Application/Suitability

- Re-installation of type CTS separable connectors
- Re-installation of End-Plugs / Installation of CPS, CPES, CPAS.



Scope of delivery

ZS-CTS: Set of 3 contact pins with shear head bolt, 6 Cleaning tissues, 3 Lubricants (GM1), 1 slide-on applicator AH3, Assembly instruction

ZS-CPS/CPES/CPAS: 9 Cleaning tissues, 6 Lubricants (GM1), 3 pairs protective gloves and 1 slide-on applicator AH2

Type		Art.-No.
ZS	CTS 630A	257622
	CTS 1250A	374292
	CPS/CPES/CPAS	365078

**CIK****Voltage-resistant insulating cap**

for plug-in connections type A 250A and type C 630A

The voltage-resistant insulating caps CIK are suitable for electrical insulations of outer cones type A 250A and type C 630A on encapsulated switching equipment and transformers up to 36 kV, in accordance with EN 50180 and EN 50181.

Characteristics

- Submersible
- Outer semi-conductive layer made of semi-conductive EPDM provides protection from exposed electrical parts
- Easy assembly

Application/Suitability

- Indoor
- Outdoor

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

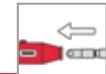
Storage conditions/Shelf life

- Unlimited shelf life

**Scope of delivery**

Set of 3 voltage resistant insulating caps, assembly material, assembly instructions

Type	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV	
CIK 250A 24kV	265023
CIK 630A 24kV	372710
$U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV	
CIK 630A 36kV	265024



Mounting ring

Assembly guide for CWS 250A and CGS 250A

for plug-in connections type A

The mounting ring is suitable to secure the Cellplux separable connectors CWS 250A and CGS 250A to a special plug-in connection with outer cone systems type A. It is simply placed in the prefabricated groove in the connector. The two components may then be mounted on the bushing together.

Characteristics

- Secure connection to special Type A bushing
- Easy assembly

Application/Suitability

- Indoor
- Storage conditions/Shelf life
 - Unlimited shelf life



Scope of delivery

Mounting ring

Type	Art.-No.
Mounting ring	264366



CVS 250A

Connecting element up to 24 kV

for separable connectors type CWS and type CGS, for outer cone system terminals type A

The connecting element CVS is suitable for connecting two elbow separable connectors type CWS 250A and/or straight separable connectors CGS up to 24 kV. Its dimensions correspond to outer cone systems type A, in accordance with EN 50180 and EN 50181.

Characteristics

- Individually tested
- Safe and easy to handle
- Easy assembly

Application/Suitability

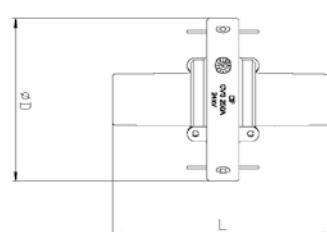
- Indoor
- Voltage level**
 - $U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV
- Storage conditions/Shelf life**
 - Unlimited shelf life



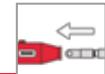
Scope of delivery

Set of 3 connecting elements, assembly material, assembly instructions

Dimensions



Type	L mm	Ø D mm	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 12.7/22 (24) kV			
CVS 250A 24kV	136	100	225844



CKS 630A

Coupling element up to 36 kV

for T-shaped separable connectors type CTS

The coupling element CKS is suitable for connecting two T-shaped separable connectors CTS up to 36 kV. The dimensions of the longer outer cone correspond to the outer cone systems type C, in accordance with EN 50180 and EN 50181.

Characteristics

- Individually tested
- Safe and easy to handle
- Easy assembly

Application/Suitability

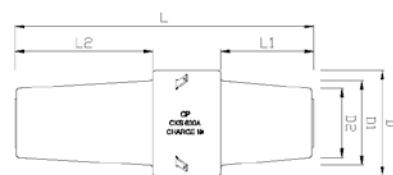
- Indoor
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV
- Storage conditions/Shelf life**
- Unlimited shelf life



Scope of delivery

Set of 3 coupling elements, assembly material, assembly instructions

Dimensions



D = Outer diameter

Type	L mm	L1 mm	L2 mm	D mm	D1 mm	D2 mm	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV							
CKS 630A 36kV	196.5	61.5	91	70	56	46	224853



Separable connectors for 1-core cables

CPAS End-plugs

for Cellplux separable connector type CTS 630A / 1250A

The CPAS End-plug establishes connection on front side of the CTS 630A / 1250A separable connectors. CPAS together with Test and earthing kit CPES makes it possible to carry out testing of cables installed with CTS separable connectors without connecting them to Switchgear.

Characteristics

- Individually tested
- Safe and easy to handle
- Easy Assembly

Application/Suitability

- Indoor
- Outdoor

Voltage level

- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Storage conditions/ Shelf life

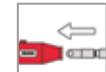
- Unlimited shelf life



Scope of delivery

Set of 3 End-plugs,, assembly material, assembly instructions.

Type	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV	
CPAS	367094

**CPES****Test and earthing kit**

for Cellplux separable connectors type CTS and type CTKS

The test and earthing kit CPES is suitable for the establishment of galvanic connections between cable conductors and ground. The CPES is compatible with all Cellplux T-shaped separable connectors CTS and T-shaped separable coupling connectors CTKS.

Characteristics

- Safe and easy to handle

Application/Suitability

- Cable testing
 - Cable fault location
 - Earthing for work
 - Phase comparison
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

**Scope of delivery**

Chest, test adapter, set of 3 earthing adapters, assembly material, assembly instructions

Type	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV	
CPES	414307



Separable connectors for 1-core cables

CPS Test kit

for Cellplux separable connectors type CTS and type CTKS

The test kit CPS is suitable for the establishment of galvanic connections between cable conductors and is compatible with all Cellplux T-shaped separable connectors CTS and T-shaped separable coupling connectors CTKS.

Characteristics

- Safe and easy to handle

Application/Suitability

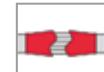
- Cable testing
 - Cable fault location
 - Phase comparison
- Voltage level**
- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV



Scope of delivery

Chest, set of 3 test adapters, assembly material, assembly instructions

Type	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV	
CPS	302227



CHMSV3

3-core straight-through joint

with screw connectors, for all 3-core polymeric cables

Hybrid straight-through joints CHMSV3 are suitable for all 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with copper wire screen with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable). With screw connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- For both copper and aluminium conductors
- For all cables with copper wire screen
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation
- Suitable for a wide range of applications due to integrated screw connector

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control element, copper braid tape, field control filling tape (blue), innovative screw connectors with conductive cover, screw connector for copper-wire screen, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Straight-through joints with larger cross-section available on request.

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 6.35/11 (12) kV							
CHMSV3 12kV	25-95	1050	12.6	25 - 95			297348
	70-150	1050	14.7	70 - 150			297350
	95-240	1100	17.3	95 - 240			297260
	240-400	1250	23.1	240 - 400			297358
$U_0/U(U_m)$ 8.7/15 (17.5) kV							
CHMSV3 17kV	25-95	1050	14.7		25 - 95		297349
	70-150	1050	18.0		70 - 150		297351
	95-240	1100	19.9		95 - 240		297310
	240-400	1250	24.0		240 - 400		297360
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHMSV3 24kV	16-95	1050	14.7			16 - 95	297433
	50-150	1050	17.3			50 - 150	297352
	95-240	1100	19.9			95 - 240	297104
	240-400	1250	27.3			240 - 400	297361
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHMSV3 36kV	50-150	1050	20.9			50 - 150	297353
	95-240	1100	24.2			95 - 240	297311
	240-400	1250	32.0			240 - 400	297362



Straight-through joints for 3-core cables

CHMSV3-1 Straight-through joint

with screw connectors, for connecting from 3-core with three 1-core polymeric cables

Hybrid straight-through joints CHMSV3-1 are suitable for connecting 3-core polymeric cables with three 1-core polymeric cables (PVC, PE, XLPE, EPR). They allow the connection of cables with copper wire screen with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable). With screw connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- For both copper and aluminium conductors
- For all cables with copper wire screen
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation
- Suitable for a wide range of applications due to integrated screw connector

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Test standards

- CENELEC HD 629.1

(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



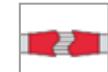
Scope of delivery

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control element, copper braid tape, field control filling tape (blue), innovative screw connectors with conductive cover, screw connector for copper-wire screen, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Straight-through joints with larger cross-section available on request.

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
			Nominal cross section mm ²				
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV	25-95	900	12.6	25 - 95			297449
	70-150	900	14.7	70 - 150			297462
	95-240	900	17.3	95 - 240			297442
	240-400	1000	23.1	240 - 400			297466
$U_0/U (U_m)$ 8.7/15 (17.5) kV	25-95	900	14.7		25 - 95		297460
	70-150	900	18.0		70 - 150		297463
	95-240	900	19.9		95 - 240		297443
	240-400	1000	24.0		240 - 400		297467
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV	16-95	900	14.7			16 - 95	297461
	50-150	900	17.3			50 - 150	297464
	95-240	900	19.9			95 - 240	297441
	240-400	1000	27.3			240 - 400	297468
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV	50-150	900	20.9			50 - 150	297465
	95-240	900	24.2			95 - 240	297444
	240-400	1000	32.0			240 - 400	297469



CHM3

3-core straight-through joint

for all 3-core polymeric cables

Hybrid straight-through joints CHM3 are suitable for all 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR). They allow the connection of cables with different cross sections and conductor materials even with different cable designs concerning the semi-conductive layer (graphite-coated, removable or strippable) and screen design (copper wire or tape screen). Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide conductor and cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV joints must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

- CENELEC HD 629.1
(DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Thick wall heat shrinkable insulation tubes, thick wall heat shrinkable outer tube with hot melt adhesive, silicone stress control element, copper braid tube, pressure springs, field control filling tape (blue), assembly material, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Note: Straight-through joints with larger cross-section available on request.

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	max. Connector-Ø mm	max. Connector length mm	Nominal cross section mm ²				Art.-No.
					12 kV	17.5 kV	24 kV	36 kV	
$U_0/U(U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CHM3 12kV	10-25	1200	9.9	16	90	10 - 25			194293
	35-95	1200	12.6	25	135	35 - 95			194294
	95-240	1200	17.3	32	145	95 - 240			194295
	150-300	1200	19.9	40	200	150 - 300			194296
$U_0/U(U_m)$ 8.7/15 (17.5) kV									
CHM3 17kV	35-95	1200	12.6	25	135		35 - 95		194297
	70-240	1200	17.3	32	145		70 - 240		194298
	120-300	1200	19.9	34	150		120 - 300		194299
	240-400	1200	23.1	40	200		240 - 400		194300
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CHM3 24kV	10-35	1200	12.6	20	100			10 - 35	194301
	50-150	1200	17.3	25	135			50 - 150	194302
	70-240	1200	19.9	32	145			70 - 240	194303
	150-300	1200	23.1	40	200			150 - 300	194304
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CHM3 36kV	35-70	1200	19.9	20	110			35 - 70	194305
	50-150	1200	23.1	25	135			50 - 150	194306
	150-300	1200	27.3	38	200			150 - 300	194307



CHESK-3I(A)

3-core indoor cable termination

with screw cable lugs, for all 3-core polymeric cables

Hybrid cable terminations CHESK-3I(A) are suitable for all 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). With screw cable lugs.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level
 - $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

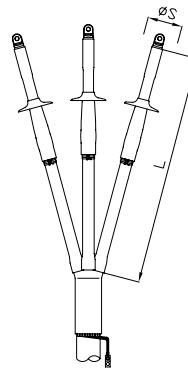
- CENELEC HD 629.1 (DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



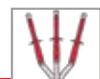
$\emptyset S$ = Diameter of cable shed

Scope of delivery

Spreader cap, heat shrinkable tube (tracking resistant), heat shrinkable tube, silicone stress control elements, silicone sheds, binding wire, sealing tape, screw cable lugs, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	Ø S mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CHESK-3I(A) 12kV	25-95	600		12.6			25 - 95		309800
	95-240	600		17.3			95 - 240		309801
	240-400	600		19.9			240 - 400		309802
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CHESK-3I(A) 24kV	25-95	600		17.3	1	85		25 - 95	309806
	95-240	600		19.9	1	85		95 - 240	309807
	240-400	600		27.3	1	115		240 - 400	309808
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CHESK-3I(A) 36kV	25-95	800		19.9	2	85		25 - 95	309810
	95-240	800		23.1	2	85		95 - 240	309811
	240-400	800		27.3	2	115		240 - 400	309812



CHE-3I(A)

3-core indoor cable termination

for all 3-core polymeric cables

Hybrid cable terminations CHE-3I(A) are suitable for all 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). Suitable for compression or screw cable lugs.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level
 - $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV
- Note
 - 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)
- Test standards
 - CENELEC HD 629.1 (DIN VDE 0278, part 629-1)
- Storage conditions/Shelf life
 - Unlimited shelf life



Scope of delivery

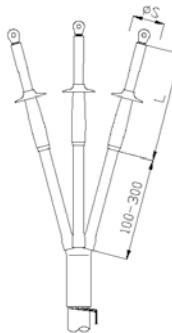
Spreader cap, heat shrinkable tube (tracking resistant), heat shrinkable tube, silicone stress control elements, silicone sheds, pressure spring, sealing tape, assembly material, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Other cable terminations available on request.

Dimensions



$\varnothing S$ = Diameter of cable shed

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	Ø S mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CHE-3I(A) 12kV	10-25	300	9.9		10 - 25				146228
	25-95	300	12.6		25 - 95				146216
	95-240	300	17.3		95 - 240				146217
	150-400	300	19.9		150 - 400				146218
$U_0/U(U_m)$ 8.7/15 (17.5) kV									
CHE-3I(A) 17kV	16-50	300	12.6	1	85	16 - 50			195365
	70-240	300	17.3	1	85	70 - 240			171761
	150-300	300	19.9	1	85	150 - 300			171762
	185-400	300	23.1	1	85	185 - 400			171763
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CHE-3I(A) 24kV	10-35	300	12.6	1	85		10 - 35		146300
	25-95	300	17.3	1	85		25 - 95		146302
	70-240	300	19.9	1	85		70 - 240		146301
	120-300	300	23.1	1	85		120 - 300		146297
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CHE-3I(A) 36kV	35-70	500	19.9	2	85		35 - 70		146158
	50-150	500	23.1	2	85		50 - 150		146159
	150-400	500	27.3	2	115		150 - 400		146160



CHESK-3F(A)

3-core outdoor cable termination

with screw cable lugs, for all 3-core polymeric cables

Hybrid cable terminations CHESK-3F(A) are suitable for all 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). With screw cable lugs.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level
 - $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Note

- 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)

Test standards

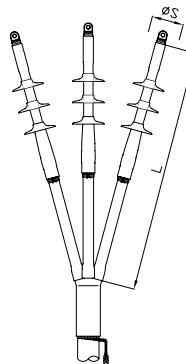
- CENELEC HD 629.1 (DIN VDE 0278, part 629-1)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



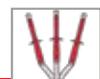
Ø S = Diameter of cable shed

Scope of delivery

Spreader cap, heat shrinkable tube (tracking resistant), heat shrinkable tube, silicone stress control elements, silicone sheds, binding wire, sealing tape, screw cable lugs, assembly material, assembly instructions

Optional accessory: EGA earthing kit for cables with tape screen (see Connecting technology)

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	Ø S mm	12 kV	17.5 kV	24 kV	36 kV	Nominal cross section mm ²	Art.-No.
$U_0/U (U_m)$ 6/10 (12) kV - 6.35/11 (12) kV										
CHESK-3F(A) 12kV	25-95	1200	12.6	1	80	25 - 95				309813
	95-240	1200	17.3	1	85	95 - 240				309815
	240-400	1200	19.9	1	85	240 - 400				309816
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV										
CHESK-3F(A) 24kV	25-95	1200	17.3	3	85		25 - 95	25 - 95		309820
	95-240	1200	19.9	3	85		95 - 240	95 - 240		309821
	240-400	1200	27.3	3	115		240 - 400	240 - 400		309822
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV										
CHESK-3F(A) 36kV	25-95	1200	19.9	4	85				25 - 95	309823
	95-240	1200	23.1	4	85				95 - 240	309824
	240-400	1200	27.3	4	115				240 - 400	309583



CHE-3F(A)

3-core outdoor cable termination

for all 3-core polymeric cables

Hybrid cable terminations CHE-3F(A) are suitable for all 3-core polymeric-insulated cables (PVC, PE, XLPE, EPR) with different types of semi-conductive layers (graphite-coated, removable or strippable) and screen design (copper wire or tape). Suitable for compression or screw cable lugs.

Characteristics

- Flexible silicone stress control elements ensure reliable stress control under all operating conditions
- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level
 - $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV
- Note
 - 12 kV cable terminations must be used for 7.2 kV cables. (Check minimum diameter over conductor insulation.)
- Test standards
 - CENELEC HD 629.1 (DIN VDE 0278, part 629-1)
- Storage conditions/Shelf life
 - Unlimited shelf life



Scope of delivery

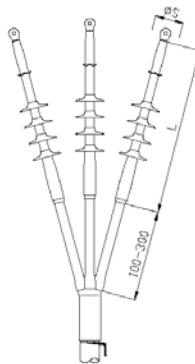
Spreader cap, heat shrinkable tube (tracking resistant), heat shrinkable tube, silicone stress control elements, silicone sheds, pressure spring, sealing tape, assembly material, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

EGA earthing kit for cables with tape screen (see Connecting technology)

Note: Other cable terminations available on request.

Dimensions



$\emptyset S$ = Diameter of cable shed

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	Number of sheds per phase	Ø S mm	12 kV	17.5 kV	24 kV	36 kV	Art.-No.
$U_0/U(U_m)$ 6/10 (12) kV - 6.35/11 (12) kV									
CHE-3F(A) 12kV	10-25	300	9.9	1	80	10 - 25			146226
	25-95	300	12.6	1	85	25 - 95			146220
	95-240	300	17.3	1	85	95 - 240			146222
	150-400	300	19.9	1	85	150 - 400			146224
$U_0/U(U_m)$ 8.7/15 (17.5) kV									
CHE-3F(A) 17kV	16-50	500	12.6	2	85	16 - 50			195366
	70-240	500	17.3	2	85	70 - 240			171756
	150-300	500	19.9	2	85	150 - 300			171757
	185-400	500	23.1	2	85	185 - 400			146296
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV									
CHE-3F(A) 24kV	10-35	500	12.6	3	85		10 - 35		146303
	25-95	500	17.3	3	85		25 - 95		146304
	70-240	500	19.9	3	85		70 - 240		146306
	120-300	500	23.1	3	85		120 - 300		146298
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV									
CHE-3F(A) 36kV	35-70	700	19.9	4	85			35 - 70	146234
	50-150	700	23.1	4	85			50 - 150	146235
	150-400	700	27.3	4	115			150 - 400	146242



MEDIUM VOLTAGE

Cable sets

for mass-impregnated paper cables



Transition joints 179



Straight-through joints 188

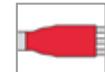


Cable terminations 191

Overview: BBC Cellpack Cable sets selection table

Products	Belted cables			H-Type cables			3 lead sheath cables		
	Transition joints	Straight-through joints	Cable terminations	Transition joints	Straight-through joints	Cable terminations	Transition joints	Straight-through joints	Cable terminations
CHMPRSV3-1	●	-	-	●	-	-	-	-	-
CHMPR3-1	●	-	-	●	-	-	-	-	-
CHMPR3	●	-	-	●	-	-	-	-	-
CHMP(H)SV3-1	-	-	-	●	-	-	-	-	-
CHMP(H)3-1	-	-	-	●	-	-	-	-	-
CHMP(H)3	-	-	-	●	-	-	-	-	-
CHMP(3Pb)SV3-1	-	-	-	-	-	-	●	-	-
CHMP(3Pb)3-1	-	-	-	-	-	-	●	-	-
CHMP(3Pb)3	-	-	-	-	-	-	●	-	-
CHMPPR3	-	●	-	-	●	-	-	-	-
CHMPP(H)3	-	-	-	-	●	-	-	-	-
CHMPP(3Pb)3	-	-	-	-	-	-	-	●	-
CHEP-3I	-	-	●	-	-	-	-	-	-
CHEP-3F	-	-	●	-	-	-	-	-	-
CHEP(H)-3I	-	-	-	-	-	●	-	-	-
CHEP(H)-3F	-	-	-	-	-	●	-	-	-
CHEP(3Pb)-3I	-	-	-	-	-	-	-	-	●
CHEP(3Pb)-3F	-	-	-	-	-	-	-	-	●

- suitable
- non suitable



CHMPRSV3-1

Transition joint

with screw connectors, from belted cables/H-Type cables to 1-core polymeric cables

Hybrid transition joints CHMPRSV3-1 for transition to three 1-core polymeric-insulated cables, are suitable for belted cables and H-Type cables up to 17.5 kV.
With screw connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation
- Suitable for a wide range of applications due to innovative integrated screw connector

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, screw connector for copper-wire screen, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, innovative screw connectors with conductive cover, assembly instructions

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV		17.5 kV		Art.-No.
			Nominal cross section mm ²				
$U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV							
CHMPRSV3-1 17kV	35-95	1200	12.6	50 - 95	35 - 95	264988	
	70-150	1200	17.3	95 - 150	70 - 150	265205	
	95-240	1200	17.3	95 - 240	95 - 240	264769	
	240-400	1200	23.1	240 - 400	240 - 400	265501	



Transition joints

CHMPR3-1 Transition joint

from belted cables/H-Type cables to three 1-core polymeric cables

Hybrid transition joints CHMPR3-1 for transition to three 1-core polymeric-insulated cables, are suitable for belted cables and H-Type cables up to 17.5 kV. The scope of application can be reduced by an appropriate padding set for the mass-impregnated paper cable. Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Note: Other transition joints available on request.

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	12 kV			17.5 kV			Art.-No.	
			Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm	Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm		
$U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV										
CHMPR3-1 17kV	35-50	1100	12.6	50 - 95	25	145	35 - 50	20	110	197603
	70-240	1100	17.3	95 - 300	34	145	70 - 240	34	145	197604 ¹⁾
	240-400	1100	23.1	300 - 400	42	170	240 - 400	42	170	197606

¹⁾ Padding kit PS(G+H) 17/1 (Art.-No.197690) to be used for 25 - 50 mm² (17.5 kV) and (25) 35 - 70 mm² (12 kV).



CHMPR3 Transition joint

from belted cables/H-Type cables to 3-core polymeric cables

Hybrid transition joints CHMPR3 for transition to one 3-core polymeric-insulated cable, are suitable for belted cables and H-Type cables up to 17.5 kV. The scope of application can be reduced by an appropriate padding set for the mass-impregnated paper cable. Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Note: Other transition joints available on request.

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	12 kV			17.5 kV			Art.-No.	
			Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm	Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm		
$U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV										
CHMPR3 17kV	35-50	1400	12.6	50 - 95	25	145	35 - 50	20	110	197618
	70-240	1400	17.3	95 - 300	34	145	70 - 240	34	145	197619 ¹⁾
	240-400	1400	23.1	300 - 400	42	170	240 - 400	42	170	197620

¹⁾ Padding kit PS(G+H) 17/1 (Art.-No.197690) to be used for 25 - 50 mm² (17.5 kV) and (25) 35 - 70 mm² (12 kV).



Transition joints

CHMP(H)SV3-1 Transition joint

with screw connectors, from H-Type cables to polymeric three 1-core cables

Hybrid transition joints CHMP(H)SV3-1 for transition to three 1-core polymeric-insulated cables, are suitable for H-Type cables for 24 kV. With screw connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV

Test standards

- CENELEC HD 629.2 (DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



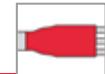
Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, innovative screw connectors with conductive cover, assembly instructions

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	24 kV		Art.-No.
			Nominal cross section mm ²		
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV					
CHMP(H)SV3-1 24kV	35-95	1100	17.3	35 - 95	336538
	70-150	1100	19.9	70 - 150	336550
	95-240	1100	19.9	95 - 240	336551



CHMP(H)3-1 Transition joint

from H-Type cables to polymeric three 1-core cables

Hybrid transition joints CHMP(H)3-1 for transition to three 1-core polymeric-insulated cables, are suitable for H-Type cables from 24 to 36 kV. The scope of application can be reduced by an appropriate padding set for the mass-impregnated paper cable. Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

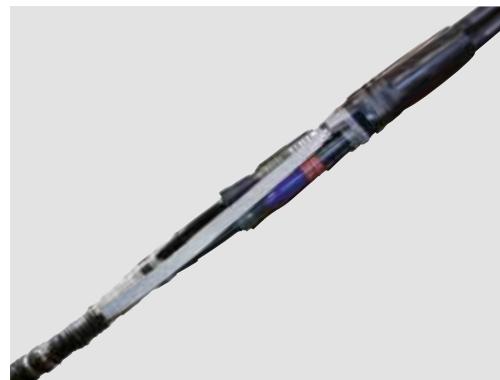
- $U_0/U (U_m)$ 12/20 (24) kV - 19/33 (36) kV

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Note: Other transition joints available on request.

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	max. Connector- Ø mm	max. Connector length mm	24 kV	36 kV	Art.-No.
					Nominal cross section mm ²	Nominal cross section mm ²	
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHMP(H)3-1 24kV	35-70	1200	17.3	20	110	35 - 70	197608
	95-240	1200	19.9	34	145	95 - 240	197609 ¹⁾
	185-300	1200	23.1	42	145	185 - 300	197610
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHMP(H)3-1 36kV	35-50	1200	19.9	20	110	35 - 50	197614
	70-150	1200	23.1	28	145	70 - 150	197616
	150-300	1200	27.3	36	145	150 - 300	197617

¹⁾ Padding kit PS(H) 24/1 (Art.-No.197692) to be used for 35 - 70 mm² (24 kV).



Transition joints

CHMP(H)3

Transition joint

from H-Type cables to 3-core polymeric cables

Hybrid transition joints CHMP(H)3 for transition to one 3-core polymeric-insulated cable, are suitable for H-Type cables from 24 to 36 kV. The scope of application can be reduced by an appropriate padding set for the mass-impregnated paper cable. Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 12/20 (24) kV - 19/33 (36) kV

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

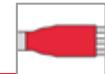
Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Note: Other transition joints available on request.

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	max. Connector- Ø mm	max. Connector length mm	24 kV	36 kV	Art.-No.
					Nominal cross section mm ²	Nominal cross section mm ²	
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHMP(H)3 24kV	16-35	1400	12.6	15	100	16 - 35	197621
	35-70	1400	17.3	20	110	35 - 70	197622
	95-240	1400	19.9	34	145	95 - 240	197623 ¹⁾
	185-300	1400	23.1	42	145	185 - 300	197624
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHMP(H)3 36kV	35-50	1400	19.9	20	110	35 - 50	197625
	70-150	1400	23.1	28	145	70 - 150	197626
	150-300	1400	27.3	36	145	150 - 300	197627

¹⁾ Padding kit PS(H) 24/1 (Art.-No.197692) to be used for 35 - 70 mm² (24 kV).



CHMP(3Pb)SV3-1 Transition joint

with screw connectors, for 3 lead sheath cables to three 1-core polymeric cables

Hybrid transition joints CHMP(3Pb)SV3-1 for transition to three 1-core polymeric-insulated cables are suitable for all 3 lead sheath cables for 24 kV. With screw connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
 - Outdoor
 - Underground
 - Water
 - Installation ducts
 - Ductwork
- Voltage level**
- $U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV

Test standards

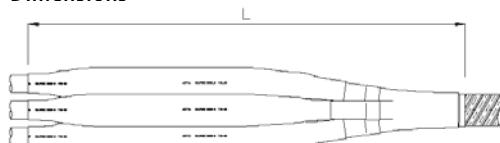
- CENELEC HD 629.2 (DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, innovative screw connectors with conductive cover, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	24 kV		Art.-No.
			Nominal cross section mm ²		
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV					
CHMP(3Pb)SV3-1 24kV	35-95	1000	17.3	35 - 95	336260
	50-150	1000	17.3	50 - 150	336261
	95-240	1000	19.9	95 - 240	336263
	240-400	1000	27.3	240 - 400	336264



Transition joints

CHMP(3Pb)3-1 Transition joint

for 3 lead sheath cables to three 1-core polymeric cables

Hybrid transition joints CHMP(3Pb)3-1 for transition to three 1-core polymeric-insulated cables are suitable for all 3 lead sheath cables up to 36 kV. The scope of application can be reduced by an appropriate padding set for the mass-impregnated paper cable. Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

Test standards

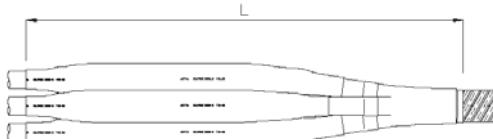
- CENELEC HD 629.2 (DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

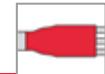
Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	12 kV			17.5 kV			Art.-No.	
			Nominal cross section mm ²	max. Connector-Ø mm	max. Connector length mm	Nominal cross section mm ²	max. Connector-Ø mm	max. Connector length mm		
$U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV										
CHMP(3Pb)3-1 17kV	25-50	1200	12.6	50 - 95	25	110	25 - 50	20	110	197628
	70-150	1200	17.3	95 - 185	32	140	70 - 150	25	140	198782
	120-240	1200	19.9	150 - 300	36	150	120 - 240	34	150	197629
	240-400	1200	23.1	300 - 400	40	170	240 - 300	40	150	197630

Type	L mm	min. Ø over core insulation after removal of the outer conductive layer mm	max. Connector-Ø mm	max. Connector length mm	Nominal cross section mm ²		Art.-No.
					24 kV	36 kV	
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHMP(3Pb)3-1 24kV	16-25	1200	12.6	20	100	16 - 25	197631
	35-95	1200	17.3	25	110	35 - 95	197632
	95-240	1200	19.9	34	150	95 - 240	197633 ¹⁾
	185-300	1200	23.1	40	150	185 - 300	197634
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHMP(3Pb)3-1 36kV	35-50	1200	19.9	20	110	35 - 50	197635
	70-150	1200	23.1	25	150	70 - 150	197636 ²⁾
	150-300	1200	27.3	38	160	150 - 300	197637 ³⁾

¹⁾ Padding kit PS(3Pb+Pb), (Art.-No.197699) to be used for 35 - 70 mm² (24 kV).

²⁾ Padding kit PS(3Pb+Pb), (Art.-No.197701) to be used for 35 - 50 mm² (36 kV).

³⁾ Padding kit PS(3Pb+Pb), (Art.-No.197702) to be used for 70 - 150 mm² (36 kV).



CHMP(3Pb)3 Transition joint

for 3 lead sheath cables to 3-core polymeric cables

Hybrid transition joints CHMP(3Pb)3 for transition to one 3-core polymeric-insulated cables are suitable for all 3 lead sheath cables up to 36 kV. The scope of application can be reduced by an appropriate padding set for the mass-impregnated paper cable. Suitable for compression connectors.

Characteristics

- Reliable stress control due to flexible silicone stress control elements
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U(U_m)$ 6/10 (12) kV - 19/33 (36) kV

Test standards

- CENELEC HD 629.2 (DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	12 kV			17.5 kV			Art.-No.	
			Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm	Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm		
$U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV										
CHMP(3Pb)3 17kV	25-50	1400	12.6	50 - 95	25	110	25 - 50	20	110	197638
	70-150	1400	17.3	95 - 185	32	140	70 - 150	25	140	198783
	120-240	1400	19.9	150 - 300	36	150	120 - 240	34	150	197639
	240-400	1400	23.1	300 - 400	40	170	240 - 300	40	150	197640

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	max. Connector- Ø mm	max. Connector length mm	Nominal cross section mm ²		Art.-No.
					24 kV	36 kV	
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHMP(3Pb)3 24kV	16-25	1400	12.6	20	100	16 - 25	197641
	35-95	1400	17.3	25	110	35 - 95	197642
	95-240	1400	19.9	34	150	95 - 240	197643 ¹⁾
	185-300	1400	23.1	40	150	185 - 300	197644
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHMP(3Pb)3 36kV	35-50	1400	19.9	20	110	35 - 50	197645
	70-150	1400	23.1	25	150	70 - 150	197646 ²⁾
	150-300	1400	27.3	38	160	150 - 300	197647 ³⁾

¹⁾ Padding kit PS(3Pb+Pb), (Art.-No.197699) to be used for 35 - 70 mm² (24 kV).

²⁾ Padding kit PS(3Pb+Pb), (Art.-No.197701) to be used for 35 - 50 mm² (36 kV).

³⁾ Padding kit PS(3Pb+Pb), (Art.-No.197702) to be used for 70 - 150 mm² (36 kV).



Straight-through joints

CHMPPR3

Straight-through joint

for belted cables/H-Type cables up to 17.5 kV (MIND)

Hybrid straight-through joints CHMPPR3 are suitable for belted cables and H-Type cables up to 17.5 kV. Suitable for compression connectors.

Characteristics

- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

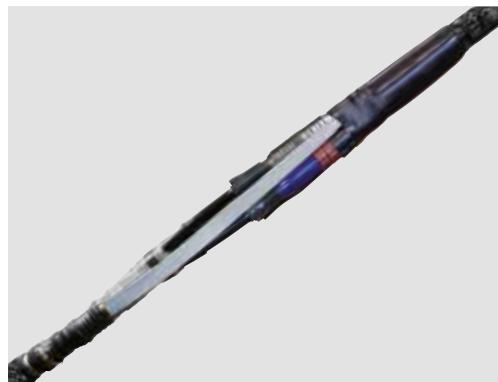
- $U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions

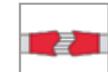


Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Type	L mm	12 kV			17.5 kV			Art.-No.
		Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm	Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm	
$U_0/U(U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV								
CHMPPR3 17kV	35-50	1400	50 - 95	25	145	35 - 50	20	110
	70-240	1400	95 - 300	34	145	70 - 240	34	145
	240-400	1400	300 - 400	42	170	240 - 400	42	170
								197658
								197659
								197660



CHMPP(H)3

Straight-through joint

for H-Type cables from 24 to 36 kV

Hybrid straight-through joints CHMPP(H)3 are suitable for H-Type cables from 24 to 36 kV. The scope of application can be reduced by an appropriate padding set for the mass-impregnated paper cable. Suitable for compression connectors.

Characteristics

- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

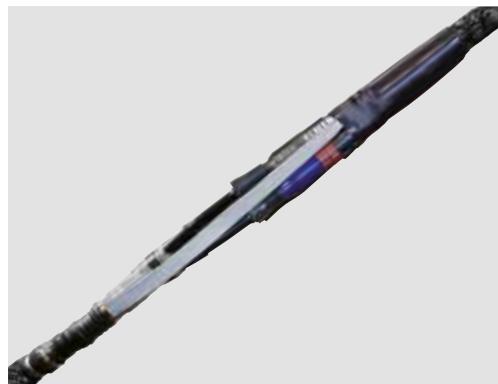
- $U_0/U (U_m)$ 12/20 (24) kV - 19/33 (36) kV

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, spacers, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Type	L mm	min. Ø over core insulation mm	max. Connector- Ø mm	max. Connector length mm	Nominal cross section mm ²		Art.-No.
					24 kV	36 kV	
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHMPP(H)3 24kV	16-35	1400	16.5	15	100	16 - 35	197661
	35-70	1400	17.4	20	110	35 - 70	197662
	95-240	1400	21.6	34	145	95 - 240	197663 ¹⁾
	185-300	1400	25.8	42	145	185 - 300	197664
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHMPP(H)3 36kV	35-50	1400	21.4	20	100	35 - 50	197665
	70-150	1400	24.0	28	145	70 - 150	197666
	150-300	1400	28.2	36	145	150 - 300	197667

¹⁾ Padding kit PS(H) 24/1 (Art.-No.197692) to be used for 35 - 70 mm² (24 kV).



Straight-through joints

CHMPP(3Pb)3

Straight-through joint

for 3 lead sheath cables up to 36 kV

Hybrid straight-through joints CHMPP(3Pb)3 are suitable for all 3 lead sheath cables up to 36 kV. Suitable for compression connectors.

Characteristics

- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Outdoor
- Underground
- Water
- Installation ducts
- Ductwork

Voltage level

- $U_0/U (U_m)$ 6/10 (12) kV - 19/33 (36) kV

Test standards

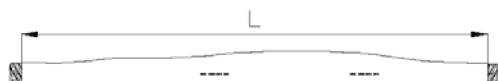
- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



Dimensions



Scope of delivery

Spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, oil barrier tubing, heat shrinkable tubes, silicone stress control elements, earthing wire, copper braid tape, pressure spring, assembly material, sealing tape, field control filling tape (blue), fire protection wrapping, assembly instructions

Optional accessory: Compression connectors (see Connecting technology)

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	12 kV			17.5 kV			Art.-No.	
			Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm	Nominal cross section mm ²	max. Connector- Ø mm	max. Connector length mm		
$U_0/U (U_m)$ 6/10 (12) kV - 8.7/15 (17.5) kV										
CHMPP(3Pb)3 17kV	25-50	1400	14.1	50 - 95	25	110	25 - 50	20	110	197668
	70-150	1400	17.6	95 - 185	32	140	70 - 150	25	140	198784
	120-240	1400	20.5	150 - 300	36	150	120 - 240	34	150	197669
	240-400	1400	25.6	300 - 400	40	170	240 - 300	40	150	197670

Type	L mm	min. Ø over core insulation after re- moval of the outer conductive layer mm	max. Connector- Ø mm	max. Connector length mm	24 kV		36 kV		Art.-No.		
					Nominal cross section mm ²						
$U_0/U (U_m)$ 12/20 (24) kV - 12.7/22 (24) kV											
CHMPP(3Pb)3 24kV	16-25	1400	12.6	20	100	16 - 25			197671		
	35-95	1400	17.3	25	110	35 - 95			197672		
	95-240	1400	19.9	34	150	95 - 240			197673		
	185-300	1400	23.1	40	150	185 - 300			197674		
$U_0/U (U_m)$ 18/30 (36) kV - 19/33 (36) kV											
CHMPP(3Pb)3 36kV	35-50	1400	21.4	20	110		35 - 50	197675			
	70-150	1400	24.0	25	150		70 - 150	197676			
	150-300	1400	28.2	36	160		150 - 300	197677			



CHEP-3I

Indoor cable termination

for belted cables up to 17.5 kV (MIND)

Hybrid cable terminations CHEP-3I are suitable for belted cables up to 17.5 kV (for MIND cables only). Suitable for compression and screw cable lugs.

Characteristics

- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor

Voltage level

- $U_0/U(U_m) 6/10(12) \text{ kV} - 8.7/15(17.5) \text{ kV}$

Test standards

- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)

Storage conditions/Shelf life

- Unlimited shelf life



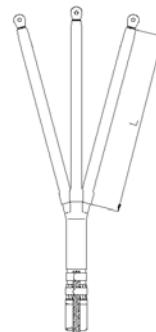
Scope of delivery

Spreader cap (tracking resistant), heat shrinkable tube (tracking resistant), earthing set, sealing tape, assembly material, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Note: For cables with draining compound, please contact us.

Dimensions



Type	L mm	min. Ø over core insulation mm	12 kV	17.5 kV	Art.-No.
			Nominal cross section mm ²		
$U_0/U(U_m) 6/10(12) \text{ kV} - 8.7/15(17.5) \text{ kV}$					
CHEP-3I 17kV	16-50	500	9.9	16 - 50	197515
	25-240	500	13.2	70 - 240	197516
	95-300	500	16.5	120 - 400	197517



CHEP-3F

Outdoor cable termination

for belted cables up to 17.5 kV (MIND)

Hybrid cable terminations CHEP-3F are suitable for belted cables up to 17.5 kV (for MIND cables only). Suitable for compression and screw cable lugs.

Characteristics

- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level
 - $U_0/U(U_m) 6/10(12) \text{ kV} - 8.7/15(17.5) \text{ kV}$
- Test standards
 - CENELEC HD 629.2 (DIN VDE 0278, part 629-2)
- Storage conditions/Shelf life
 - Unlimited shelf life



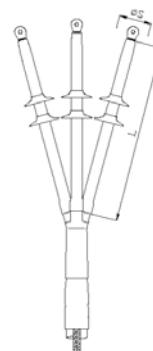
Scope of delivery

Spreader cap (tracking resistant), heat shrinkable tube (tracking resistant), silicone sheds, earthing set, sealing tape, assembly material, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Note: For cables with draining compound, please contact us.

Dimensions



$\varnothing S$ = Diameter of cable shed

Type	L mm	min. Ø over core insulation mm	Number of sheds per phase	$\varnothing S$ mm	12 kV	17.5 kV	Art.-No.
					Nominal cross section mm ²		
$U_0/U(U_m) 6/10(12) \text{ kV} - 8.7/15(17.5) \text{ kV}$							
CHEP-3F 17kV	16-50	500	9.9	2	80		197537
	25-240	500	13.2	2	85	70 - 240	25 - 240
	95-300	500	16.5	2	85		95 - 300
							197539



CHEP(H)-3I

Indoor cable termination

for H-Type cables from 24 to 36 kV (MIND)

Hybrid cable terminations CHEP(H)-3I are suitable for H-Type cables from 24 to 36 kV (for MIND cables only). Suitable for compression and screw cable lugs.

Characteristics

- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U(U_m)$ 12/20 (24) kV - 19/33 (36) kV
- Test standards**
- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)
- Storage conditions/Shelf life**
- Unlimited shelf life



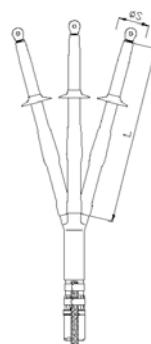
Scope of delivery

Conductive spreader cap, heat shrinkable tube (tracking resistant), conductive heat shrinkable tubes, oil barrier tubing, filling tape, silicone sheds, earthing wire, pressure spring, assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Note: For cables with draining compound, please contact us.

Dimensions



$\emptyset S$ = Diameter of cable shed

Type	L mm	min. Ø over core insulation mm	Number of sheds per phase	$\emptyset S$ mm	24 kV	36 kV	Art.-No.
					Nominal cross section mm ²	Nominal cross section mm ²	
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHEP(H)-3I 24kV	16-35	500	12.6	1	80	16 - 35	197531
	50-150	500	17.3	1	85	50 - 150	197532
	70-240	500	19.9	1	85	70 - 240	197533
	120-300	500	23.1	1	85	120 - 300	197534
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHEP(H)-3I 36kV	35-70	650	19.9	2	85	35 - 70	197535
	50-240	650	23.1	2	85	50 - 240	197536



CHEP(H)-3F

Outdoor cable termination

for H-Type cables from 24 to 36 kV (MIND)

Hybrid cable terminations CHEP(H)-3F are suitable for H-Type cables from 24 to 36 kV (for MIND cables only). Suitable for compression and screw cable lugs.

Characteristics

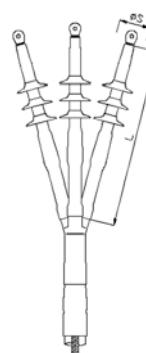
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level**
 - $U_0/U(U_m)$ 12/20 (24) kV - 19/33 (36) kV
- Test standards**
 - CENELEC HD 629.2 (DIN VDE 0278, part 629-2)
- Storage conditions/Shelf life**
 - Unlimited shelf life



Dimensions



$\varnothing S$ = Diameter of cable shed

Scope of delivery

Conductive spreader cap, thick wall heat shrinkable outer tube with hot melt adhesive, heat shrinkable tube (tracking resistant), oil barrier tubing, silicone sheds, earthing wire, pressure spring, sealing tape, oil-barrier field control filling tape (blue), assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Note: For cables with draining compound, please contact us.

Type	L mm	min. Ø over core insulation mm	Number of sheds per phase	$\varnothing S$ mm	24 kV	36 kV	Art.-No.
					Nominal cross section mm ²		
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHEP(H)-3F 24kV	16-35	850	12.6	3	80	16 - 35	197543
	50-150	850	17.3	3	85	50 - 150	197544
	70-240	850	19.9	3	85	70 - 240	197545
	120-300	850	23.1	3	85	120 - 300	197546
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHEP(H)-3F 36kV	35-70	850	19.9	4	85	35 - 70	197547
	50-240	850	23.1	4	85	50 - 240	197548



CHEP(3Pb)-3I

Indoor cable termination

for 3 lead sheath cables from 24 to 36 kV (MIND)

Hybrid cable terminations CHEP(3Pb)-3I are suitable for 3 lead sheath cables from 24 to 36 kV (for MIND cables only). Suitable for compression and screw cable lugs.

Characteristics

- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Indoor
- Voltage level**
- $U_0/U(U_m)$ 12/20 (24) kV - 19/33 (36) kV
- Test standards**
- CENELEC HD 629.2
(DIN VDE 0278, part 629-2)
- Storage conditions/Shelf life**
- Unlimited shelf life



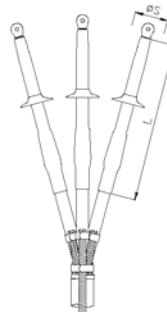
Scope of delivery

Conductive spreader cap, heat shrinkable tube (tracking resistant), conductive heat shrinkable tubes, oil barrier tubing, silicone sheds, earthing wire, pressure spring, sealing tape, oil-barrier field control filling tape (blue), assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Note: For cables with draining compound, please contact us.

Dimensions



$\emptyset S$ = Diameter of cable shed

Type	L mm	min. Ø over core insulation mm	Number of sheds per phase	$\emptyset S$ mm	24 kV	36 kV	Art.-No.
					Nominal cross section mm ²		
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHEP(3Pb)-3I 24kV	16-35	450	12.2	1	80	16 - 35	197555
	50-150	450	17.2	1	85	50 - 150	197556
	70-240	450	19.9	1	85	70 - 240	197557
	120-300	450	23.1	1	85	120 - 300	197558
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHEP(3Pb)-3I 36kV	35-70	600	19.9	2	85	35 - 70	197559
	95-240	600	23.1	2	85	95 - 240	197560



CHEP(3Pb)-3F

Outdoor cable termination

for 3 lead sheath cables from 24 to 36 kV (MIND)

Hybrid cable terminations CHEP(3Pb)-3F are suitable for 3 lead sheath cables from 24 to 36 kV (for MIND cables only). Suitable for compression and screw cable lugs.

Characteristics

- Combination of slip-on and heat shrinkable components
- Wide cross-section range
- Quick, safe and easy assembly
- Ready for immediate operation

Application/Suitability

- Outdoor
- Voltage level**
 - $U_0/U(U_m)$ 12/20 (24) kV - 19/33 (36) kV
- Test standards**
 - CENELEC HD 629.2 (DIN VDE 0278, part 629-2)
- Storage conditions/Shelf life**
 - Unlimited shelf life



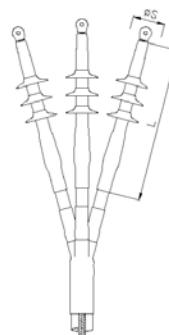
Scope of delivery

Weatherproof preader cap, heat shrinkable tube (tracking resistant), oil barrier tubing, silicone sheds, earthing wire, pressure spring, sealing tape, oil-barrier field control filling tape (blue), assembly instructions

Optional accessory: Cable lugs (see Connecting technology)

Note: For cables with draining compound, please contact us.

Dimensions



$\emptyset S$ = Diameter of cable shed

Type	L mm	min. Ø over core insulation mm	Number of sheds per phase	$\emptyset S$ mm	24 kV	36 kV	Art.-No.
					Nominal cross section mm ²	Nominal cross section mm ²	
$U_0/U(U_m)$ 12/20 (24) kV - 12.7/22 (24) kV							
CHEP(3Pb)-3F 24kV	16-35	600	12.2	3	80	16 - 35	197567
	50-150	600	17.2	3	85	50 - 150	197568
	70-240	600	19.9	3	85	70 - 240	197569
	120-300	600	23.1	3	85	120 - 300	197570
$U_0/U(U_m)$ 18/30 (36) kV - 19/33 (36) kV							
CHEP(3Pb)-3F 36kV	35-70	750	19.9	4	85	35 - 70	197571
	95-240	750	23.1	4	85	95 - 240	197572

MEDIUM VOLTAGE

Heat shrinkable components



Heat shrinkable tubes 198

**SRBB****Heat shrinkable medium wall tube**

protection for busbar systems and reduction of minimum clearance, halogen-free, shrink ratio 3 : 1

Characteristics

- Medium wall
- Stabilized against UV rays
- Halogen-free
- Tracking resistance in compliance with IEC 112
- Non-corrosive
- Resistant to bacteria and fungi
- Free of lead and cadmium
- Silicone free

Application/Suitability

- Allows for clearance reduction between busbars in medium voltage substations up to 36 kV
- Corrosion protection

Material

- Cross-linked polyolefin

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life

**Scope of delivery**

Medium wall heat shrinkable tube, on spool or in lengths

Note: A standard spool may include sections which have been tied together.

Other lengths available on request.

Colours

Red brown

Type	L m	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
Spool Colour: Red brown						
SRBB	19-6	30	19	6	2.3	201942
	35-11	30	35	11	2.5	201943
	50-18	30	50	18	2.7	201944
	80-26	30	80	26	2.8	201945
	120-40	30	120	40	3	201946
Lengths Colour: Red brown						
SRBB	19-6	1	19	6	2.3	237858
	35-11	1	35	11	2.5	237859
	50-18	1	50	18	2.7	237860
	80-26	1	80	26	2.8	237861
	120-40	1	120	40	3	237862

→ Continued on the next page



→ Continuation

SRBB Heat shrinkable medium wall tube

Technical data	Value	Test standard
Physical properties		
Hardness	39 Shore D	DIN 53 505
Elongation at break	500 %	IEC 60684-2
Tensile strength at break	16 MPa	IEC 60684-2
Longitudinal shrinkage	+5 % up to -10 %	IEC 60684-2
Shrink ratio	3:1	IEC 60684-2
Eccentricity expanded recovered	50 % 85 %	IEC 60684-2
Thermal properties		
Operating temperature range	-40 °C up to 100 °C	DIN EN 60684-3-283
Shrinkage temperature	> 125 °C	
Burning behaviour	not self-extinguishing	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	IEC 60684-2
Electrical properties		
Dielectric strength	20 kV/mm	IEC 60684-2
Specific volume resistivity	10 ¹² Ω x cm	IEC 60684-2
Chemical properties		
Corrosion	None	IEC 60684-2
Resistance to fungus and decay	Rate 1	IEC 60684-2

Type	Recommended application range Busbar types: round shaped		Recommended application range Busbar types: rectangular shaped	
	Diameter [Ø] mm	min.	Width [B] + Height [H] mm	max.
SRBB	19-6	6.5	12	18
	35-11	13	22	36
	50-18	18	31	60
	80-26	28	55	95
	120-40	45	80	150

Ø

H

B

Minimum allowance between the busbars

Busbar types	Minimum allowance mm			
	12 kV	17.5 kV	24 kV	36 kV
round shaped				
without insulation PH/PH and PH/E	120	160	220	320
with insulation PH/PH	50	65	90	145
with insulation PH/E	60	80	120	200
rectangular shaped				
without insulation PH/PH and PH/E	120	180	220	320
with insulation PH/PH	60	80	110	195
with insulation PH/E	70	100	145	280

**SRAT****Heat shrinkable thick wall tube**

halogen-free, shrink ratio 3 : 1

Characteristics

- Thick wall
- Stabilized against UV rays
- Halogen-free
- Non-corrosive
- Infusible
- Highly resistant to electrical breakdown
- Tracking resistance
- High tensile strength
- Free of lead and cadmium
- Silicone free

Application/Suitability

- Insulation tube for conductors in cable terminations of 3.6 to 42 kV

Corrosion protection**Material**

- Cross-linked polyolefin

Test standards

- Corresponds to IEC 60684-2

Storage conditions/Shelf life

- Unlimited shelf life

**Colours**

Red brown

Scope of delivery

Thick wall heat shrinkable tube, on spool or in lengths

Note: A standard spool may include sections which have been tied together.

Other lengths available on request.

Type	L m	before shrinking	Inner-Ø mm	after shrinking	Recovered wall thickness mm	Art.-No.
Spool Colour: Red brown						
SRAT	19-6	30	19	6	3	144884
	29-9	30	29	9	3	144882
	38-12	30	38	12	3.1	144880
	48-15	30	48	15	3.1	144878
	60-20	30	60	20	3.1	144886
	80-26	30	80	26	3.1	144876
Lengths Colour: Red brown						
SRAT	19-6	1	19	6	3	144888
	29-9	1	29	9	3	144892
	38-12	1	38	12	3.1	144898
	48-15	1	48	15	3.1	132464
	60-20	1	60	20	3.1	144921
	80-26	1	80	26	3.1	144935
	120-40	1	120	40	3.1	144943



→ Continuation

SRAT Heat shrinkable thick wall tube

Technical data	Value	Test standard
Physical properties		
Hardness	44 Shore D	DIN 53505
Elongation at break	350 %	IEC 60684-2
Tensile strength at break	12 MPa	IEC 60684-2
Longitudinal shrinkage	+5 % bis -10 %	IEC 60684-2
Shrink ratio	3:1	IEC 60684-2
Eccentricity expanded recovered	60 % 85 %	IEC 60684-2
Thermal properties		
Operating temperature range	-40 °C bis 100 °C	IEC 60684-2
Shrinkage temperature	> 125 °C	
Flame propagation	burning time <1 s	IEC 60684-2 method C
Flexibility at low temperatures	-40 °C	IEC 60684-2
Thermal ageing (168 h at 150 °C)		
Elongation at break	300 %	
Tensile strength at break	11 MPa	IEC 60684-2
Electrical properties		
Dielectric strength	20 kV/mm	IEC 60684-2
Resistance to tracking	class 2A 2.5 kV – 1 h 2.75 kV – 1 h 3.0 kV – 1 h 3.25 kV – 20 min	IEC 60684-2
Chemical properties		
Resistance to mould growth		
Elongation at break	350 %	
Tensile strength at break	10 MPa	IEC 60684-2
Weather resistance		
Elongation at break	250 %	
Tensile strength at break	9 MPa class 2A 2.5 kV – 1h	IEC 60684-2

Remarque: Toutes modifications techniques réservées.

CONNECTING TECHNOLOGY

Low and Medium Voltage

	Compression connectors	204
	Compression cable lugs	207
	Screw connectors	210
	Screw cable lugs	211
	Branch ring connectors	212
	Miscellaneous	214



DV-CU-V

Compression connector Cu

according to DIN 46267, without separator, for low voltage

Strain-relieving connector (hexagonally compressed) for copper conductors,
suitable for joints.

Material

- Copper tin-plated

Application/Suitability

- Connector for RM/SM (Class 2) copper conductors according to DIN EN 60228 (VDE 0295)

Construction standard

- DIN 46267, Part 1, non tension-proof press connections for copper conductors

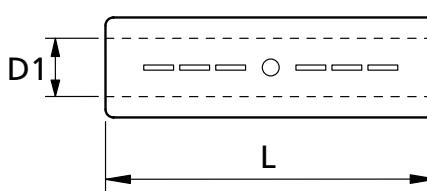


Scope of delivery

Compression connector

Note: To be used with suitable crimping tool with DIN inserts.

Dimensions



L = Length

D1 = Centric borehole

K = Die code no.-outer diameter

RM = Round, stranded

SM = Sector-shaped, stranded

Type	L mm	D1 mm	Nominal cross section mm ²	K mm	Art.-No.
DV-CU-V	6	30	3.8	6	125895
	10	30	4.5	10	125950
	16	50	5.5	16	125951
	25	50	7.0	25	125952
	35	50	8.2	35	125953
	50	56	10.0	50	125954
	70	56	11.5	70	125955
	95	70	13.5	95	125956
	120	70	15.5	120	125957
	150	80	17.0	150	125958
	185	85	19.0	185	125959
	240	90	21.5	240	125960
	300	100	24.5	300	125961
	400	150	27.5	400	125962



DVZ-CU-V-LD

Compression connector Cu

according to DIN 46267, with separator, for low voltage

Strain-relieving connector (hexagonally compressed) with a separator for copper conductors, suitable for joints.

Material

- Copper tin-plated

Application/Suitability

- Especially for transition joints and pot end joints
- Connector for RM/SM (Class 2) copper conductors according to DIN EN 60228 (VDE 0295)

Construction standard

- DIN 46267, Part 1, non tension-proof press connections for copper conductors

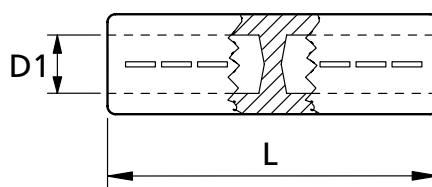


Scope of delivery

Compression connector

Note: To be used with suitable crimping tool with DIN inserts.

Dimensions



L = Length

D1 = Centric borehole

K = Die code no.-outer diameter

RM = Round, stranded

SM = Sector-shaped, stranded

Type	L mm	D1 mm	Nominal cross section mm ²	K mm	Art.-No.
DVZ-CU-V-LD	6	3.8	6	6	166374
	10	4.5	10	6	125966
	16	5.5	16	8	125897
	25	7.0	25	10	125898
	35	8.2	35	12	125899
	50	10.0	50	14	125900
	70	11.5	70	16	125901
	95	13.5	95	18	125902
	120	15.5	120	20	125903
	150	17.0	150	22	125904
	185	19.0	185	25	125905
	240	21.5	240	28	125906

**RH****Reduction sleeve Cu**

for low voltage

To allow applications on lower cross-sections, for copper compression connectors.

Material

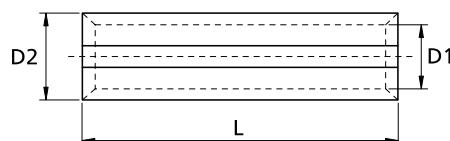
- Blank copper

Application/Suitability

- For strain relief copper compression connectors

Scope of delivery

Reduction sleeve

**Dimensions****L = Length****D1 = Centric borehole****D2 = Outer diameter**

Type	L mm	D1 mm	D2 mm	Art.-No.
RH	25/10	25	4.5	7.0
	25/16	25	5.5	7.0
	35/25	25	7.0	8.2
	50/25	33	7.0	10.0
	50/35	33	8.5	10.0
	70/50	33	10.0	11.5
	95/50	45	10.0	13.5
	95/70	45	11.5	13.5
	150/95	53	13.5	17.0
	150/120	53	15.5	17.0
	240/150	55	17.0	21.5
				126242
				126243
				126246
				126248
				126249
				126252
				126254
				126255
				126260
				126261
				126266



DK-CU-V

Compression cable lug Cu

according to DIN 46235, for low and medium voltage

Cable lug (hexagonally compressed) for copper conductors, suitable for indoor cable terminations.

Material

- Copper tin-plated

Application/Suitability

- Cable lug recommended for copper conductors RM/SM (class 2) according to DIN EN 60228 (VDE 0295)

Standards

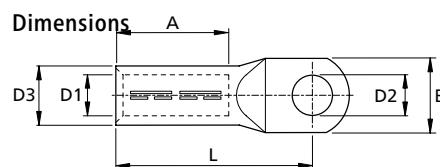
- Construction standard: DIN 46235
- Testing standard: DIN EN/IEC 61238



Scope of delivery

Compression cable lug

Note: To be used with suitable crimping tool with DIN inserts



L = Length

B = Width

D1 = Centric borehole

D2 = Plate bore diameter

D3 = Press insert outside diameter

A = Length hole drilling

RM = Round, stranded

SM = Sector-shaped, stranded

K = Die code no.-outer diameter

Type	L mm	B mm	D1 mm	D2 mm	D3 mm	K mm	A mm	Nominal cross section mm ²	Art.-No.	
DK-CU-V	6/6	24	8,5	3,8	6,4	5,5	5	10	6	126040
	10/8*	27	13	4,5	8,4	6,0	6	12	10	126044
	16/8	36	13	5,5	8,4	8,5	8	20	16	126046
	16/10	36	17	5,5	10,5	8,5	8	20	16	126047
	16/12*	36	18	5,5	13,0	8,5	8	20	16	126048
	25/10	38	17	7,0	10,5	10,0	10	20	25	126051
	25/12	38	19	7,0	13,0	10,0	10	20	25	126052
	35/10	42	19	8,2	10,5	12,5	12	20	35	126054
	35/12	42	21	8,2	13,0	12,5	12	20	35	126055
	50/10	52	22	10,0	10,5	14,5	14	28	50	126059
	50/12	52	24	10,0	13,0	14,5	14	28	50	126060
	70/10	55	24	11,5	10,5	16,5	16	28	70	126064
	70/12	55	24	11,5	13,0	16,5	16	28	70	126065
	95/12	65	28	13,5	13,0	19,0	18	35	95	126070
	95/16	65	32	13,5	17,0	19,0	18	35	95	126072
	120/12	70	32	15,5	13,0	21,0	20	35	120	126074
	150/12	78	34	17,0	13,0	23,5	22	40	150	126080
	150/16	78	34	17,0	17,0	23,5	22	40	150	126082
	185/12	82	37	19,0	13,0	25,5	25	42	185	126085
	185/16	82	37	19,0	17,0	25,5	25	42	185	126087
	240/12	92	42	21,5	13,0	29,0	28	42	240	126089
	240/16	92	42	21,5	17,0	29,0	28	42	240	126091
	300/14*	100	48	24,5	15,0	32,0	32	52	300	126093
	300/16	100	48	24,5	17,0	32,0	32	52	300	126094
	400/16	115	55	27,5	17,0	38,5	38	70	400	126096
	500/16*	125	60	31,0	17,0	42,0	42	70	500	126098
	625/16*	135	60	34,5	17,0	44,0	44	80	625	126099

* Connection bolt diameter not according to DIN 46235

**DK-CU-V-LD****Compression cable lug Cu**

according to DIN 46235, longitudinally sealed, for low and medium voltage

Cable lug (hexagonally compressed) for copper conductors, suitable for outdoor cable terminations.

Material

- Copper tin-plated

Application/Suitability

- Cable lug for copper conductor RM/SM (Class 2) and Classes 5 and 6 according DIN EN 60228 (VDE 0295)

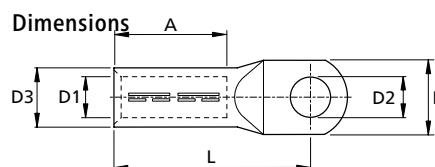
Construction standard

- DIN 46235, cable lugs for press connections (contact plate for copper)

**Scope of delivery**

Compression cable lug

Note: To be used with suitable crimping tool with DIN inserts.



L = Length

B = Width

D1 = Centric borehole

D2 = Plate bore diameter

D3 = Press insert outside diameter

A = Length hole drilling

RM = Round, stranded

SM = Sector-shaped, stranded

K = Die code no.-outer diameter

Type	L mm	B mm	D1 mm	D2 mm	D3 mm	K mm	A mm	Nominal cross section mm ²	Art.-No.	
DK-CU-V-LD	50/12	52	24	10,0	13	14,5	14	28	50	126135
	70/12	55	24	11,5	13	16,5	16	28	70	148432
	95/12	65	28	13,5	13	19,0	18	35	95	126136
	120/12	70	32	15,5	13	21,0	20	35	120	195350
	150/16	78	34	17,0	17	23,5	22	35	150	126137
	185/16	82	37	19,0	17	25,5	25	40	185	195351
	240/16	92	42	21,5	17	29,0	28	40	240	126138
	300/16	100	46	24,5	17	32,0	32	50	300	176369
	400/16	115	54	27,5	17	38,5	38	70	400	126105
	500/16*	125	60	31,0	17	42,0	42	70	500	126106

* Connection bolt diameter not according to DIN 46235

**DK-AL-LD****Compression cable lug Al**

according to DIN 46235, longitudinally sealed, for low and medium voltage

Cable lug (hexagonally compressed) for aluminium conductors, suitable for indoor and outdoor cable terminations.

Material

- Blank aluminium

Application/Suitability

- Cable lug for aluminium conductor RM/SM (Class 2), RE and SE (Class 1) according to DIN EN 60228 (VDE 0295)

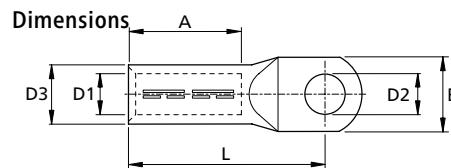
Construction standard

- DIN 46329, cable lugs for press connections (contact plate for aluminium)

**Scope of delivery**

Compression cable lug

Note: To be used with suitable crimping tool with DIN inserts



L = Length

B = Width

D1 = Centric borehole

D2 = Plate bore diameter

D3 = Press insert outside diameter

A = Length hole drilling

RM = Round, stranded

SM = Sector-shaped, stranded

RE = Round, massive

SE = Sector-shaped, massive

K = Die code no.-outer diameter

Type	L mm	B mm	D1 mm	D2 mm	D3 mm	K mm	A mm	Nominal cross section mm ²			Art.-No.
								RM/SM	RE	SE	
DK-AL-LD	50/12	62	25	9,8	13,0	16,0	16	42	50	50	70 194943
	70/12	72	25	11,2	13,0	18,5	18	52	70		95 194942
	95/12	75	25	12,6	13,0	22,0	22	56	95		120 194941
	95/16*	80	30	12,6	17,0	22,0	22	56	95		120 194940
	120/12	80	30	14,7	13,0	23,0	22	56	120		150 194939
	150/12	90	30	16,3	13,0	25,0	25	60	150		185 194937
	150/16	90	30	16,3	17,0	25,0	25	60	150		185 194936
	185/12	91	30	18,3	13,0	28,5	28	60	185		240 194935
	185/16	91	30	18,3	17,0	28,5	28	60	185		240 194934
	240/16	103	38	21,0	17,0	32,0	32	70	240		300 194933
	300/16	103	38	23,3	17,0	34,0	34	70	300		194932
	400/20	116	38	26,0	21,0	38,5	38	73	400		194930
	500/20	122	44	29,0	21,0	44,0	44	79	500		194908

* Not according to DIN 46329

**CSV-T****Screw connector for Cu and Al**

longitudinally sealed, with shear head bolts, with separator, for low voltage

Screw connector for RM/SM/RE/SE aluminium and copper conductors, suitable for straight-through and transition joints.

Material

- Aluminium tin-plated

Application/Suitability

- For connecting conductors RM/SM (class 2), RE/SE (class 1) according to DIN EN/IEC 60228 (VDE 0295)

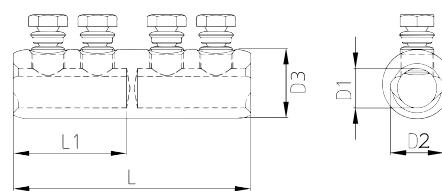
Test standards

- IEC 61238-1

**Scope of delivery**

Screw connector, assembly instructions

Note: BBC Cellpack counter-holder recommended for installation (see Accessories).

Dimensions

L = Length

L1 = Borehole depth

D1 = Centric borehole diameter

D2 = Sector-shaped borehole diameter

D3 = Outer diameter

RM = Round, stranded

SM = Sector-shaped, stranded

RE = Round, massive

SE = Sector-shaped, massive

Type	L mm	L1 mm	D1 mm	D2 mm	D3 mm	Number of bolts	Art.-No.
CSV-T	6-50	40	18.5	9	11.0	18	255406
	16-95	60	28	12.5	16.0	24	255408
	50-150	70	33	16.0	21.0	28	267708
	95-240	120	58	20.0	27.0	35	266811
	240-400	150	73	26.0	30.0	42	289677

**CSK****Screw cable lug for Cu and Al**

longitudinally sealed, with shear head bolts, for low and medium voltage

Screw cable lug for RM/SM/RE/SE aluminium and copper conductors, suitable for indoor and outdoor terminations.

Material

- Aluminium tin-plated

Application/Suitability

- For connecting conductors RM/SM (class 2), RE/SE (class 1) according to DIN EN/IEC 60228 (VDE 0295)

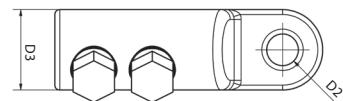
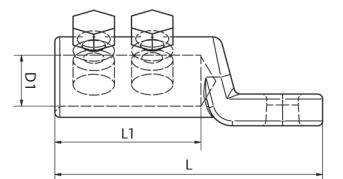
Test standards

- IEC 61238-1

**Scope of delivery**

Screw cable lug, assembly instructions

Note: BBC Cellpack counter-holder recommended for installation (see Accessories). Application according to AWG, ISWG and BWG standards on request.

Dimensions

L = Length

L1 = Length centric bore hole

D1 = Bore hole diameter

D2 = Plate bore diameter

D3 = Outer diameter

RM = Round, stranded

SM = Sector-shaped, stranded

RE = Round, massive

SE = Sector-shaped, massive

Type	L mm	L1 mm	D1 mm	D2 mm	D3 mm	Number of bolts	Art.-No.
CSK	6-50	65	30	9.4	13	22	1
	16-95	65	30	12.5	13	22	1
	50-150	80	35	16	13	28	1
	95-240	110	60	20	13	33	2
	95-240 DM17	110	60	20	17	33	2
	240-400	135	75	26	16.5	40	2



HE 1/70/150

Branch clamp

for low voltage

For branching of 4-core SM/SE low voltage cables up to 1 kV.

Characteristics

- Consists of sectional blocks with contacts, separators and inner hexagonal screws
- Connection of branch cable in visible area above the main cable
- Can be installed / operated while under voltage
- Safe and easy to handle

Material

- Fixing system: Aluminum blank
- Contact system: Brass tinned

Application/Suitability

- House connections
- SM (Class 2)/SE (Class 1) according to DIN EN/IEC 60228 (VDE 0295)



Scope of delivery

Branch clamp, insulating wedges, assembly instructions

SM = Sector-shaped, stranded

SE = Sector-shaped, massive

RM = Round, stranded

Type	Number of conductors	Nominal cross section Main cable mm ²		Nominal cross section Branch cable SE,SM, RM mm ²	Art.-No.
		SE	SM		
HE 1/70/150	4	95 - 150	70 - 120	16 - 50	193644



Compact ring clamp

Branch clamp

for low voltage

Branch clamp for aluminium sector shaped conductors.

Characteristics

- Contact screws can be accessed from the side or from above
- No stripping of wires
- Can be installed / operated while under voltage
- Safe and easy to handle

Material

- Aluminium blank

Application/Suitability

- For 3- or 4-core cables with PVC, XLPE (VPE) insulation
- RM (class 2), SE (class 1) according to DIN EN/IEC 60228 (VDE 0295)



Scope of delivery

Branch clamp

D = Circumscribed diameter

RM = Round, stranded

SE = Sector-shaped, massive

Type	Number of conductors	D mm	Cu/RM	Al/SE	Branch cable	1	2	Art.-No.	
						Cross section mm ²	Width across flat mm		
Compact ring clamp	3x16-25/50	3	87	16 - 25		6 - 50	6	5	126194
	3x50/50	3	87	50 - 50		6 - 50	6	5	126195
	3x95/50	3	92	95 - 95		6 - 50	6	5	126197
	3x95/50-120/50	3	87	95 - 120	150	16 - 50	6	5	126196
	3x150/50	3	92	150 - 150		6 - 50	6	5	126200
	3x150/150	3	126	150 - 150		50 - 150	8	8	126199
	3x240se/70	3	109		240	6 - 70	8	5	126201
	4x16/50	4	83	16 - 16		6 - 50	6	5	126202
	4x25/50	4	83	25 - 25	35	6 - 50	6	5	126204
	4x35/50	4	83	35 - 35	50	6 - 50	6	5	126205
	4x50/50	4	83	50 - 50	70	6 - 50	6	5	126206
	4x70/50	4	93	70 - 70	95	6 - 50	6	5	126207
	4x95-120/50	4	93	95 - 120	150	6 - 50	6	5	126208
	4x150se/50	4	131		150	50 - 150	8	8	126209
	4x240se/70	4	124		240	6 - 70	8	5	126211

AK**Screw branch clamp Al-Cu**

for cast resin straight-through and branch joints, for low voltage

Suitable for connecting and branching aluminium and copper conductors.

Characteristics

- Brass clamp tin-plated
- Divisible
- Halogen-free

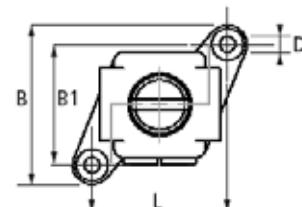
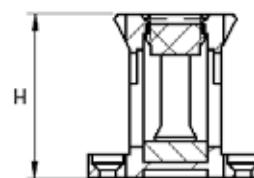
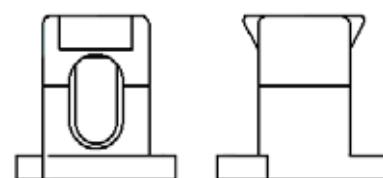
Standards

- EN 60998 -2-1:2004

Scope of delivery

Screw branch clamp

Note: Separable, main cable must not be cut.

**Dimensions**

Type	H mm	B mm	B1 mm	L mm	D mm
AK	6	16,75	29	15	3,2
	10	22,75	31	18	3,2
	16	26,25	32	21	3,2
	25-35	34	36	25	3,2

Type	PU Piece	Solid cable max. Nominal cross section mm ²		Stranded cable max. Nominal cross section mm ²		Tightening torque Nm	Art.-No.
		Main cable	Branch cable	Main cable	Branch cable		
AK	6	12	2,5 - 6	2,5 - 6	2,5 - 4	2,5 - 4	0,8
	10	12	4 - 10	4 - 10	4 - 6	4 - 6	1,2
	16	12	6 - 16	6 - 16	4 - 10	4 - 10	2,5
	25-35	12	16 - 35	16 - 35	10 - 25	10 - 25	2,5

FK**Split bolt clamp**

for cast resin straight-through and branch joints, for low voltage

For use as branch clamp or connector clamp for copper conductors.

Material

- Electrolyte copper

Scope of delivery

Split bolt clamp



Type	Height mm	Main cable Cross section mm ²	Diameter mm	Nominal cross section Branch cable mm ²	Width across flat in (mm)	Art.-No.
FK	10	10	5.5	2,5 - 10	0.75 (19)	410186
	16	16	5.5	2,5 - 16	0.75 (19)	410187
	25	25	6.9	4 - 25	0.75 (19)	410188
	35	35	8.1	4 - 35	0.95 (24)	410189
	50	50	9.6	10 - 50	1.07 (27.3)	410190
	95	70 - 95	14	10 - 95	1.35 (35.3)	410191
	150	120 - 150	16	16 - 150	1.4 (35.55)	410192

V, VI, VS**Screw connector Al-Cu**

for low voltage

Screw connector for aluminium and copper conductors with grub screws.

Characteristics

- V = Blank
- VI = Insulated
- VS = For heat shrinkable cable joints

Material

- Aluminium

Application/Suitability

- Cable conductors RM/SM (class 2), RE and SE (class 1) according to DIN EN/IEC 60228 (VDE 0295)

**Scope of delivery**

Screw connector

RM = Round, stranded

SM = Sector-shaped, stranded

SE = Sector-shaped, massive

RE = Round, massive

Type	RM	SM	SE	RE	Art.-No.	
Nominal cross section mm ²						
V = Blank						
V	4-16				4 - 16	126169
	16-50				16 - 50	126170
VI = Insulated						
VI	4-16				4 - 16	126172
	16-50				16 - 50	126164
	50-150			50 - 95	50 - 150	126165
VS = For heat shrinkable cable joints						
VS	4-50	4 - 35	4 - 35	4 - 50	4 - 50	126214
	50-150	35 - 150	35 - 120	50 - 150	50 - 95	166373

KP**Branch clamp**

for cast resin branch joints, for low voltage

Used for branching of copper cables and signal conductors.

Characteristics

- Plastic insulating housing with tinplated cutting contact
- Insulated cable exit allows assembly under voltage

**Scope of delivery**

Branch clamp

Type	W mm	H mm	Nominal cross section mm ²		Art.-No.
			main cable	branch cable	
KP	1.5-10	23	20	1.5 - 10	1.5 - 10 126216

AVS**Wire connector**

for telecommunication and signal cables, DIN 47627

Suitable for connecting polymeric-insulated telecommunication and signal cables e.g. in heat shrinkable telecommunication joints, as well as for modern building management systems (such as communication, telephone or surveillance systems and bus systems).

Characteristics

- Grease-filled to protect against corrosion
- Shock-resistant polymeric housing
- Reliable connection due to U contact principle
- Stripping, connection and insulation carried out in a single step
- Space-saving design, easy assembly
- High electrical insulating values
- High mechanical and thermal strength

Application/Suitability

- Not suitable for cable conductor class 5 (according to DIN EN/IEC 60228)

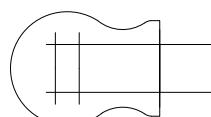
**Colours**

Transparent

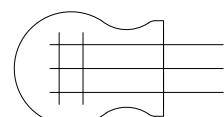
Scope of delivery

Wire connector

Note: For compression and a proper conductor/connector contact, use a suitable crimping tool.

Types

AVS2-9



AVS3-9

Type	Number of conductors	Conductor-Ø mm	Core-Ø mm	Art.-No.
AVS	2-9	0.4 - 0.9	2	145624
	3-9	0.4 - 0.9	2	145622

Technical data	Value	Test standard
Insulation resistance	106 MΩ	DIN 47627
Voltage strength between conductors	500 V	DIN 47627
Modification of contact resistance	2 mΩ	DIN 47627
Surge voltage resistance	5 kV	DIN 47627
Impulse current resistance	no burn marks in contact area	DIN 47627

DR, DR-L

Heat shrinkable crimp connector

insulated with heat shrinkable tube, with adhesive, for low voltage

Durable and reliable connector for application in areas under extreme conditions.
Hot melt adhesive completely seals the connection area.

Characteristics

- 100 % waterproof
- Superior electrical properties
- High mechanical strength

Application/Suitability

- Indoor

Note

- Length tolerance $\pm 4\%$



Scope of delivery

1 PU heat shrinkable crimp connectors

Note: For compression and a proper conductor/heat shrinkable compression connector contact, use a suitable crimping tool.

Colours



Type	Length mm	Colours	PU Piece	Nominal cross section mm ²	Art.-No.
DR	1	Red	20	0.5 - 1.5	125914
	1	Red	100	0.5 - 1.5	145626
	2	Blue	20	1.5 - 2.5	125915
	2	Blue	100	1.5 - 2.5	145627
	3	Yellow	20	4 - 6	125916
	3	Yellow	100	4 - 6	145628
DR-L	2	Blue	20	1.5 - 2.5	368488
	2	Blue	100	1.5 - 2.5	369069

Technical data	DR	DR-L
Tensile strength	10.4 MPa	16 MPa
Heat resistance (168 h at 175 °C)	No breaking	No breaking
Heat shock (4 h at 225 °C)	No breaking	No breaking
Temperature range	-40 °C up to 105 °C	-55 °C up to 125 °C
Shrinkage temperature	< 150 °C	< 80 °C
Corrosion	None	None
Water absorption	max. 0.5 %	max. 0.5 %
Max. Voltage	600 V	600 V

CL

Earthing clamp

for low voltage

Suitable for CL-armouring and tape screens, for earthing of cable ends and for continuity in straight-through joints.

Material

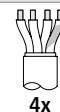
- Copper tin-plated

Application/Suitability

- Enables solder-free electrical connection for armourings and cable screens

Scope of delivery
Earthing clamp

**Polymeric cable
unarmoured**



Type	Cross section transition mm ²	Nominal cross section per conductor mm ²	Art.-No.
CL	6	≤ 6	126301
	16	≤ 16	126302

EGA**Earthing set for Cable Joints type CHMSV3 & CHMSV3-1**

for connection of polymeric insulated cables with tape screen

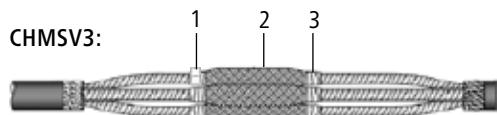
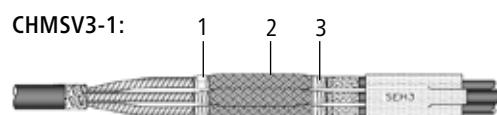
EGA earthing set for cable joints CHMSV3 & CHMSV3-1 is suitable for connection of three core cables with copper or aluminum tape screen. Kit components: 3 copper braided tubes and 6 pressure springs.

Eigenschaften

- Quick, safe and easy assembly
- Superior electrical properties
- High mechanical strength

Anwendung/Eignung

- Earthing continuity and earth bonding
- For cable joints type CHMSV3 & CHMSV3-1
- Enable solder-free electrical connection of metal cable components (cable screen)



1 = Pressure spring
2 = Copper braid
3 = PVC tape

Scope of delivery

1 set for 3 phases: Copper braided tubes, pressure springs RF

Type	L Copper braided tube mm	Pressure spring	Copper braided tube Nominal cross section mm ²	Nominal cross section mm ²				Art.-No.
				12 kV	17.5 kV	24 kV	36 kV	
EGA	1	RF2	35	25 - 95 70 - 150	25 - 95	16 - 95	-	420576
	2	RF3	35	-	70 - 150	50 - 150	50 - 150	420577
	3	RF3	35	95 - 240	95 - 240	95 - 240	-	420578
	4	RF4	35	-	-	-	95 - 240	420646
	5	RF4	35	240 - 400	240 - 400	240 - 400	240 - 400	420647

* The earthing set must be selected according to the nominal cross section of the selected joint.

EGA**Earthing set for cable terminations**

for cables with tape screen and/or armouring for cable terminations, for low and medium voltage

EGA earthing set for cable terminations for 1-core cables with copper tape or aluminium screen (Fig. 1) and for unarmoured 3-core cables (Fig. 3).

Kit components: 3 flat-rolled copper earth braids and 3 pressure springs.

Characteristics

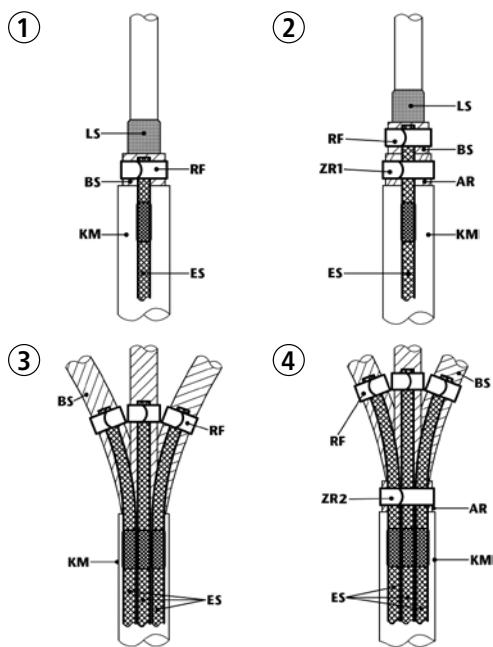
- Quick, safe and easy assembly
- Superior electrical properties
- High mechanical strength

Application/Suitability

- Earthing continuity and earth bonding
- For cast resin, heat shrinkable and slip-on cable accessories
- Enables solder-free electrical connection of metal cable components (screen, armouring, metal sheath)

Termination types

- ① 1-core cables with copper tape or aluminium screens unarmoured
- ② 1-core cables with copper tape or aluminium screens armoured, please order extra pressure spring (ZR1)
- ③ 3-core cables with copper tape or aluminium screens unarmoured
- ④ 3-core cables with copper tape or aluminium screens armoured, please order extra pressure spring (ZR2)

**Termination types**

LS = External conducting layer

BS = Cu-tape screen

KM = Cable sheath

RF = Type RF pressure spring

ES = Copper earth braid, flat tin-plated

AR = Armouring

ZR1 = Extra pressure spring 1-core

ZR2 = Extra pressure spring 3-core

Scope of delivery

1 set for 3 phases: Copper earth braids, pressure springs RF

Note: Additional pressure springs RF (ZR1/ZR2) for armoured cables to be ordered separately (see Accessories).

Type	L mm	Pressure spring	Copper earth braids		Nominal cross section mm ²					ZR1	ZR2	Art.-No.	
			Ø hole mm	Nominal cross section mm ²	7.2 kV	12 kV	17.5 kV	24 kV	36 kV				
EGA	16-2	500	RF 2	8.5	16	150	120	70	50	RF3	RF5	143502	
	16-3	500	RF 3	8.5	16	150 - 240	120 - 240	95 - 185	70 - 150	120	RF4	RF5	143503
	25-3	500	RF 3	10.5	25	150 - 500	120 - 500	95 - 300	70 - 300	70 - 240	RF4	RF6	143505
	25-4	500	RF 4	10.5	25					150 - 300	RF5	RF6	143506
	35-4	500	RF 4	10.5	35	500 - 1000	500 - 1000	400 - 800	300 - 800	185 - 500	RF5	RF6	143508
	35-5	500	RF 5	10.5	35			800 - 1000	800 - 1000	500 - 1000	RF6		143509

AUF**Armour transition for 3-core joints**

for armoured cables, for medium voltage

Armour continuity set for armoured 3-core cable joints.

Characteristics

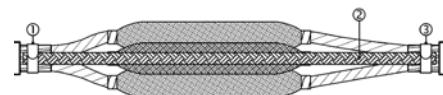
- Quick, safe and easy assembly
- Superior electrical properties
- High mechanical strength

Application/Suitability

- Earthing continuity and earth bonding
- For cast resin, heat shrinkable and slip-on cable accessories
- Enables solder-free electrical connection of metal cable components (screen, armouring, metal sheath)

**Scope of delivery**

1 set for 3 phases: Copper braid, pressure springs RF

Dimensions**L = Length**

1. Pressure spring
2. Copper braid
3. Pressure spring

Type	L mm	Pressure spring	Copper cord Nominal cross section mm ²	Nominal cross section mm ²					Art.-No.
				7.2 kV	12 kV	17.5 kV	24 kV	36 kV	
AUF	5	RF 5	35	300	240	240	150	70	195367
	6	RF 6	35	400	300 - 400	300 - 400	185 - 300	95 - 300	195368

RF**Pressure spring**

for permanently elastic contact

Characteristics

- Corrosion-resistant
- Fatigue-proof
- Guarantees consistent radial contact stress

Application/Suitability

- For cast resin, heat shrinkable and slip-on cable accessories
- Enables solder-free electrical connection of metal cable components (screen, armouring, metal sheath) and earthing elements (copper grounding wire, cooper mesh joint etc.)

Note

- Pressure springs are no current-carrying parts.

Material

- Special stainless steel

**Colours**

Brass

Scope of delivery

Pressure spring

Type	Width mm	Cable-Ø mm	Outer-Ø mm	Art.-No.
RF	0	6 - 10	5.7	126293
	0.5	9 - 14	8.5	126294
	1	13 - 22	13.0	126295
	2	17 - 28	17.5	126296
	3	24 - 37	21.5	126297
	4	33 - 49	29.0	126298
	5	44 - 70	37.8	126299
	6	55 - 92	51.3	126300

ELECTRICAL INSULATION AND MOUNTING TAPES



Electrical insulation and mounting tapes 226



Additional tapes 242



Miscellaneous 246

Overview: Cellpack Electrical insulation and mounting tapes / Additional tapes

Products	Properties						
	insulating	self-amalgamating	inscribable	stabilized against UV rays	conductive	heat-proof	colour-fast
Electrical insulation and mounting tapes							
No. 128	●	-	-	●	-	-	-
No. 228	●	-	-	●	-	-	-
No. 328	●	-	-	●	-	-	-
No. 90	-	-	●	-	-	-	-
No. 64	-	●	-	-	-	-	-
No. 63	-	-	-	-	●	-	-
No. 60, No. 62	●	●	-	●	-	-	-
No. 61	-	●	-	-	●	-	-
Premio 845	-	-	-	●	-	-	-
Premio 1130	●	-	●	-	-	●	-
Premio 1180	●	-	●	-	-	●	-
Premio 2281	-	-	-	-	●	-	-
Premio 5584	-	-	-	●	-	-	-
Additional tapes							
HKB	●	-	-	-	-	-	-
No. 26	-	-	-	-	-	-	●
No. 72	-	●	-	-	-	-	-
KRS	-	●	-	-	-	-	-

- available
- not available



No. 128

PVC insulation tape

for marking, bundling and insulating

Flexible, UV-resistant PVC insulation tape.

Characteristics

- Synthetic rubber adhesive
- Very good resistance to abrasion, corrosion and moisture
- Stabilized against UV rays
- High flexibility
- Withstands high electrical stresses
- Good adhesive properties
- Easy processing
- Oil-resistant
- Resistant to dilute acids and alkalis

Application/Suitability

- Sealing
- Padding of cable insulation
- Bundling
- Reinforcing
- As insulation of electrical and telecommunication cables
- Colour-coding

Test standards

- Approved according VDE Type IEC 60454-3-1-5/F-PVCP/90 (except transparent)

Material

- PVC



Colours

Black	Blue	Yellow	Red	White
Green	Violet	Grey	Brown	Orange
Green-Yellow	Transparent			

Scope of delivery

PVC insulation tape

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 128	Black	10	15	0.15	145821
	Blue	10	15	0.15	145825
	Yellow	10	15	0.15	145826
	Red	10	15	0.15	145827
	White	10	15	0.15	145828
	Green	10	15	0.15	145829
	Violet	10	15	0.15	145830
	Grey	10	15	0.15	145831
	Brown	10	15	0.15	145832
	Orange	10	15	0.15	145822
	Green-Yellow	10	15	0.15	145823
	Transparent	10	15	0.15	145824
	Black	10	19	0.15	145806
	Blue	10	19	0.15	145810
	Yellow	10	19	0.15	145811

→ Continued on the next page



→ Continuation

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 128	Black	25	19	0.15	145794
	Blue	25	19	0.15	145798
	Yellow	25	19	0.15	145799
	Red	25	19	0.15	145800
	White	25	19	0.15	145801
	Green	25	19	0.15	145802
	Violet	25	19	0.15	145803
	Grey	25	19	0.15	145804
	Brown	25	19	0.15	145805
	Orange	25	19	0.15	145795
	Green-Yellow	25	19	0.15	145796
	Transparent	25	19	0.15	145797
	Black	25	25	0.15	145773
	Transparent	25	25	0.15	145775
	Black	25	30	0.15	145784
	Yellow	25	30	0.15	145787
	White	25	30	0.15	145789
	Violet	25	30	0.15	145791
	Grey	25	30	0.15	145792
	Green-Yellow	25	30	0.15	145785
	Black	25	38	0.15	145771
	Black	25	50	0.15	145772

Technical data	Value	Test standard
min. Elongation at break	170 %	IEC 60454-2
Adhesive strength	1,8 N/cm	IEC 60454-2
Tensile strength	30 N/cm	IEC 60454-2
Dielectric strength	40 kV/mm	IEC 60454-2
Temperature index	0 °C - 90 °C	IEC 60454-2
Unwinding force	1.8 N/cm	IEC 60454-2



No. 228

PVC insulation tape

for marking, bundling and insulating

Flexible, UV-resistant PVC insulation tape.

Characteristics

- Synthetic rubber adhesive
- Moisture-resistant
- Oil-resistant
- Resistant to dilute acids and alkalis
- Stabilized against UV rays
- High flexibility
- Good adhesive properties
- Easy processing

Application/Suitability

- Sealing
- Padding of cable insulation
- Bundling
- Reinforcing
- As insulation of electrical and telecommunication cables
- Marking of insulation with high mechanical tension requirements

Test standards

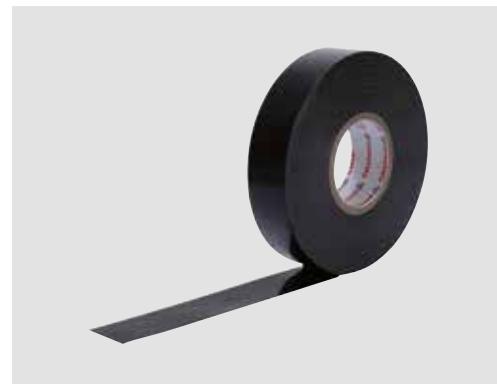
- Approved according VDE Type IEC 60454-3-1-5/F-PVCP/90

Material

- PVC

Scope of delivery

PVC insulation tape



Colours

Black	Blue	Yellow	Red	White
Green	Violet	Grey	Brown	Green-Yellow
				Mix

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 228	Black	20	12	0.18	390322
	Black	20	15	0.18	390324
	Black	10	19	0.18	390325
	Mix (Black, Blue, Yellow, Red, White, Green, Violet, Grey, Brown, Green-Yellow)	10	19	0.18	390345
	Black	20	19	0.18	390334
	Blue	20	19	0.18	390327
	Yellow	20	19	0.18	390328
	Red	20	19	0.18	390333
	White	20	19	0.18	390336
	Green	20	19	0.18	390330
	Violet	20	19	0.18	390335
	Grey	20	19	0.18	390329
	Brown	20	19	0.18	390326
	Green-Yellow	20	19	0.18	390331
	Mix (Black, Blue, Yellow, Red, White, Green, Violet, Grey, Brown, Green-Yellow)	20	19	0.18	390346
	Black	20	25	0.18	390337
	Black	20	30	0.18	390338
	Black	20	38	0.18	390340
	Grey	20	38	0.18	390339
	Black	20	50	0.18	390343
	Red	20	50	0.18	390342
	White	20	50	0.18	390344
	Grey	20	50	0.18	390341

Technical Data	Value	Test standard
min. Elongation at break	180 %	IEC 60454-2
Adhesive strength	1,8 N/cm	IEC 60454-2
Tensile strength at break	35 N/cm	IEC 60454-2
Dielectric strength	40 kV/mm	IEC 60454-2
Temperature index	0 °C - 90 °C	IEC 60454-2
Unwinding force	1,8 N/cm	IEC 60454-2

**No. 328****PVC insulation tape**

for insulation and bundling

Particularly flexible and UV-resistant PVC electrical insulation tape.

Characteristics

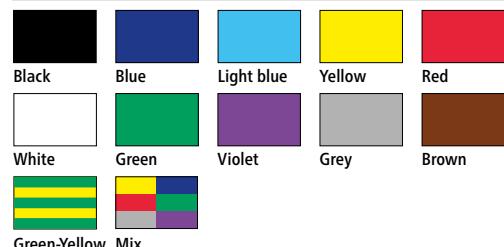
- High flexibility
- Moisture-resistant
- Oil-resistant
- Resistant to dilute acids and alkalis
- Stabilized against UV rays
- Easily processed even at low temperatures
- Weatherproof
- Self-extinguishing

Application/Suitability

- Sealing
- Padding of cable insulation
- Bundling
- Reinforcing
- As insulation of electrical and telecommunication cables
- Marking of insulation with high mechanical tension requirements

Test standards

- Approval according to VDE pending
- Material
- Soft-PVC

**Scope of delivery**

PVC insulation tape

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 328	Black	20	12	0.18	416717
	Black	20	15	0.18	416721
	Black	10	19	0.18	416722
	Black	20	19	0.18	416770
	Blue	20	19	0.18	416771
	Light blue	20	19	0.18	416772
	Yellow	20	19	0.18	416773
	Red	20	19	0.18	416774
	White	20	19	0.18	416775
	Green	20	19	0.18	416776
	Violet	20	19	0.18	416777
	Grey	20	19	0.18	416778
	Brown	20	19	0.18	416779
	Green-Yellow	20	19	0.18	416780
	Mix (Black, Blue, Yellow, Red, White, Green, Violet, Grey, Brown, Green-Yellow)	20	19	0.18	416781
	Black	20	25	0.18	416782
	Black	20	30	0.18	416783
	Black	20	38	0.18	416784
	Grey	20	38	0.18	416785
	Black	20	50	0.18	416786
	Red	20	50	0.18	416787
	White	20	50	0.18	416788
	Grey	20	50	0.18	416789

Technical Data	Value	Test standard
Thickness	0.18 mm	IEC 60454-2
Tensile strength at break	35 N/cm	IEC 60454-2
Elongation at break	300 %	IEC 60454-2
Unwinding force	3.5 N/cm	IEC 60454-2
Adhesion to steel	3,0 N/cm	IEC 60454-2
Adhesion to surfaces	2,4 N/cm	IEC 60454-2
Flammability	Self-extinguishing	IEC 60454-2
Dielectric strength	45 kV/mm	IEC 60454-2
Elastic modulus to 35%	3.5 MPa	IEC 60454-2
Temperature index	-10°C to +90°C	IEC 60454-2

**No. 90****Cotton cloth tape**

for marking and labeling

High quality waterproof sealing cotton cloth tape with synthetic rubber adhesive.

Characteristics

- Synthetic rubber adhesive
- Hard-wearing
- Can be labelled at all times
- Easy to tear
- Easy to unroll
- Superior ageing resistance
- Can be adjusted to suit the form better
- Excellent adherence to a wide range of substances
- Easy processing

Application/Suitability

- Marking
- Labelling
- Affixing
- Bundling

Material

- Coated cotton

**Scope of delivery**

Cotton cloth tape

Colours

	Black		Blue		Yellow		Red		White
	Green		Grey		Brown				

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 90	Black	50	12	0.31	146012
	Yellow	50	12	0.31	146016
	Red	50	12	0.31	146018
	White	50	12	0.31	146020
	Grey	50	12	0.31	146024
	Black	25	15	0.31	145938
	Yellow	25	15	0.31	145941
	White	25	15	0.31	145945
	Grey	25	15	0.31	145948
	Black	50	15	0.31	146028
	Blue	50	15	0.31	146030
	Yellow	50	15	0.31	146032
	Red	50	15	0.31	146034
	White	50	15	0.31	146036
	Green	50	15	0.31	146038
	Grey	50	15	0.31	146040
	Black	25	19	0.31	145951
	Yellow	25	19	0.31	145954
	White	25	19	0.31	145957
	Grey	25	19	0.31	145961
No. 90	Black	50	19	0.31	146044
	Blue	50	19	0.31	146046
	Yellow	50	19	0.31	146048
	Red	50	19	0.31	146050
	White	50	19	0.31	146052
	Green	50	19	0.31	146054
	Grey	50	19	0.31	146056
	Brown	50	19	0.31	146058
	Black	25	25	0.31	145964
	Yellow	25	25	0.31	145967
	White	25	25	0.31	145970
	Grey	25	25	0.31	145973

→ Continued on the next page



→ Continuation

No. 90 Cotton cloth tape

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 90	Black	50	25	0.31	146060
	Yellow	50	25	0.31	146064
	Red	50	25	0.31	146066
	White	50	25	0.31	146068
	Grey	50	25	0.31	146072
	Black	25	50	0.31	145988
	Yellow	25	50	0.31	145991
	White	25	50	0.31	145994
	Grey	25	50	0.31	145997
	Black	50	50	0.31	146107
	Blue	50	50	0.31	146109
	Yellow	50	50	0.31	146111
	Red	50	50	0.31	146113
	White	50	50	0.31	146115
	Grey	50	50	0.31	146119

Technical data	Value
min. Elongation at break	10 %
Adhesive strength on steel	1.7 N/cm
Unwinding force	2.5 N/cm



No. 64

Sealing tape

for permanently flexible sealing, self-amalgamating

Universally suitable, auto-amalgamating, to seal homogeneously or upholstering cables and conductors.

Characteristics

- Self-amalgamating
- Corrosion-resistant
- Ozone-resistant
- Permanently flexible
- Excellent adherence to metal, glass, rubber and plastic
- Superior physical properties

Application/Suitability

- Sealing of cable and conductor interstices
- Repairing of damaged cable sheaths
- Water-resistant sealing of cable entry points
- Padding of cable insulation
- Suitable for connections using acrylic and epoxy resin compounds
- Protection against dust, moisture and corrosion

Material

- Butyl-/Rubber based



Colours



Black

Scope of delivery

Sealing tape

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 64	Black	1.5	38	3.2	125591

Technical data	Value
Dielectric strength	23 kV/mm
Specific volume resistivity	$1 \times 10^{12} \text{ M}\Omega$
Tensile strength	0.1 MPa
Heat resistance	-30 °C - 80 °C

**No. 63****Copper braid tape**

for shielding and potential control

Characteristics

- Wrinkle-free application to all contours
- High flexibility
- Unbreakable

Application/Suitability

- Earthing continuity and earth bonding
 - Electrostatic shielding continuity
 - Semi-conducting continuity for connectors
 - Voltage grading continuity
- Material**
- Braided tinned copper wires

Scope of delivery

Copper braid tape

**Colours**

Silver

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 63	Silver	5	25	0.5	126313
	Silver	9.1	25	0.5	126303
	Silver	5	60	0.5	126315
	Silver	10	60	0.5	126316



No. 60, No. 62

High voltage insulation tape

for insulation and padding, self-amalgamating

Characteristics

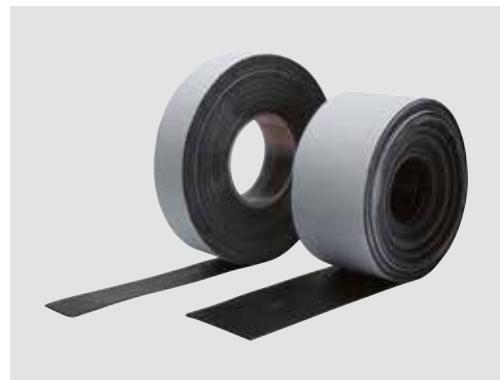
- Self-amalgamating
- Fuses to form a homogeneous, cavity-free compound within a short period of time
- Fully removable
- Durable
- Ozone-resistant
- Weatherproof
- Stabilized against UV rays
- No electrolytic corrosion
- Non tacky
- Extremely ductile
- Superior electrical properties
- Excellent adherence to a wide range of substances
- Superior physical properties
- Easy processing

Application/Suitability

- Conductor insulation for polymeric insulated cables up to 69 kV
- Padding of cable insulation
- Sealing of casting moulds
- Repairing and connection of various insulating and cable materials e.g. PE, XLPE, EPR, PVC, butyl, neoprene

Material

- EPR-Base



Colours



Black

Scope of delivery

High voltage insulation tape

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 60	Black	10	19	0.5	125533
	Black	10	19	0.75	145908
No. 62	Black	5	38	0.75	125584
	Black	10	38	0.75	125589

Technical data	Value
min. elongation at break	900 %
Tensile strength at break	3 MPa
Dielectric constant	2.8
Dissipation factor (50 Hz)	0.0050
Dielectric strength	42 kV/mm
Specific volume resistivity	$1 \times 10^{13} \text{ M}\Omega$
Water absorption	0.05 %
Temperature range	
min.	-40 °C
max.	100 °C



No. 61

Conductive tape

to control electric fields, self-amalgamating

Characteristics

- Printed „CAUTION-CONDUCTING TAPE“ to eliminate danger of confusion
- Self-amalgamating
- Fuses to form a homogeneous, cavity-free compound within a short period of time
- Durable
- Ozone-resistant
- No electrolytic corrosion
- Highly flexible
- Superior physical properties

Application/Suitability

- Repairing of semi-conducting layer in medium voltage cables
- Electrical field smoothing
- For smoothing rough surfaces of connectors and cable lugs

Material

- EPR-Base



Scope of delivery

Conductive tape

Colours



Black

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 61	Black	4.6	19	0.76	125604
	Black	9.1	19	0.76	125590

Technical data	Value
Elongation at break	900 %
Tensile strength at break	3 MPa
Specific volume resistivity	10 Ω x cm
Temperature range	-40 °C up to 100 °C



Premio 845

Tape for cable bundle

for short-circuit-resistant bundling and cable fixing

Fibreglass-reinforced polyester tape on one side coated with adhesive.

Characteristics

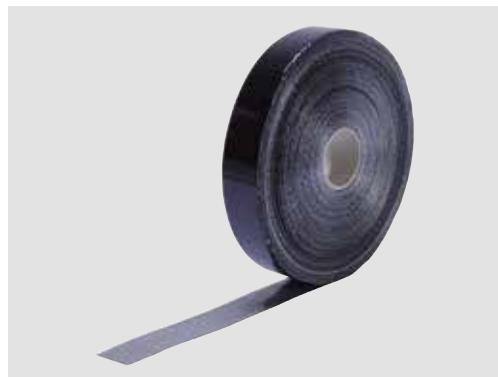
- Stable core
- Moisture-resistant
- Stabilized against UV rays
- Extreme tear resistance
- Excellent adhesion to a variety of materials
- Weatherproof

Application/Suitability

- Short-circuit-resistant bundling of cables
- Affixing of cables
- Especially suitable for fixation systems under mechanical tension

Material

- PES/Fibreglass reinforced



Scope of delivery

Tape for cable bundle

Formular for number of tape layers and bundling distances

$$\text{Maximum distance between 2 bundlings } L_{\max} = 280 \times \frac{d^2}{I}$$

$$\text{Layers of tape } n \text{ for chosen } L_{\max} : n = \frac{I^2 \times L_{\max}}{5700 \times d \times b} + 1$$

I = Short circuit in kA

d = Cable diameter in cm

b = Tape width in cm

L_{max} = Bundling distances in cm

Colours



Black

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
Premio 845	Black	20	19	0.18	223592
	Black	50	19	0.18	223591
	Black	50	25	0.18	223590
	Black	50	50	0.18	337978

Technical data	Value
min. Elongation at break	4.5%
Adhesive strength	3.8 N/cm
max. Long-term heat resistance	-30°C to +100°C



Premio 1130

Fibreglass tape 130 °C

for heat-proof electrical and mechanical insulation

Self-adhesive fibreglass tape coated with heat-hardening silicone adhesive, temperature-resistant up to 130 °C.

Characteristics

- Stable core
- Inscribable
- Extreme tear resistance
- Superior thermal stability

Application/Suitability

- Insulation of highly exothermic electrical components
- As a cable protection during welding and soldering
- As a protection wrapping against radiant heat

Material

- Fibreglass reinforcement



Scope of delivery

Fibreglass tape

Colours



White

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
Premio 1130	White	33	12	0.17	223585
	White	33	19	0.17	223583

Technical data	Value
min. Elongation at break	8 %
Adhesive strength	3.8 N/cm
Insulation resistance	1.5×10^3 MΩ
Dielectric strength	12.7 kV/mm
max. Long-term heat resistance	130 °C



Premio 1180

Fibreglass tape 180 °C

for heat-proof electrical and mechanical insulation

Self-adhesive fibreglass tape coated with heat-hardening silicone adhesive, temperature-resistant up to 180 °C.

Characteristics

- Particularly high temperature resistance
- Excellent mechanical strength
- Very good form adaptability
- Good solvent and paint resistance
- Extreme tear resistance
- Inscribable
- Stable core

Application/Suitability

- Insulation of highly exothermic electrical components
- As a cable protection during welding and soldering
- As a protection wrapping against radiant heat

Material

- Fibreglass reinforcement



Scope of delivery

Fibreglass tape

Colours



White

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
Premio 1180	White	33	15	0,17	222581
	White	33	25	0,17	223580

Technical data	Value
Elongation at break	8 %
Adhesive strength	3.8 N/cm
Tensile strength at break	300 N/cm
Insulation resistance	1.5×10^3 MΩ
Breakdown voltage	3,0 kV
max. Long-term heat resistance	180 °C



Premio 2281

Copper foil

for discharge of electrostatic charge and screening of components

Copper foil with conductive acrylic adhesive.

Characteristics

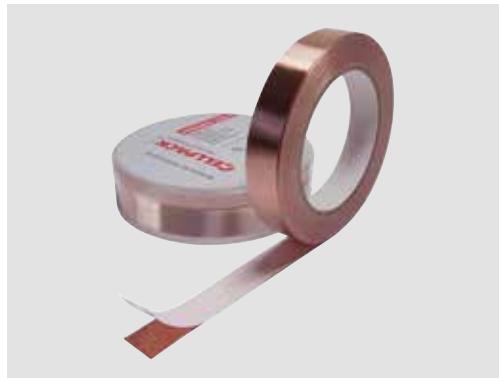
- Conductive acrylate adhesive
- Very good corrosion resistance
- Can be soldered
- In practical plastic box

Application/Suitability

- Discharge of electrostatic charge and screening of components and appliances against electro-magnetic fields

Material

- Copper foil



Scope of delivery

Copper foil

Colours



Copper

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
Premio 2281	Copper	33	9	0.06	223578
	Copper	33	12	0.06	223577
	Copper	33	19	0.06	223576

Technical data	Value
Adhesive strength	4.5 N/cm
Tensile strength	40 N/cm
Heat resistance	-20 °C - 150 °C



Premio 5584

Self-adhesive foam tape

for universal fixation

Double-sided all-purpose foam adhesive tape with high-quality acrylic adhesive.

Characteristics

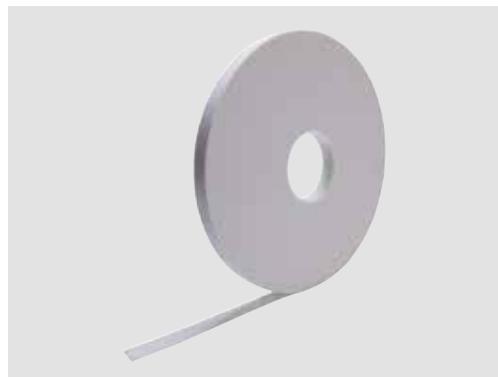
- Stable core
- Moisture-resistant
- Resistant to dilute acids and alkalis
- High UV-resistance
- Non-corrosive
- Double-sided acrylic adhesive
- High abrasion resistance

Application/Suitability

- Fastening of cable splicing lines
- For protection against electrolytic corrosion
- Waterproofing (minimum compression 20%)
- General adhesive and fastening tape

Material

- Polyethylene foam



Scope of delivery

Self-adhesive foam tape

Colours



White

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
Premio 5584	White	60	19	1	223575
	White	60	25	1	223574

Technical data	Value
Adhesive strength	7.2 N/cm
Working temperature min.	10 °C
max.	40 °C
Heat resistance min.	-40 °C
max.	100 °C

**HKB****Mastic tape**

for sealing, self-amalgamating

Characteristics

- Excellent adherence to metal, glass, rubber and plastic
- Superior physical properties
- Superior electrical properties

Application/Suitability

- Reinforcement of heat shrinkable sealed areas
- Sealing of cable terminations for Ceander cables

Material

- Butyl-/Rubber based

Scope of delivery

Mastic tape

**Colours**

Black

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
HKB	Black	3	20	3	127651

Technical data	Value
Service temperature	-40 °C - 80 °C
Short-term (up to 1 hour)	200 °C



No. 26

Warning tape

for warning of cable presence in case of excavation work

Characteristics

- Printing protected by transparent film
- Durable, elasticity retained at low temperatures
- Colour-fast, luminescent
- Increases the effectiveness of the warning prior to tearing due to 400 % stretchability

Application/Suitability

- Warning about the cables located in the ground (in case of excavation work)

Note

- Optimal position 40 cm above the feeder

Material

- Polyethylene laminated foil



Scope of delivery

Warning tape (Tapes and imprints are available in various colours, see order details.)

Note: Other types available on request.

Colours



Red/White



Yellow



White

Type	Colours	Imprint	Length m	Width mm	Thickness mm	Art.-No.
No. 26	Red/White	without imprint	500	80	0.08	125583
	Yellow	Achtung Starkstromkabel*	250	40	0.15	145865
	Yellow	Achtung Straßenbeleuchtung*	250	40	0.15	145867
	Yellow	Achtung Kabel*	250	40	0.15	145862
	Yellow	Achtung Fernmeldekabel*	250	40	0.15	145864
	Yellow	Achtung Gasleitungen Attention conduites de gaz Attenzione condotte di gas Danger - Gas pipes Opgelet - Gasleiding Varning Gasledning	250	100	0.10	125628
	White	Achtung - Kabel - Gefahr Attention - câble - danger Attenzione - cavo - pericolo Attention - Cable - Danger Opgelet - Kabel - Gevaar Varning Elkabel	250	100	0.10	125626
	White	Achtung Wasserleitungen Attention Conduites d'eau Attenzione Condotti d'acqua Danger - Water Pipes Opgelet - Waterleiding Varning Vattenledning	250	100	0.10	125629
	White	Achtung TV Kabel Attention TV Cable Attenzione TV Cavo Attention TV Cable Opgelet TV Kabel Varning TV Elkabel	250	100	0.10	125627

*The imprint on the tape is written in german.



No. 72

Repair tape

for repairing damaged cable sheaths, self-amalgamating

Characteristics

- Self-amalgamating
- 100 % waterproof
- Superior physical and electrical properties
- Exceptional resistance to prolonged immersion in water and against ozone
- Residue-free dissolvability of most substrates and therefore suitable for temporary repairs

Application/Suitability

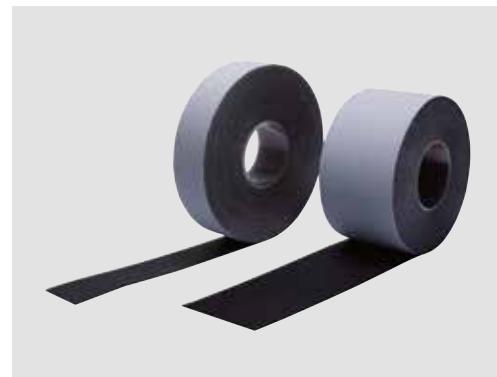
- Repair of damaged cable sheaths

Note

- The use of a repair joint, such as MZ cast resin straight-through joint, is mandatory in case of damage extending beyond the cable sheath to the core insulation, screen or armour.

Material

- PIB-Base



Scope of delivery

Repair tape

Colours



Black

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
No. 72	Black	10	25	0.75	125587
	Black	10	50	0.5	125624

Technical data	Value	Tests
min. Elongation at break	900 %	BS 903
Tensile strength	2 MPa	ASTM D150
Specific volume resistivity	$1 \times 10^{13} \Omega/\text{cm}$	ASTM D 257
Dielectric strength	42 kV/mm	ASTM D 149
Heat resistance	-40 °C - 90 °C	

**KRS****Repair kit**

for repairing damaged cable sheaths, incl. accessories

Characteristics

- Kit content defined by the praxis

Note

- See the repair tape „No. 72“ for further information on product properties and technical data

Application/Suitability

- Repair of damaged cable sheaths

Note

- The use of a repair joint, such as MZ cast resin straight-through joint, is mandatory in case of damage extending beyond the cable sheath to the core insulation, screen or armour.

**Scope of delivery**

Repair tape No. 72, cleaning tissue, emery cloth, assembly instructions

Type		Art.-No.
KRS	1	145911

HB**Hot melt adhesive**

for sealing against humidity

Characteristics

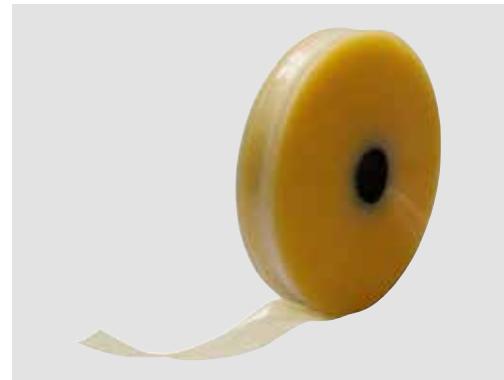
- Fusible
- Supplied as tape
- Halogen-free

Application/Suitability

- Waterproof sealing for heat shrinkable products

Scope of delivery

Hot melt adhesive

**Colours**

Transparent

Type	Colours	Length m	Width mm	Thickness mm	Art.-No.
HB	Transparent	50	25	0.25	130837

ACCESSORIES

	Cable ties	248
	Tools	254
	Chemical products	259
	Miscellaneous	274



KS

Cable tie

Standard

Characteristics

- Smooth, rounded edges for safe and easy handling and assembly
- Internal gearing and rounded-off end to facilitate take-up, insertion and tightening
- Resistant to alkaline earth elements
- Resistant to mould and oil
- Stabilized against UV rays (colour: Black)
- Resistant to dilute acids and alkalis
- Halogen-free
- Flame retardant
- Silicone-free

Application/Suitability

- Bundling
- Affixing

Note

- Dimension tolerance $\pm 5\%$

Material

- Polyamid 6.6

Minimum holding force

- Under standard conditions correspond to 1 kg = 9.81 N

Test standards

- EN 62275

Storage conditions/Shelf life

- Ideal storage conditions are at 23 °C and 50 % relative humidity
- After opening the bag, cable ties must be used rapidly



Colours



Black



Natural

Scope of delivery

1 PU cable ties

Type	Colours	Width mm	Length mm	min. holding force N	max. bundle-Ø mm	PU pieces	Art.-No.
KS	2.5/100	Black	2.5	100	88	24	100
	2.5/100	Natural	2.5	100	88	24	146409
	2.5/135	Black	2.5	135	88	35	100
	2.5/135	Natural	2.5	135	88	35	146454
	2.5/200	Black	2.5	200	88	55	100
	2.5/200	Natural	2.5	200	88	55	146414
KS	3.5/140	Black	3.5	140	176	36	100
	3.5/140	Natural	3.5	140	176	36	146419
	3.5/200	Black	3.5	200	176	55	100
	3.5/200	Natural	3.5	200	176	55	146452
	3.5/280	Black	3.5	280	176	80	100
	3.5/280	Natural	3.5	280	176	80	146424
KS	4.5/200	Black	4.5	200	216	51	100
	4.5/200	Natural	4.5	200	216	51	146428
	4.5/280	Black	4.5	280	216	76	100
	4.5/280	Natural	4.5	280	216	76	146433
	4.5/360	Black	4.5	360	216	101	100
	4.5/360	Natural	4.5	360	216	101	146435
KS	7.5/320	Black	7.5	320	588	88	100
	7.5/320	Natural	7.5	320	588	88	146437
	7.5/360	Black	7.5	360	588	101	100
	7.5/360	Natural	7.5	360	588	101	146440
	7.5/750	Black	7.5	750	588	220	100
	7.5/750	Natural	7.5	750	588	220	146443
KS	9.0/780	Black	9.0	780	800	235	100
	9.0/780	Natural	9.0	780	800	235	146449
KS	12.5/500	Black	12.5	500	1140	140	50
	12.5/500	Natural	12.5	500	1140	140	146445
	12.5/1000	Black	12.5	1000	1140	300	50
	12.5/1000	Natural	12.5	1000	1140	300	146447

Technical Data	Value
Flammability rating	UL94 V2
Mounting temperature	-5 °C up to +40 °C
Operation temperature	-40 °C up to +85 °C



KSMZ

Cable tie

with metal latch

Characteristics

- For demanding applications
- Smooth, rounded edges for safe and easy handling and assembly
- Internal gearing and rounded-off end to facilitate take-up, insertion and tightening
- Resistant to alkaline earth elements
- Resistant to mould and oil
- Stabilized against UV rays (colour: Black)
- Resistant to dilute acids and alkalis
- Halogen-free
- Flame retardant
- Silicone-free

Application/Suitability

- Bundling
- Affixing

Note

- Dimension tolerance $\pm 5\%$

Material

- Polyamid 6.6

Minimum holding force

- Under standard conditions correspond to 1 kg = 9.81 N

Test standards

- EN 62275

Storage conditions/Shelf life

- Ideal storage conditions are at 23 °C and 50 % relative humidity
- After opening the bag, cable ties must be used rapidly



Colours



Black



Natural

Scope of delivery

1 PU cable ties

Type	Colours	Width mm	Length mm	min. holding force N	max. bundle-Ø mm	PU pieces	Art.-No.
KSMZ	2.5/100	Black	2.5	100	135	24	100
	2.5/100	Natural	2.5	100	135	24	100
	2.5/200	Black	2.5	200	135	55	100
	2.5/200	Natural	2.5	200	135	55	100
KSMZ	3.5/140	Black	3.5	140	200	36	100
	3.5/140	Natural	3.5	140	200	36	100
	3.5/200	Black	3.5	200	200	55	100
	3.5/200	Natural	3.5	200	200	55	100
	3.5/280	Black	3.5	280	200	80	100
	3.5/280	Natural	3.5	280	200	80	100
	3.5/360	Black	3.5	360	200	101	100
	3.5/360	Natural	3.5	360	200	101	100
KSMZ	4.5/186	Black	4.5	186	350	51	100
	4.5/186	Natural	4.5	186	350	51	100
	4.5/290	Black	4.5	290	350	76	100
	4.5/290	Natural	4.5	290	350	76	100
	4.5/360	Black	4.5	360	350	101	100
	4.5/360	Natural	4.5	360	350	101	100
KSMZ	7.0/340	Black	7.0	340	600	95	50
KSMZ	7.0/340	Natural	7.0	340	600	95	50
KSMZ	7.5/360	Black	7.5	360	700	101	50
	7.5/360	Natural	7.5	360	700	101	50

Technical Data

Flammability rating

Value

UL94 V2

Mounting temperature

-5 °C up to +40 °C

Operation temperature

-40 °C up to +85 °C



Cable ties

KSWO

Cable tie

reusable

Characteristics

- Multiple reusability due to resetting option
- Internal gearing and rounded-off end to facilitate take-up, insertion and tightening
- Resistant to alkaline earth elements
- Resistant to mould and oil
- Stabilized against UV rays (colour: Black)
- Resistant to dilute acids and alkalis
- Halogen-free
- Flame retardant
- Silicone-free

Application/Suitability

- Bundling
- Affixing

Note

- Dimension tolerance $\pm 5\%$

Material

- Polyamid 6.6

Minimum holding force

- Under standard conditions correspond to 1 kg = 9.81 N

Storage conditions/Shelf life

- Ideal storage conditions are at 23 °C and 50 % relative humidity
- After opening the bag, cable ties must be used rapidly



Colours



Black



Natural

Scope of delivery

1 PU cable ties

Type	Colours	Width mm	Length mm	min. holding force N	max. bundle-Ø mm	PU pieces	Art.-No.
KSWO	Black	7.5	200	280	50	100	371762
	Natural	7.5	200	280	50	100	371761
	Black	7.5	280	280	76	100	371764
	Natural	7.5	280	280	76	100	371763
	Black	7.5	360	280	100	100	371766
	Natural	7.5	360	280	100	100	371765

Technical Data	Value
Flammability rating	UL94 V2
Mounting temperature	-5 °C up to +40 °C
Operation temperature	-40 °C up to +85 °C



KZB

Fastening element

for cable ties

Characteristics

- Adhesive film to facilitate installation in hard-to-reach areas
- Resistant to water, cleaning agents and alcohol
- Conditionally resistant to aliphatic and aromatic solvents
- Self-extinguishing

Application/Suitability

- Affixing of cable ties
- Prefabrication or subsequent assembly e.g. of office equipment, lifts, motor vehicles and control cubicles

Material

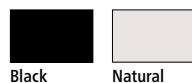
- Polyamid 6.6

Scope of delivery

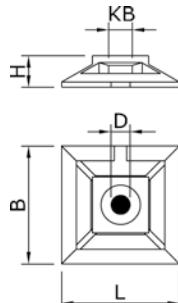
1 PU fastening elements



Colours



Dimensions



KB = max. width of the cable tie

Type	Colours	L mm	B mm	D mm	H mm	KB mm	PU pieces	Art.-No.	
KZB2K	4	Black	19	19	4.75	4.5	4	100	371768
	4	Natural	19	19	4.75	4.5	4	100	146484
KZB2K	5	Black	27	27	4.75	6.0	5	100	371769
	5	Natural	27	27	4.75	6.0	5	100	146486



MDKS

Plastic dowels

for cable ties

Characteristics

- With strong slats and a stable head for perfect hold
- Resistant to alkaline earth elements
- Resistant to mould and oil
- Stabilized against UV rays (colour: Black)
- Resistant to dilute acids and alkalis
- Halogen-free
- Flame retardant
- Silicone-free

Application/Suitability

- Affixing

Note

- Dimension tolerance $\pm 5\%$

Material

- Polyamid 6.6

Storage conditions/Shelf life

- Ideal storage conditions are at 23 °C and 50 % relative humidity
- After opening the bag, cable ties must be used rapidly



Scope of delivery

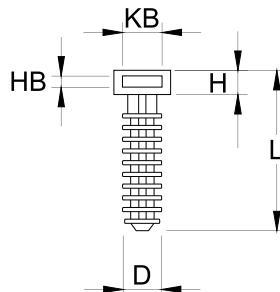
1 PU Plastic dowels

Colours



Black

Dimensions



KB = max. width of the cable tie

Type	L mm	HB mm	KB mm	H mm	D mm	Drilling mm	PU pieces	Art.-No.
MDKS	8/36	36	2,5	9	6,3	8	6	100
	10/41	41	3,0	9	6,3	10	8	100

Technical Data	Value
Flammability rating	UL94 V2
Mounting temperature	-5 °C up to +40 °C
Operation temperature	-40 °C up to +85 °C



CM Cable marker

for marking cables and conductors

Characteristics

- Can be labelled
- Moisture-resistant
- Oil-resistant
- Stabilized against UV rays

Application/Suitability

- Permanent marking for cables and conductors

Scope of delivery

1 PU cable markers



Type	Length mm	Thickness mm	max. Cable-Ø mm	Label area size height x width mm	PU pieces	Art.-No.
CM 10	75	0.08	13	23 x 25	60	124088
CM 20	150	0.08	33	23 x 25	30	124089

**CPB****Heat shrink torch kit**

for installation of heat shrinkable products

Characteristics

- User-friendly rotating tube connector
- Gas supply shuts off automatically if burner head is not installed
- Minimal risk of overheating
- Flame extinguishes immediately upon releasing push button
- Continuously adjustable flame
- Bayonet fitting facilitates substitution of burner head
- Quick-starting piezo ignition

Application/Suitability

- Suitable for heat shrinkable tubes
- Shrinking of heat shrinkable polyolefine products (caps, sleeves etc.)

Caution note

- Warning: Liquid gas is heavier than air. Strictly adhere to safety instructions provided with heat shrink torch kit.

**Scope of delivery**

Wooden case with aluminium profile with components (see order details)

Note: Individual components may also be ordered separately.

Type		Art.-No.
CPB	5 (Set)	146765
	6 (Set)	146766

Type	CPB 5 Set-components	CPB 6 Set-components	Length m	Content ml	Art.-No.
Handle CPB 5/6 with piezo ignition	•	•			146781
Needle point burner (with elbow)	•	•			146782
Heat shrink burner (with elbow)	•	•			146783
Hot-air torch (with elbow)	•	•			146784
Gas tube HD 4.4 R 3/8" li x R 3/8" li	•	•	4		146769
Anti-rupture device for tubing R 3/8" x 3/8" li	•	•			146770
Pressure controller device R 3/8" x 3/8" li	•	•			146780
Pressure controller DIN/Combo 21.8-14 LH x R 3/8 LH	•				123960
Refill connector for small gas bottle, DIN Combo		•			146786
Small gas bottle, refillable		•		400	146785

- included in scope of delivery



AMX-HPT 310

Mechanical caulking gun

suitable for cartridges up to 310 ml volume

Robust caulking gun in professional quality for usage with automatic cast resin mixing system AMX-C or standard cartridges.

Characteristics

- Sturdy cartridge holder made of sheet steel
- Hardened plunger rod
- Corrosion resistant catch plate made of high-tensile steel
- Low extrusion resistance for precise dosing

Application/Suitability

- Perfect fit for AMX-C265-EGK
- Suitable for standard cartridges
- For low and high viscosity cartridge



Scope of delivery

Caulking gun AMX-HPT 310

Type	Art.-No.
AMX-HPT 310 Caulking gun	311684



Counter-holder Assembly help

for screw connectors type CSV and screw cable lugs type CSK

The counter-holder is designed as mounting help for the installation of screw connectors and screw cable lugs with a diameter of 14 to 40 mm.

Scope of delivery

Counter-holder, reduction prism



Type	Art.-No.
Counter-holder	255404



CP-FLM20 Multi tool

for the preparation of medium voltage cables

The multi tool is designed for cutting and stripping of the outer cable sheaths and the conductor insulation, as well as for removal of cold-strippable semi-conductive layers.

Characteristics

- Suitable for cables with a diameter of 15 - 50 mm
- For cold-strippable conducting layer thickness of 0.3/0.4 mm or 0.7/0.8 mm
- Adjustable stop and limiting bar
- Cut depth of the insulation and external sheath up to 10 mm
- Suitable for PVC-/PE-/XLPE-insulation
- Adjustable feed motion

Application/Suitability

- Cutting and stripping of outer sheath
- Controlled initial cutting of cold-strippable semi-conducting layer
- Cutting and stripping of conductor insulation



Scope of delivery

CP-FLM20: Transport case, multi tool, assembly material, manual instruction

CP-FLM20-S1: Replacement blade

CP-FLM20-S2: Spare blade

Type		Art.-No.
CP-FLM20	Multi tool	250351
CP-FLM20-S1	Replacement blade (for cable sheath)	250355
CP-FLM20-S2	Spare blade (for semiconductor-layer)	250358



CP-P20 Stripping tool

for the preparation of medium voltage cables

For removal of the co-extruded outer semi-conductive layer.

Characteristics

- Minimum strip length approx. 30 mm
- Guarantees depth adjustable from 0 - 1.2 mm in 0.1 mm steps
- Maintains high quality of stripped surface
- Hard metal peeling knife
- Operating range 10 - 50 mm
- Predefined rounded corners
- Beginning of stripping at cable end
- Automatic working feed

Application/Suitability

- Cutting and stripping of co-extruded semi-conducting layer



Scope of delivery

CP-P20: Stripping tool, assembly instructions

Type	Length mm	Width mm	Height mm	Art.-No.
CP-P20 Stripping tool				250354
Spare blade (for semiconductor-layer)				293710
Assembly case	390	085	90	255897



UNIVERSAL CLEANER 121

Cleaner

for cleaning and degreasing

Characteristics

- For use with neoprene, polyethylene, EPR, XLPE, PVC, butyl rubber and thermoplastic insulation
- Protection against accidental discharge
- Cleans and degreases without leaving residue, non-conductive
- Fast-acting, safe
- No degradation

Application/Suitability

- Cleaning of semi-conducting layers
- Removal of semi-conductive residues (such as graphite)
- Cleaning and degreasing of motors and electrical equipment
- Cleaning of cables and conductors

Note

- Clean all parts thoroughly. Air dry or wipe with a cloth. Repeat operation as required. Always test a small area prior to cleaning plastics or finished surfaces.



Colours



Clear

Scope of delivery

Cleaner

Type	Content l	Drum	Art.-No.
UNIVERSAL CLEANER 121	0.4	Spray	146404
	1	Canister	124026
	5	Canister	124027
	20	Barrel	146405

Technical Data		Value
Density		0.62 g/cm ³
Vapour pressure (at 20 °C)		200.00 hPa
Flash point		-19 °C
Ignition temperature		260 °C
Lower explosion limit in Vol.-%		1.1
Upper explosion limit in Vol.-%		13.0



ZINC SPRAY 171

Anti-corrosion spray

for subsequent galvanizing

ZINK SPRAY 171 binds to steel and iron surfaces using an electrochemical process of forming a flexible protection film. This gives the parts an active cathodic protection against corrosion.

Characteristics

- Smooth, fine porous film
- With hydrocarbon propellant (flammable)
- Can be varnished
- Can be spot-welded
- Dries quickly
- Unmarked in compliance with ARB material regulations
- No hazard rating in compliance with VBF
- Weatherproof
- Electrically conductive
- Frost-resistant

Application/Suitability

- Long-lasting corrosion protection
- Repairing of damaged zinc layers
- Repairing of galvanized surfaces
- Substitute for red lead primer
- Primer for use in auto repair
- Sealing of cavities
- Cold galvanising
- Oxidation protection
- Rust prevention
- Underbody protection



Colours



Grey

Scope of delivery

Anti-corrosion spray

Type	Content	Drum	Art.-No.
ZINC SPRAY 171	0.4	Spray	124030

ZINK SPRAY 171 is not approved according to the food regulations and the construction material norms release 8/76 from the Institute for Construction Technology.

Technical Data	Value
Density	0.95 g/cm ³
Degree of zinc purity	99 %



ELECTRO 2-26

Protective agent

for protection of electrical equipment

Characteristics

- Lubricates and permeates

Application/Suitability

- Corrosion protection
- Oxidation protection
- Protection against flying sparks
- Protection against leakage current
- Short-circuit protection
- Maintenance and protection of electrical equipment
- Improves drag coefficient
- Expels and provides sealing against moisture



Scope of delivery

Protective agent

Colours



Transparent

Type	Content l	Drum	Art.-No.
ELECTRO 2-26	0.4	Spray	124045
	5	Canister	124046

Technical Data		Value
Density		0.80 g/cm ³
Flash point		105 °C
Viscosity (cP)		30/40 °C
Dielectric strength		150 kV/mm



INDUSTRIE 3-36 Protective agent

for protection of metals

Characteristics

- Forms a clear, transparent film
- Lubricates and permeates

Application/Suitability

- Dissolves rust
- Release of tightly-sealed components
- Corrosion protection
- Protection of ferrous and non-ferrous metals during storage, processing, and transport
- Moisture protection

Scope of delivery

Protective agent



Colours



Transparent

Type	Content l	Drum	Art.-No.
INDUSTRIE 3-36	0.4	Spray	124014
	5	Canister	124015
	20	Barrel	124016

Technical Data	Value
Density	0.81 g/cm ³
Flash point	105 °C
Viscosity (cP)	30/40 °C
Dielectric strength	180 kV/mm



URETHAN

Protective insulating varnish

for protection against chemical exposure

Characteristics

- Highly resistant

Application/Suitability

- Corrosion protection
- Moisture protection
- Protection of appliances and materials against chemical exposure
- Protective coating for electric motors, transformers, components and appliances

Scope of delivery

Protective insulating varnish



Colours



Transparent

Type	Content	Drum	Art.-No.
URETHAN	Transparent	0.4	Spray

Technical Data	Value
Density	0.79 g/cm ³
Drying time	25-30 minutes
Flash point	-97 °C
Dielectric strength	82.9 kV/mm



CONTACT CLEANER

Cleaning spray

for cleaning of electro technical equipment

Characteristics

- Does not damage plastic, rubber or varnished surfaces
- Neutral
- Fast evaporating

Application/Suitability

- Removal of light dirt such as dust, fibres, thin oil films, moisture or residues caused by fingerprints
- Cleaning of sensitive electrical equipment

Scope of delivery

Cleaning spray



Colours



Transparent

Type	Content	Drum	Art.-No.
CONTACT CLEANER	0.4	Spray	124024

Technical Data	Value
Density	0.64 g/cm ³
Drying time	15 minutes



PLASTIC

Clear varnish

for insulation and sealing

Characteristics

- Can be soldered through
- Does not drip
- Highly resistant

Application/Suitability

- Sealing
- Elimination or prevention of current leakage, corona discharges, soft short circuits
- Insulation of panel boards, components, wires and cables
- Protective film against pollutants such as acid, alkali, alcohol and moisture
- Sealing of board, wood, leather



Scope of delivery

Clear varnish

Colours



Transparent

Type	Content	Drum	Art.-No.
PLASTIC	0.4	Spray	124049

Technical Data	Value
Density	0.78 g/cm ³
Flash point	-97 °C
Drying time	20 minutes
Dielectric strength	21 kV/mm
Heat resistance	-70 °C up to 120 °C



SILICON

Insulating and lubricating oil spray

water repellent, prevents from flashover

Characteristics

- Does not damage rubber, plastics, textiles or varnished surfaces
- Does not damage construction materials
- Does not dry out
- Non-adherent
- Suitable for use as moisture buffer
- Water-resistant

Application/Suitability

- Elimination or prevention of current leakage, corona discharges, soft short circuits
- Wire feed lubricant
- Insulating
- Protection of high-voltage equipment and tube sockets against flying sparks
- Short-circuit protection
- Can be used as a separating agent for plastics
- Prevents treated components from sticking together



Colours



Transparent

Scope of delivery

Insulating and lubricating oil spray

Type	Content l	Drum	Art.-No.
SILICON	0.4	Spray	124032

Technical Data	Value
Density	0.55 g/cm ³
Flash point	-97 °C
Viscosity (cP)	1000/20 °C
Dielectric strength	12 kV/mm
Heat resistance	-50 °C up to 200 °C



CABLE GLISS

Lubricant spray

for feeding cables and conductors

Characteristics

- Does not damage rubber, plastics, textiles or varnished surfaces
- Does not damage construction materials
- Does not dry out
- Non-adherent
- Suitable for use as moisture buffer
- Water-resistant

Application/Suitability

- Feeding of cables and wires through electrical installation conduits



Scope of delivery

Lubricant spray

Colours



Transparent

Type	Content	Drum	Art.-No.
CABLE GLISS	0.4	Spray	124050

Technical Data	Value
Density	0.63 g/cm ³
Viscosity (cP)	1000/20 °C
Dielectric strength	12 kV/mm
Heat resistance	-50 °C up to 200 °C



EASY-GLIDE Lubricant

for feeding cables and conductors

EASY-GLIDE simplifies and accelerates the pulling and laying of cables and wires in electric conduits and channels. Damage to cables and cable sheaths is prevented.

Characteristics

- Available in light, practical plastic bottle or in handy bucket
- Pleasant smell
- Harmless ingredients
- Biologically degradable
- Non-corrosive
- Superior lubricating properties
- Non-adherent and does not leave stains
- Does not cause skin irritation, easily washable
- Can be used with bare hands
- Non-flammable
- Silicone free

Application/Suitability

- Lubricant for feeding cables and conductors through electrical installation conduits



Scope of delivery Lubricant

Type	Content l	Drum	Art.-No.
EASY-GLIDE	250 ml	0.25	Plastic bottle 307013
	1050 ml	1.05	Plastic bottle 219647
	5000 ml	5	Bucket 246993



DUSTER

Cleaning spray

for not readily accessible areas

Characteristics

- Self-cleaning
- Newly-developed materials
- With high yield
- Chemically clean
- Evaporates immediately
- Does not corrode materials
- Develops high pressure
- Leaves no traces

Application/Suitability

- Cleaning of areas with limited accessibility
- Proven track record in photo, optic, watch, precision and electronic industries



Scope of delivery

Cleaning spray

Colours



Transparent

Type	Content	Drum	Art.-No.
DUSTER	0.4	Spray	124051

Technical Data	Value
Density	0.55 g/cm ³



MINUS

Cooling spray

for thermal fault diagnosis

Characteristics

- Cools down to -50 °C
- Does not damage construction materials
- Immediate evaporation leaving no residue
- Fast and reliable

Application/Suitability

- Thermal fault detection
- Prevention of overheating during soldering
- Cooling of heat-sensitive components
- Effective overriding of thermal switches and thermostats etc.

Scope of delivery

Cooling spray



Colours



Transparent

Type	Content	Drum	Art.-No.
MINUS	0.4	Spray	124044

Technical Data	Value
Density	0.55 g/cm ³



MULTI

Multi-function oil spray

for protection and cleaning

Characteristics

- For cleaning
- Does not damage rubber, plastics, textiles or varnished surfaces
- Dissolves rust
- Protects and lubricates
- Eliminates squeaking
- Water-repellent

Application/Suitability

- Hobbies/home/garden
- Industry and workshops
- Start-up aid for wet motors



Scope of delivery

Multi-function oil spray

Colours



Light brown

Type	Content	Drum	Art.-No.
MULTI	0.4	Spray	124043

Technical Data	Value
Density	0.78 g/cm ³
Viscosity (cP)	30/40 °C



Silicone grease

Lubricating grease

for lubrication/greasing

Characteristics

- Glides well
- Non-toxic

Application/Suitability

- Lubricant paste

Scope of delivery

Lubricating grease, Wrench, Nozzle

**Colours**

Transparent

Type		Content g	Art.-No.
Silicone grease	90	90	124055



EASY-CLEAN Hand wipes

for universal cleaning

Most effective cleaning effect is achieved with the aid of the combination of patented liquid formula and durable, roughened cloth surface. This enables removing of heavy fat stains, tar, oil, copper paste, brake and coal dust, varnish and paints, inks, grass stains and many other stains.

Characteristics

- Heavy-duty one-step cleaning system
- Easily removes even the toughest stains
- Retains dirt without leaving traces
- Quick-drying cleaning solution with moisturising effect
- Biodegradable wipes
- Antibacterial
- Free from harmful substances
- Non-toxic
- Non-irritant
- Contains moisturising substances

Application/Suitability

- In order to remove ingrained dirt, apply the darker side of the cloth. Let it soak in, then rub off. If the stain has not come out, let it soak longer.
- Remove most of the dirt using the darker textured side of the cloth, then polish with the soft side to achieve a completely clean residue-free finish.
- Skin may feel slightly sticky after use due to moisturising emulsion, as absorption time varies according to skin types.

Storage conditions/Shelf life

- Unlimited shelf life



Scope of delivery

Hand wipes

Note: The hand cleaning wipes are packed individually in the sales display.

Type		Content pieces	Art.-No.
EASY-CLEAN	Plastic dispenser	72	264705
	Sales display	40	265196

LG**Putty/sealing compound**

for sealing of wall ducts

Characteristics

- Two-component PUR cast resin
- In practical and easy-to-use two-chamber bags
- Mechanically removable
- Halogen-free
- Not harmful to the environment
- Gas-tight and waterproof up to 1.5 bar
- Flexible after hardening
- Superior adhesion to metal, plastics (PVC, XLPE and PE), concrete, artificial and natural stone
- Superior thermodynamic properties

Application/Suitability

- Outdoor
 - Indoor
 - Underground
 - Water
 - Sealing of wall ducts
- Storage conditions/Shelf life**
- In aluminium bag 18 months at ambient temperatures between 15 °C and 35 °C

**Scope of delivery**

Putty/sealing compound, spatula, assembly instructions

Optional accessory: Cable centring aid KZ (see Accessories)

Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Note: Other sizes available on request.

Type	Content ml	Art.-No.
LG 250	250	125198
LG 500	500	125199

Technical Data	Value
Density	1.10 g/cm ³
Hardness	80 Shore A
Reactant	
Flash point in open cup min.	200 °C
Cast resin component	
Flash point in open cup min.	200 °C
Reaction temperature	60 °C
Processing time (pot life) 250 ml mixture	
20 °C	15 minutes
35 °C	9 minutes

KZ

Cable centring aid

for putty/sealing compound, reduces the required volume

Characteristics

- Flexible
- Individually adjustable

Application/Suitability

- Centring of cables in wall ducts

Material

- Polyethylene foam

Scope of delivery

Cable centring aid



Type	Length m	Thickness mm	Art.-No.
KZ 20	1	20	143490
KZ 30	1	30	143491
KZ 40	1	40	143492

DUCT SEAL

Universal sealing compound

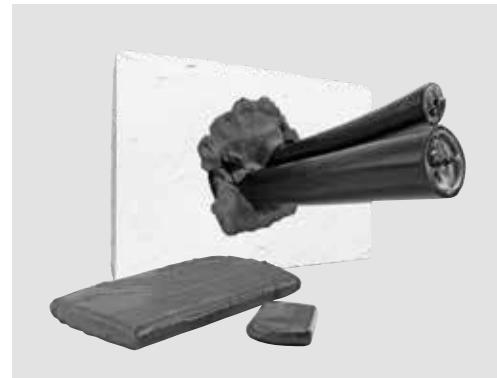
based on butyl rubber

Characteristics

- Firm consistency, good shape retention, can be easily moulded
- Excellent adhesion to almost all materials (metal, concrete, stone, wood, glass, ceramic, enamel etc.)
- Plastic viscosity
- Superior ageing resistance
- High resistance to many gases
- High resistance to many condensates
- Stabilized against UV rays
- Halogen-free
- Not harmful to the environment
- High water resistance
- Easy processing

Application/Suitability

- Sealing of wall ducts, cable ducts, electrical devices, drains and sanitary installations



Colours



Scope of delivery

Universal sealing compound

Optional accessory: Cleaner UNIVERSAL CLEANER 121 (see Accessories)

Type		Art.-No.
	0,100 kg	371450
DUCT SEAL	0,454 kg	240358
	2,5 kg	240357

Technical Data	Value
Short-term heat resistance	120 °C
Long-term heat resistance	
min.	-40 °C
max.	100 °C

LW..., LZW..., LWH..., LHS Splice cassette system

for fibre optic cables

Characteristics

- Flange mount strain relief for fibre optic cables
- Insertion opening for up to max. 12 glass fibres
- Flame-retardant plastic housing
- All current splice holders are inter-lockable (with anti-rotation protection)
- Easy attachment of stranded conductors
- Counter support bracket for easy insertion of glass fibres
- The conductors can be easily redirected to other levels
- Halogen-free
- Mechanical strain relief

Application/Suitability

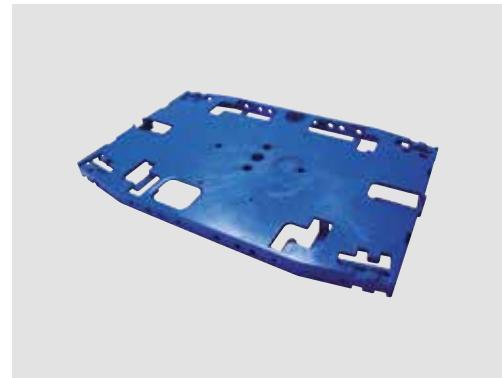
- Where high performance fibre optic cabling and connections are required
- Compact joints
- Coupler housing for joints or trays
- Mechanical protection for spliced optical fibres
- Drawer application (modular compartments), choice of stress relief bushing for easy assembly of pigtail
- Vertical compartments for multi-functionality and flexibility

Note

- Recommended operating temperature range of -55 to +70 °C

Material

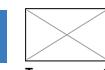
- Ethyl vinyl acetate insert
- Flexible heat shrinkable tube
- Stainless steel bar



Colours



Blue



Transparent

Scope of delivery

1 PU

Type	Colours	PU pieces	Art.-No.
LWK Splice cassette	Blue	25	146694
LWD Cover	Transparent	25	126505
Strain reliefs			
LZW-L Strain relief left	Blue	25	126497
Splice holders			
LWH-S Splice holder shrink protection	Transparent	25	126506
LWH-L Splice holder 6 x shrink	Transparent	25	126499
Splice protection			
LHS Shrink splice protection	Transparent	50	146706

AZK**Branch clamp**

for sealing of multiple cable entry points

Characteristics

- With hot melt adhesive
- Dimensionally stable

Application/Suitability

- Sealing of multiple cable entry points in heat shrinkable repair sleeves and tubes

Scope of delivery

Branch clamp



Type		Length mm	Width mm	Art.-No.
AZK	small	64	28	123982
	big	110	60	143744

SVL**Shield continuity wire**

for telecommunication cables

Characteristics

- High flexibility

Application/Suitability

- Connection and branching of aluminium-clad cable sheath
- For two or more telecommunication cables

Scope of delivery

Shield continuity wire



Type	Length mm	Art.-No.
SVL	230	143314
	300	143318
	350	143319
	400	143320
	450	143317
	500	143321

SAS Branching kit

for telecommunication cables

Characteristics

- With clamp connectors
- High flexibility

Application/Suitability

- Connecting and branching of aluminium-clad cable sheath
- For two or more telecommunication cables

Scope of delivery

Branch terminal, shield continuity wire with clamps



Type	Length mm	Art.-No.
SAS 120	120	190760

INDEX

Index: of article numbers	282
Index: of article designations.....	287
Index: of product families.....	288

Index: of article numbers

123...	125154.....106	126080.....207	126771.....26	127088.....53
123960.....252	125155.....106	126082.....207	126773.....26	127089.....52
123960.....254	125198.....274	126085.....207	126804.....39	127090.....53
123982.....278	125199.....274	126087.....207	126805.....39	127091.....53
	125202.....110	126089.....207	126806.....39	127092.....52
124...	125203.....110	126091.....207	126807.....39	127093.....52
124014.....262	125204.....110	126093.....207	126821.....36	127094.....53
124015.....262	125205.....110	126094.....207	126822.....37	127095.....53
124016.....262	125206.....110	126096.....207	126823.....37	127096.....53
124017.....263	125207.....110	126098.....207	126824.....37	127097.....54
124024.....264	125208.....110	126099.....207	126832.....37	127098.....55
124026.....259	125209.....110	126105.....208	126847.....38	127099.....54
124027.....259	125286.....107	126106.....208	126854.....38	127100.....54
124030.....260	125287.....107	126135.....208	126855.....38	127101.....54
124032.....266	125288.....107	126136.....208	126856.....38	127102.....54
124043.....271	125289.....107	126137.....208	126891.....45	127104.....54
124044.....270	125290.....107	126138.....208	126899.....45	127106.....54
124045.....261	125291.....107	126164.....216	126907.....45	127107.....54
124046.....261	125334.....68	126165.....216	126916.....45	127108.....54
124049.....265	125335.....68	126169.....216	126924.....45	127109.....54
124050.....267	125336.....68	126170.....216	126932.....45	127110.....55
124051.....269	125337.....68	126172.....216	126940.....45	127111.....54
124055.....272	125338.....68	126194.....213	126945.....45	127112.....55
124088.....253	125345.....68	126195.....213	126950.....45	127113.....54
124089.....253	125351.....68	126196.....213	126954.....45	127114.....54
124169.....78	125365.....69	126197.....213	126960.....45	127115.....54
124170.....78	125371.....69	126199.....213	126961.....45	127116.....55
124171.....78	125373.....69	126200.....213	126969.....45	127117.....55
124172.....78	125374.....69	126201.....213	126977.....49	127118.....54
124173.....78	125533.....235	126202.....213	126990.....49	127119.....55
124174.....78	125583.....243	126204.....213	126995.....49	127120.....54
124175.....78	125584.....235	126205.....213		127121.....54
124176.....78	125587.....244	126206.....213	127...	127122.....54
124293.....76	125589.....235	126207.....213	127000.....49	127123.....55
124293.....76	125590.....236	126208.....213	127005.....49	127125.....54
124294.....76	125591.....233	126209.....213	127010.....49	127126.....55
124294.....76	125604.....236	126211.....213	127015.....49	127127.....54
124295.....76	125624.....244	126214.....216	127020.....52	127128.....54
124295.....76	125626.....243	126216.....217	127021.....53	127129.....54
124296.....76	125627.....243	126242.....206	127027.....52	127130.....55
124296.....76	125628.....243	126243.....206	127034.....52	127131.....55
124297.....76	125629.....243	126246.....206	127041.....52	127132.....54
124297.....76	125895.....204	126248.....206	127042.....53	127133.....55
124298.....76	125897.....205	126249.....206	127043.....53	127134.....54
124299.....76	125898.....205	126252.....206	127044.....52	127135.....54
124300.....76	125899.....205	126254.....206	127045.....52	127136.....54
124308.....76	125900.....205	126255.....206	127046.....52	127137.....55
124309.....76	125901.....205	126260.....206	127047.....53	127139.....54
124318.....132	125902.....205	126261.....206	127048.....53	127140.....55
124319.....132	125903.....205	126266.....206	127049.....52	127141.....54
124320.....132	125904.....205	126293.....224	127050.....53	127142.....54
124505.....80	125905.....205	126294.....224	127051.....53	127143.....54
124506.....80	125906.....205	126295.....224	127052.....52	127144.....55
124507.....75	125914.....219	126296.....224	127053.....52	127145.....55
124507.....75	125915.....219	126297.....224	127054.....52	127189.....45
124508.....75	125916.....219	126298.....224	127055.....53	127190.....45
124508.....75	125950.....204	126299.....224	127056.....53	127191.....45
124510.....80	125951.....204	126300.....224	127057.....52	127192.....45
124511.....80	125952.....204	126301.....220	127058.....53	127193.....45
124513.....80	125953.....204	126302.....220	127059.....53	127194.....45
124516.....81	125954.....204	126303.....234	127060.....52	127201.....46
124517.....81	125955.....204	126313.....234	127061.....52	127202.....46
124518.....81	125956.....204	126315.....234	127062.....52	127203.....46
124683.....99	125957.....204	126316.....234	127063.....53	127204.....46
124685.....100	125958.....204	126497.....277	127064.....53	127205.....46
124685.....100	125959.....204	126499.....277	127065.....52	127206.....46
124730.....95	125960.....204	126505.....277	127066.....53	127207.....46
124730.....95	125961.....204	126506.....277	127067.....53	127208.....46
124763.....95	125962.....204	126665.....14	127068.....52	127209.....46
124763.....95	125966.....205	126672.....18	127069.....52	127210.....46
124786.....85		126674.....18	127070.....52	127211.....46
124787.....85	126...	126675.....18	127071.....53	127212.....46
124788.....85	126040.....207	126676.....18	127072.....53	127213.....46
124789.....85	126044.....207	126696.....24	127073.....52	127214.....46
124790.....85	126046.....207	126697.....24	127074.....53	127215.....46
124815.....85	126047.....207	126698.....24	127075.....53	127216.....46
124861.....84	126048.....207	126713.....24	127076.....52	127217.....46
124901.....102	126051.....207	126714.....24	127077.....52	127218.....46
124909.....102	126052.....207	126715.....24	127078.....52	127225.....47
124962.....102	126054.....207	126716.....24	127079.....53	127226.....47
124986.....102	126055.....207	126717.....24	127080.....53	127227.....47
124989.....102	126059.....207	126719.....27	127081.....52	127228.....47
124990.....102	126060.....207	126720.....27	127082.....53	127229.....47
124991.....102	126064.....207	126721.....27	127083.....53	127230.....47
124992.....102	126065.....207	126740.....27	127084.....52	127242.....49
	126070.....207	126745.....14	127085.....52	127383.....61
125...	126072.....207	126769.....26	127086.....53	127384.....61
125153.....106	126074.....207	126770.....26	127087.....53	127386.....61

127387	61	131855	91	143680	71	144390	50	145107	43
127391	61	131855	91	143744	278	144391	50	145108	43
127394	61	131863	79	143759	61	144392	49	145111	43
127397	61	131864	79	143764	61	144393	50	145115	43
127400	61	131865	79	143766	61	144395	49	145116	43
127403	61	131866	79	143770	61	144396	49	145118	43
127406	61	131867	79	143803	61	144397	50	145119	43
127407	61	131999	36	143806	61	144398	50	145120	43
127408	61			143811	61	144399	49	145121	43
127416	61	132...		143818	61	144400	50	145122	43
127417	61	132206	102			144401	49	145123	43
127418	61	132464	200	144...		144402	49	145124	43
127421	61			144013	61	144403	50	145125	43
127423	61	133...		144018	61	144404	50	145126	43
127425	61	133024	91	144255	46	144406	49	145127	43
127427	61	133024	91	144262	47	144407	50	145128	43
127429	61	133841	95	144263	47	144408	49	145129	43
127431	61	133841	95	144267	47	144409	49	145130	43
127471	59			144275	47	144410	50	145131	43
127472	59	134...		144279	47	144411	50	145132	56
127473	59	134999	102	144286	47	144412	50	145135	56
127474	59			144287	47	144413	49	145137	56
127475	59	135...		144288	45	144414	50	145142	56
127476	59	135533	107	144290	47	144415	49	145150	56
127477	59	135534	106	144291	47	144416	49	145157	56
127488	64	135859	61	144292	46	144417	50	145165	56
127490	64	135860	64	144294	46	144418	50	145173	56
127493	64			144295	46	144419	50	145181	56
127503	64	137...		144298	47	144420	57	145189	56
127505	64	137358	109	144299	47	144426	53	145239	16
127507	64	137406	109	144300	45	144429	53	145243	16
127510	64	137712	109	144301	47	144430	53	145246	14
127511	64	137877	109	144302	46	144431	53	145249	14
127515	64			144304	46	144433	53	145255	14
127522	64	138...		144305	46	144434	53	145257	14
127651	242	138162	109	144308	45	144438	53	145266	14
127695	88			144309	47	144439	53	145267	14
127696	88	139...		144310	46	144440	53	145270	14
127697	88	139163	109	144312	46	144444	53	145273	14
127698	88	143...		144313	46	144445	53	145282	14
127697	88	143314	279	144315	45	144446	53	145295	14
127698	88	143317	279	144316	47	144449	53	145296	14
127698	88	143318	279	144317	46	144450	53	145320	14
127699	88	143319	279	144319	46	144451	53	145332	14
127699	88	143320	279	144320	46	144455	53	145338	14
127700	88	143321	279	144322	45	144456	53	145342	14
127700	88	143490	275	144323	46	144457	53	145354	29
127701	88	143491	275	144324	46	144460	53	145359	13
127701	88	143492	275	144326	46	144461	53	145360	13
127703	88	143502	222	144327	46	144462	55	145361	13
127703	88	143502	222	144328	45	144493	63	145362	13
127703	88	143503	222	144329	46	144498	63	145363	13
127705	82	143505	222	144330	46	144527	66	145386	31
127706	82	143506	222	144332	46	144536	66	145388	31
127707	82	143508	222	144333	46	144545	66	145391	31
127708	82	143509	222	144334	45	144559	66	145396	32
127709	88	143536	68	144335	46	144596	64	145397	32
127709	88	143537	68	144336	46	144613	64	145398	32
127733	88	143539	68	144338	46	144620	64	145400	35
127733	88	143540	68	144339	46	144863	64	145401	35
127763	88	143556	69	144340	47	144876	200	145434	34
127763	88	143563	69	144343	47	144878	200	145435	34
127763	88	143592	71	144344	46	144880	200	145436	33
130...		143595	71	144345	46	144882	200	145438	34
130837	246	143601	71	144347	46	144884	200	145439	33
130945	16	143605	71	144348	46	144886	200	145443	34
131...		143627	71	144349	47	144888	200	145444	33
131095	84	143628	71	144350	47	144892	200	145448	34
131100	37	143629	71	144362	49	144898	200	145449	33
131118	95	143630	71	144363	50	144921	200	145458	133
131118	95	143632	71	144366	50	144935	200	145461	133
131118	95	143637	71	144367	50	144943	200	145464	133
131119	95	143646	71	144368	49			145479	17
131119	95	143647	71	144369	50	145...		145481	17
131123	95	143648	71	144371	49	145064	59	145482	17
131123	95	143649	71	144372	49	145065	59	145483	17
131126	95	143650	71	144374	50	145069	59	145484	17
131126	95	143654	71	144375	50	145071	59	145486	15
131149	91	143659	71	144378	49	145073	59	145489	15
131149	91	143661	71	144379	50	145075	59	145493	15
131151	91	143663	71	144381	49	145093	40	145496	15
131151	91	143665	71	144382	49	145096	40	145541	15
131233	106	143669	71	144383	50	145097	40	145552	17
131331	107	143670	71	144384	50	145102	43	145559	20
131778	91	143671	71	144385	49	145103	43	145560	20
131778	91	143672	71	144386	50	145104	43	145561	21
131854	91	143673	71	144388	49	145105	43	145562	21
131854	91	143679	71	144389	49	145106	43	145564	20

Index: of article numbers

145565	21	146111	232	148844	69	176...		194090	141
145566	21	146113	232	148876	109	176369	208	194091	141
145568	20	146115	232	149...		180...		194092	141
145569	20	146119	232	149433	59	180739	24	194093	141
145570	21	146123	67	149...		180760	24	194094	141
145571	21	146124	67	150...		180761	26	194293	171
145572	20	146158	173	150148	59	182...		194294	171
145573	21	146159	173	150149	59	182390	134	194295	171
145574	20	146160	173	150154	14	186...		194296	171
145575	20	146216	173	150158	14	186...		194297	171
145576	21	146217	173	150160	14	186...		194298	171
145577	20	146218	173	150161	14	186615	69	194299	171
145578	22	146220	175	150162	14	190...		194300	171
145600	41	146222	175	150278	59	190760	280	194301	171
145604	41	146224	175	150825	29	193...		194302	171
145611	41	146226	175	150826	29	193339	141	194303	171
145614	41	146228	173	151...		193370	141	194304	171
145616	41	146234	175	151500	14	193372	149	194305	171
145622	218	146235	175	152...		193374	149	194306	171
145624	218	146242	175	152008	59	193414	147	194307	171
145626	219	146296	175	152520	18	193416	147	194908	209
145627	219	146297	173	152521	18	193442	58	194930	209
145628	219	146298	175	152522	18	193644	212	194932	209
145630	130	146300	173	152523	18	194...		194933	209
145633	130	146301	173	152932	95	194017	147	194934	209
145635	130	146302	173	153392	21	194018	147	194935	209
145653	19	146303	175	154...		194019	147	194936	209
145655	19	146304	175	154613	50	194030	147	194937	209
145656	19	146306	175	154637	35	194031	147	194939	209
145657	19	146404	259	154982	40	194032	147	194940	209
145659	19	146405	259	155...		194034	147	194941	209
145660	19	146408	248	155962	59	194035	147	194942	209
145661	19	146409	248	156...		194036	147	194943	209
145665	19	146412	248	156847	63	194037	147	195...	
145666	19	146414	248	157...		194038	147	195350	208
145667	19	146416	248	157645	95	194039	147	195351	208
145668	19	146419	248	157645	95	194040	147	195365	173
145669	19	146422	248	158...		194041	147	195366	175
145670	19	146424	248	158903	64	194042	147	195367	223
145671	19	146426	248	159562	59	194043	147	195368	223
145680	19	146428	248	160...		194044	147	195816	86
145681	19	146431	248	163952	17	194045	147	197515	191
145682	19	146433	248	165...		194046	147	197516	191
145771	228	146434	248	165612	40	194047	147	197517	191
145772	228	146435	248	165912	71	194048	147	197531	193
145773	228	146436	248	166...		194049	149	197532	193
145784	228	146437	248	166012	71	194050	149	197533	193
145794	228	146438	248	166013	71	194051	149	197534	193
145806	227	146440	248	166016	71	194052	149	197535	193
145821	227	146442	248	166373	216	194053	149	197536	193
145862	243	146443	248	166694	277	194054	149	197537	192
145864	243	146444	248	1667374	205	194055	149	197538	192
145865	243	146445	248	166972	69	194056	149	197539	192
145867	243	146446	248	166973	69	194057	149	197543	194
145908	235	146447	248	166976	69	194058	149	197544	194
145911	245	146448	248	169180	47	194059	149	197545	194
145938	231	146449	248	169406	78	194061	149	197546	194
145941	231	146450	248	169471	69	194062	149	197547	194
145945	231	146452	248	169473	69	194063	149	197548	194
145948	231	146453	248	169475	69	194064	149	197555	195
145951	231	146454	248	169477	69	194065	149	197556	195
145954	231	146484	251	169479	69	194066	149	197557	195
145957	231	146486	251	1694791	133	194067	149	197558	195
145961	231	146694	277	171756	175	194068	149	197559	195
145964	231	146706	277	171757	175	194069	149	197560	195
145967	231	146765	254	171761	173	194070	149	197567	196
145970	231	146766	254	171762	173	194071	149	197568	196
145973	231	146769	254	171763	173	194072	140	197570	196
145988	232	146770	254	171791	133	194073	140	197571	196
145991	232	146780	254	174...		194074	140	197572	196
145994	232	146781	254	174183	16	194075	140	197603	180
145997	232	146782	254	1748152	134	194076	140	197604	180
146...		146784	254	1748153	134	194077	140	197606	180
146012	231	146785	254	1748168	35	194078	140	197608	183
146016	231	146786	254	1748432	208	194079	140	197609	183
146018	231			1748840	59	194080	140	197610	183
146020	231			1748842	59	194082	140	197614	183
146024	231	147...				194083	140	197616	183
146028	231	147533	95			194085	140	197617	183
146044	231	147533	95			194086	141	197618	181
146060	232	148...				194087	141	197619	181
146064	232	148152	134			194088	141	197620	181
146066	232	148153	134			194089	141	197621	184
146068	232	148168	35					197622	184
146072	232	148432	208						
146107	232	148840	59						
146109	232	148842	59						

197623.....	184	201...		204023.....	50	251...		289911.....	152
197624.....	184	201395.....	142	204024.....	50	251713.....	145	289912.....	152
197625.....	184	201541.....	47	204025.....	50			289945.....	150
197626.....	184	201942.....	198	204026.....	50			289947.....	150
197627.....	184	201943.....	198	204027.....	50	252...		289948.....	150
197628.....	186	201944.....	198	204028.....	50	252101.....	145	289949.....	150
197629.....	186	201945.....	198	204029.....	50			289950.....	150
197630.....	186	201946.....	198	204030.....	50	254...		289951.....	150
197631.....	186			204031.....	50	254684.....	28	289952.....	150
197632.....	186	203...		204032.....	50			289953.....	150
197633.....	186	203008.....	45	204033.....	50	255...		289954.....	150
197634.....	186	203028.....	18	204034.....	50	255404.....	256	289955.....	150
197635.....	186	203029.....	18	204035.....	50	255406.....	210	289956.....	150
197636.....	186	203040.....	18	204297.....	55	255408.....	210	289957.....	150
197637.....	186	203041.....	18	204298.....	55	255897.....	258	289958.....	150
197638.....	187	203265.....	47	204299.....	55			289959.....	150
197639.....	187	203266.....	47	204310.....	55	256...		289960.....	150
197640.....	187	203267.....	46	204311.....	55	256838.....	159	289961.....	150
197641.....	187	203268.....	47	204312.....	55	256839.....	159	289962.....	150
197642.....	187	203269.....	47	204313.....	55			289963.....	150
197643.....	187	203270.....	46			257...			
197644.....	187	203271.....	47	219...		257581.....	159	290...	
197645.....	187	203272.....	47	219647.....	268	257582.....	159	290443.....	146
197646.....	187	203274.....	47			257622.....	161	290444.....	146
197647.....	187	203278.....	47	222...					
197658.....	188	203279.....	47	222242.....	69	258...		262...	
197659.....	188	203280.....	47			258130.....	136	292688.....	111
197660.....	188	203281.....	47	223...		258131.....	136		
197661.....	189	203282.....	47	223131.....	69	258132.....	136	293...	
197662.....	189	203283.....	47	223132.....	69	258133.....	136	293710.....	258
197663.....	189	203284.....	47	223574.....	241	258135.....	136	293792.....	154
197664.....	189	203285.....	47	223575.....	241	258136.....	136	293797.....	155
197665.....	189	203674.....	55	223576.....	240	258137.....	136		
197666.....	189	203675.....	55	223577.....	240	258138.....	136	294...	
197667.....	189	203676.....	55	223578.....	240	258140.....	136	294806.....	12
197668.....	190	203677.....	55	223580.....	239	258141.....	136		
197669.....	190	203678.....	55	223581.....	239	258142.....	136	295...	
197670.....	190	203679.....	55	223583.....	238	258143.....	136	295167.....	154
197671.....	190	203680.....	55	223585.....	238	258144.....	136	295283.....	155
197672.....	190	203787.....	55	223590.....	237	258145.....	136		
197673.....	190	203788.....	55	223591.....	237	258146.....	136	297...	
197674.....	190	203789.....	55	223592.....	237			297104.....	169
197675.....	190	203790.....	55			262...		297260.....	169
197676.....	190	203791.....	55	224...		262697.....	12	297310.....	169
197677.....	190	203792.....	55	224853.....	165	262699.....	12	297311.....	169
						262710.....	12	297348.....	169
198...		203856.....	47	225...				297349.....	169
198518.....	47	203857.....	46	225844.....	164	264...		297350.....	169
198519.....	47	203889.....	47			264366.....	163	297351.....	169
198530.....	47	203910.....	47	237...		264705.....	273	297352.....	169
198782.....	186	203911.....	46	237858.....	198	264769.....	179	297353.....	169
198783.....	187	203912.....	47	237859.....	198	264988.....	179	297358.....	169
198784.....	190	203913.....	46	237860.....	198			297360.....	169
		203914.....	47	237861.....	198	265...		297361.....	169
199...		203915.....	46	237862.....	198	265023.....	162	297362.....	169
199151.....	151	203916.....	47			265024.....	162	297433.....	169
199152.....	151	203917.....	46	240...		265196.....	273	297441.....	170
199154.....	151	203918.....	47	240160.....	59	265205.....	179	297442.....	170
199155.....	151	203919.....	46	240163.....	59	265501.....	179	297443.....	170
199157.....	151	203920.....	47	240167.....	59			297444.....	170
199158.....	151	203921.....	46	240168.....	59	266...		297449.....	170
199159.....	151	203922.....	47	240170.....	59	266811.....	210	297460.....	170
199160.....	151	203923.....	46	240357.....	276			297461.....	170
199162.....	151	203924.....	47	240358.....	276	267...		297462.....	170
199163.....	151	203925.....	46			267708.....	210	297463.....	170
199164.....	151	203926.....	47	246...				297464.....	170
199165.....	151	203927.....	46	246176.....	156	268...		297465.....	170
199166.....	151	203928.....	47	246993.....	268	268322.....	30	297466.....	170
199167.....	151	203929.....	46			268323.....	30	297467.....	170
199168.....	151	203930.....	47	247...		268324.....	30	297468.....	170
199184.....	153	203931.....	46	247102.....	156			297469.....	170
199185.....	153	203934.....	47	248...		289...			
199186.....	153	203935.....	46	248494.....	111	289677.....	210	299...	
						289894.....	152	299001.....	98
200...		204...				289897.....	152	299002.....	98
199189.....	153	204008.....	50			289898.....	152	299003.....	98
199190.....	153	204010.....	50	249...		289899.....	152		
199191.....	153	204011.....	50	249007.....	111	289900.....	152	302...	
199192.....	153	204012.....	50	250...		289901.....	152	302227.....	168
199194.....	153	204013.....	50	250181.....	111	289902.....	152	302333.....	69
199195.....	153	204014.....	50	250351.....	257	289903.....	152		
199196.....	153	204015.....	50	250354.....	258	289904.....	152	304...	
199197.....	153	204016.....	50	250355.....	257	289905.....	152	304741.....	137
199198.....	153	204017.....	50	250358.....	257	289906.....	152		
199199.....	153	204018.....	50	250720.....	156	289907.....	152	306...	
		204019.....	50	250726.....	156	289908.....	152	306220.....	145
		204020.....	50			289909.....	152		
200294.....	55	204021.....	50			289910.....	152		
200295.....	55	204022.....	50						

307...	329589.....90	354...	369795.....249	410189...	215
307013.....268	329589.....90	354998.....143	369796.....249	410190.....215	
307669.....30	354999.....144	354999.....144	369797.....249	410191.....215	
308...	331...	355...	369798.....249	410192.....215	
308543.....138	331184.....138	355433.....157	369799.....249	410356.....114	
309...	335...	355434.....157	369810.....249	410357.....114	
309283.....158	335120.....121	355561.....157	369811.....249	410358.....114	
309284.....158	335121.....121	355562.....157	369812.....249	410359.....114	
309445.....116	335141.....25	355563.....157	369813.....249	410360.....114	
309446.....116	335143.....25	355564.....157	369814.....249	410361.....114	
309447.....116	335144.....25	356...	369816.....249	414...	
309514.....146	335565.....90	356660.....157	369817.....249	414307.....167	
309516.....146	335565.....90	357...	369819.....249	414884.....139	
309517.....146	335566.....90	357683.....12	369820.....249		
309519.....146	335566.....90	357687.....12	369821.....249	416...	
309520.....146	335750.....104	357689.....12	369823.....249	416717.....230	
309521.....146		357710.....12	369825.....249	416721.....230	
309522.....146			369826.....249	416722.....230	
309523.....146	336...		369827.....249	416770.....230	
309525.....146	336260.....185		369829.....249	416771.....230	
309526.....146	336261.....185	360366.....117	369830.....249	416772.....230	
309527.....146	336263.....185	360368.....117	370...	416773.....230	
309528.....146	336264.....185	360369.....117	370725.....143	416774.....230	
309529.....146	336538.....182	360400.....117	370726.....143	416775.....230	
309530.....146	336550.....182	360710.....31	370729.....144	416776.....230	
309534.....148	336551.....182	361...	370730.....144	416777.....230	
309535.....148		362398.....105	371...	416778.....230	
309536.....148	337...	362399.....105	371166.....119	416779.....230	
309537.....148	337978.....237	362410.....105	371167.....119	416780.....230	
309539.....148		362411.....105	371450.....276	416781.....230	
309540.....148	345...	362412.....101	371611.....252	416782.....230	
309541.....148	345343.....93	363...	371612.....252	416783.....230	
309542.....148	345344.....93	363564.....105	371761.....250	416784.....230	
309545.....148	345345.....93	364...	371762.....250	416785.....230	
309546.....148	345619.....28	364031.....123	371763.....250	416786.....230	
309548.....148		364032.....123	371764.....250	416787.....230	
309550.....148	347...	364033.....123	371765.....250	416788.....230	
309551.....148	347081.....138	364034.....123	371766.....250	416789.....230	
309552.....148	347083.....138	364035.....123	372...	420...	
309553.....148	347118.....138	364036.....124	372710.....162	420576.....221	
309554.....148	347954.....138	364306.....122		420577.....221	
309583.....174	348...	364307.....122		420578.....221	
309800.....172	348812.....13	364308.....122		420646.....221	
309801.....172		364723.....125		420647.....221	
309802.....172	349...	364845.....120			
309806.....172	349967.....12	364847.....148	374...	421...	
309807.....172	353...	364848.....146	374292.....161	421451.....139	
309808.....172	353314.....159	365...	374490.....211	421453.....139	
309810.....172	353703.....77	365078.....161	374491.....211	421454.....139	
309811.....172	353703.....77	365280.....126	374492.....211		
309812.....172		365281.....126	374493.....211		
309813.....174	353717.....77	366...	374494.....211	422...	
309815.....174	353717.....77	366132.....26	374495.....211	422460.....214	
309816.....174	353718.....77	366512.....122		422461.....214	
309820.....174	353718.....77	366513.....122		422462.....214	
309821.....174	353719.....77	366780.....124		422463.....214	
309822.....174	353719.....77	367...			
309823.....174	353740.....77	367094.....166			
309824.....174	353740.....77	368...			
310...	353741.....77	368488.....219			
310553.....118	353742.....77	368748.....68	389...		
	353743.....77	369...	389676.....116	420...	
	353813.....97	369069.....219	389677.....116	420576.....221	
	353813.....97	369496.....146	389678.....116	420577.....221	
	353814.....97	369497.....146	389679.....116	420578.....221	
311...	353814.....97	369498.....146			
311594.....131	353815.....97	369499.....146	390...		
311684.....255	353815.....97	369500.....146	390322.....229		
312...	353815.....97	369503.....148	390324.....229		
312445.....145	353816.....97	369504.....148	390325.....229		
317...	353816.....97	369505.....146	390334.....229		
317353.....104	353817.....97	369506.....146	390337.....229		
320...	353817.....97	369507.....148	390338.....229		
320436.....116	353818.....104	369508.....148	390339.....229		
329...	353846.....92	369509.....148	390340.....229		
	353847.....92	369509.....146	390341.....229		
	353848.....92	369500.....146	390342.....229		
	353849.....92	369503.....148	390343.....229		
	353860.....92	369504.....148	390344.....229		
	353869.....104	369505.....146	390345.....229		
	353890.....104	369506.....146			
	353891.....104	369507.....148	407...		
	353892.....104	369508.....148	407858.....114		
	353893.....104	369509.....148	407859.....114		
	353894.....104	369520.....148	407860.....114		
	353894.....104	369521.....148	407861.....114		
	353894.....104	369794.....249	407862.....114		
	353894.....104	369794.....249	407863.....114		
	353894.....104	369794.....249			

A	
AK	214
AMX-C	111
AMX-HPT 310	255
AUF	223
AVS	218
AZK	278

C	
CABLE GLISS	267
CAE-F	153
CAE-I	151
CAESK-F	152
CAESK-I	150
CAM-S	142
CAMSV-C	143
CAMSV-S	144
CG	105
CGS 250A	155
CHE-3F(A)	175
CHE-3I(A)	173
CHE-F	149
CHE-I	147
CHEP(3Pb)-3F	196
CHEP(3Pb)-3I	195
CHEP(H)-3F	194
CHEP(H)-3I	193
CHEP-3F	192
CHEP-3I	191
CHESK-3F(A)	174
CHESK-3I(A)	172
CHESK-F	148
CHESK-I	146
CHM	140
CHM...V	138, 139
CHM3	171
CHMP(3Pb)3	187
CHMP(3Pb)-3I	186
CHMP(3Pb)SV3-1	185
CHMP(H)3	184
CHMP(H)-3I	183
CHMP(H)SV3-1	182
CHMPP(3Pb)3	190
CHMPP(H)3	189
CHMPPR3	188
CHMPR3	181
CHMPR3-1	180
CHMPRV3-1	179
CHMSV	136
CHMSV3	169
CHMSV3-1	170
CHRMSV	137
CIK	162
CKM	145
CKS 630A	165
CL	220
CLEAR GEL	123
CM	253
Compact ring clamp	213
CONTACT CLEANER	264
Counter-holder	256
CPAS	166
CPB	254
CPES	167
CP-FLM20	257
CP-P20	258
CPS	168
CSK	211

D	
CSV-T	210
CTKS 630A	159
CTKSA	160
CTS 1250A	158
CTS 630A	157
CVS 250A	164
CWS 250A	154
CWS 400A	156

E	
EASYCELL®	118
EASYCELL® EASY...	117
EASYCELL® EASY..V	116, 119
EASY-CLEAN	273
EASY-FIX	28
EASY-GLIDE	268
EASY-PROTECT	114
EG	102
EGA	221
EGA	222
ELECTRO 2-26	261
EXPRESS GEL	120

F	
FG	106
FK	215
FLOW GEL	126

G	
GG	104

H	
H	85
H 5-SYS	86
HB	246
HE 1/70/150	212
HKB	242

I	
INDUSTRIE 3-36	262

J	
JUMBO GEL	122

K	
KAV	84
KP	217
KRS	245
KS	248
KSMZ	249
KSWO	250
KZ	275
KZB	251

L	
LG	274
LW..., LZW..., LWH..., LHS...	277

M	
M...EG	76
M...GG	77
M...MS6	132
M...V-Euroline	79
MBS1	57
MDKS	252
M-Euroline	78
MINUS	270

MMK	58
Mounting ring	163
MR 0	75
MSFA	22
MULTI	271
MZ	80
MZ...FG	81

N	
No. 128	227
No. 228	229
No. 26	243
No. 328	230
No. 60, No. 62	235
No. 61	236
No. 63	234
No. 64	233
No. 72	244
No. 90	231

P	
P...EG	87
P...GG	89
PLASTIC	265
POWER GEL	121
Premio 1130	238
Premio 1180	239
Premio 2281	240
Premio 5584	241
Premio 845	237
PV...EG, PVM...EG, PVS...EG82	83
PVS...GG	83

R	
RF	224
RH	206

S	
SAS	280
SB	52, 54
SBS	56
SEEV	133
SEEV-F	134
SEH	69
SEH4...A+Z	39
SEH4...S-C	38

SEH4...V-C	37
SEH4...V-S	36
SEMH...K	31
SEMHK4...Pb	32
SESCW	35
SFEH	34
SFEX	33
SHE	41
SILICON	266
Silicone grease	272
SKH, SKHD	68
SM, SM-MA	23
SMDH	27

SMH	14, 15
SMH...E90, SMHC...E90	19
SMH...G	17
SMH...V	13
SMH3...MS6	130
SMH4...Pb-RF	29
SMHA4	16
SMHC	18
SMHF	20
SMHSV	12
SMHSV3-1...MS6	131
SMHSV4...Pb-RF	30
SMSV	25
SOFT GEL	125
SR1F	45
SR1F3	49
SR2, SRH2	61
SR2LK, SR2LK-PEN	40
SR3, SRH3	64
SRAT	200
SRBB	198
SRBK-Set	67
SRC1	43
SRFH2	63
SRFH3	66
SRMAHV	71
SRUM	59
SUPRA GEL	124
SVL	279

T	
T...EG	91
T...GG	92
T...V AK	93

U	
UG	107
Universal Box CG	101
UNIVERSAL CLEANER	121, 259
URETHAN	263
UWR	109

V	
V, VI, VS	216
VASMI	21

W	
WG	110

Y	
Y...EG	94
Y...GG	96
Y...V AK	98
YCP	99

Z	
ZINC SPRAY	171, 260
ZS	161
ZS-PPb	26

1

1-core indoor cable termination	
• for all 1-core polymeric cables	147, 151
• with screw cable lugs, for all 1-core polymeric cables ..	146, 150
1-core outdoor cable termination	
• for all 1-core polymeric cables	149, 153
• with screw cable lugs, for all 1-core polymeric cables ..	148, 152
1-core repair straight-through joint	137
1-core straight-through joint	
• for all 1-core polymeric cables	140, 142
• with screw connector and cold shrinkable outer protection, for all 1-core polymeric cables	143
• with screw connector and heat shrinkable outer protection, for all 1-core polymeric cables	144
• with screw connector, for all 1-core polymeric cables	136, 138, 139, 145

3

3-core indoor cable termination	
• for all 3-core polymeric cables	173
• for armoured 3-core polymeric cables without semi-conductive layer up to 7.2 kV	133
• with screw cable lugs, for all 3-core polymeric cables.....	172
3-core outdoor cable termination	
• for all 3-core polymeric cables	175
• for armoured 3-core polymeric cables without semi-conductive layer up to 7.2 kV	134
• with screw cable lugs, for all 3-core polymeric cables.....	174
3-core straight-through joint	
• for all 3-core polymeric cables	171
• for armoured 3-core polymeric cables without semi-conductive layer up to 7.2 kV	130, 132
• with screw connectors, for all 3-core polymeric cables	169

A

Accessory kit	
• for mass-impregnated paper cables for heat shrinkable universal straight-through joints SM and SM-MA	26
• for separable connectors	161
Anti-corrosion spray	260
Armour transition for 3-core joints	223
Assembly guide for CWS 250A and CGS 250A	163
Assembly help	256
Assembly kit	22
Assortment box	57
Automatic cast resin mixing system	111

B

Branch clamp	
• for cast resin branch joints, for low voltage.....	217
• for low voltage	212, 213
• for sealing of multiple cable entry points	278
Branching kit	280

C

Cable centring aid	275
Cable marker	253
Cable repair kit	28
Cable tie	
• reusable.....	250
• Standard	248
• with metal latch	249

Cast resin branch / straight-through joint	100
Cast resin branch joint for house connections	86
Cast resin branch joint	
• for polymeric cables and conductors ..	84, 85, 91, 92, 94, 96, 99
• with integrated strain relief, for polymeric cables and mass-impregnated paper cables, with cast resin EG	87
• with integrated strain relief, for polymeric cables and mass-impregnated paper cables, with cast resin GG (reduced hazard-class)	89
• with screw branch clamps, for polymeric cables and conductors	93, 98

Cast resin straight-through joint

• drummable, with flexibel cast resin, for unarmoured polymeric cables and conductors	81
• for control cables and signal cables	80
• for polymeric cables and conductors	78
• for polymeric cables and conductors, control cables and signal cables	76, 77
• particularly for small cross sections, for polymeric cables and conductors, control cables and signal cables	75
• with integrated strain relief, for polymeric cables and conductors, with cast resin EG	82
• with integrated strain relief, for polymeric cables and conductors, with cast resin GG (reduced hazard-class)	83
• with screw connectors, for polymeric cables and conductors ..	79

Cleaner

• for cleaning of electro technical equipment	264
• for not readily accessible areas	269

Clear varnish

Compression cable lug Al

Compression cable lug Cu

• according to DIN 46235, for low and medium voltage ..	207
• according to DIN 46235, longitudinally sealed, for low and medium voltage.....	208

Compression connector Cu

• according to DIN 46267, with separator, for low voltage ..	205
• according to DIN 46267, without separator, for low voltage ..	204

Conductive tape

Connecting element up to 24 kV

Connection and branch box

Cooling spray

Copper braid tape

Copper foil

Cotton cloth tape

Coupling element up to 36 kV

Coupling surge arrester

E

Earthing clamp

Earthing set for Cable Joints type CHMSV3 & CHMSV3-1

Earthing set for cable terminations

Elbow separable connector

• for all 1-core polymeric cables, for outer cone system terminals type A	154, 155
• for all 1-core polymeric cables, for outer cone system terminals type B	156

End-plugs

F

Fastening element

Fibreglass tape 130 °C

Fibreglass tape 180 °C 239

G

Gel box with WAGO COMPACT Splicing Connectors 114
 Gel branch joint 119
 Gel straight-through joint
 • with connection block 116
 • without connection block 117

H

Hand wipes 273
 Heat shrink torch kit 254
 Heat shrinkable cable termination
 • for polymeric cables with concentric conductor 35
 • for unarmoured polymeric cables 34
 • for unarmoured polymeric cables and conductors 33
 Heat shrinkable crimp connector 219
 Heat shrinkable end cap 68
 Heat shrinkable indoor and outdoor cable termination 39
 Heat shrinkable indoor cable termination
 • for armoured polymeric cables 6
 • for polymeric cables with concentric conductor 37, 38
 Heat shrinkable medium wall tube
 • halogen-free, shrink ratio 3 : 1, with or without adhesive 61
 • protection for busbar systems and reduction of minimum clearance, halogen-free, shrink ratio 3 : 1 198
 • self-extinguishing, flexible, shrink ratio 3 : 1 or 4 : 1, with adhesive 59
 • self-extinguishing, shrink ratio 3 : 1, with adhesive 63
 Heat shrinkable repair sleeve 71
 Heat shrinkable spreader cap 69
 Heat shrinkable straight-through joint
 • for armoured polymeric cables 27
 • for cable systems E90 according to DIN standard 4102 Section 12 19
 • for flexible cables 17
 • for polymeric cables with concentric conductor 18
 • for tape and wire armoured polymeric cables 16
 • for telecommunication cables 20
 • for unarmoured polymeric cables and conductors 14
 • with heat shrinkable crimp connectors, for control cables and signal cables 15
 • with screw connectors (with shear head bolts), for unarmoured polymeric cables and conductors 12
 • with screw connectors, for unarmoured polymeric cables and conductors 13
 • with temperature colour indicator, for telecommunication cables 21
 Heat shrinkable thick wall tube
 • anti-slip, halogen-free, shrink ratio 3 : 1, with adhesive 67
 • halogen-free, shrink ratio 3 : 1 200
 • halogen-free, shrink ratio 3 : 1, with or without adhesive 64
 • self-extinguishing, shrink ratio 3 : 1, with adhesive 66
 Heat shrinkable thin wall tube
 • halogen-free, shrink ratio 2 : 1, without adhesive 43
 • self-extinguishing, shrink ratio 2 : 1, without adhesive 45
 • self-extinguishing, shrink ratio 3 : 1, without adhesive 49
 Heat shrinkable transition joint
 • with screw connectors, with solderless earthing wire connection, for polymeric cables and mass-impregnated paper cables 30

 • with solderless earthing wire connection, for polymeric cables and mass-impregnated paper cables 29

Heat shrinkable tube in dispenser box

- thin wall, self-extinguishing, shrink ratio 2 : 1, without adhesive 52, 56
- thin wall, self-extinguishing, shrink ratio 3 : 1, without adhesive 54

Heat shrinkable tube kit 40

Heat shrinkable universal straight-through joint

- for polymeric cables, conductors and mass-impregnated paper cables 23
- with screw connectors (with shear head bolts), for polymeric cables with concentric conductor 25

Heat shrinkable wall duct 41

High voltage insulation tape 235

Hot melt adhesive 246

I

Indoor cable termination

- for 3 lead sheath cables from 24 to 36 kV (MIND) 195
- for belted cables up to 17.5 kV (MIND) 191
- for H-Type cables from 24 to 36 kV (MIND) 193

Insulating and lubricating oil spray 266

L

Lubricant spray 267
 Lubricant 268
 Lubricating grease 272

M

Mastic tape 242
 Mechanical caulking gun 255
 Mini joint case 58
 Multi tool 257
 Multi-function oil spray 271

O

One-component gel based on silicon
 • ready-to-use, suitable for a wide range of applications 125
 • with permanent flowability 126

Outdoor cable termination
 • for 3 lead sheath cables from 24 to 36 kV (MIND) 196
 • for belted cables up to 17.5 kV (MIND) 192
 • for H-Type cables from 24 to 36 kV (MIND) 194

P

Plastic dowels 252
 Pressure spring 224
 Protective agent
 • for protection of electrical equipment 261
 • for protection of metals 262

Protective insulating varnish 263
 Putty/sealing compound 274
 PVC insulation tape
 • for insulation and bundling 230
 • for marking, bundling and insulating 227, 229

R

Reduction sleeve Cu 206
 Repair kit 245
 Repair tape 244

S

Screw branch clamp Al-Cu	214
Screw cable lug for Cu and Al	211
Screw connector Al-Cu	216
Screw connector for Cu and Al	210
Sealing tape	233
Self-adhesive foam tape	241
Shield continuity wire	279
Splice cassette system	277
Split bolt clamp	215
Straight-through joint	
• for 3 lead sheath cables up to 36 kV	190
• for belted cables / H-Type cables up to 17.5 kV (MIND)	188
• for H-Type cables from 24 to 36 kV	189
• with screw connectors, for connecting from 3-core with three 1-core polymeric cables	170
• with screw connectors, for connecting from 3-core with three 1-core polymeric cables up to 7.2 kV	131
Strain relief	118
Stripping tool	258

T

Tape for cable bundle	237
Test and earthing kit	167
Test kit	168
Transition joint	
• for 3 lead sheath cables to 3-core polymeric cables	187
• for 3 lead sheath cables to three 1-core polymeric cables	186
• from belted cables / H-Type cables to 3-core polymeric cables	181
• from belted cables / H-Type cables to three 1-core polymeric cables	180
• from H-Type cables to 3-core polymeric cables	184
• from H-Type cables to polymeric three 1-core cables	183
• with screw connectors, for 3 lead sheath cables to three 1-core polymeric cables	185
• with screw connectors, from belted cables / H-Type cables to 1-core polymeric cables	179
• with screw connectors, from H-Type cables to polymeric three 1-core cables	182
T-shaped separable connector	
• for all 1-core polymeric cables, for outer cone system terminals type C	157, 158
T-shaped separable coupling connector	159
Two-component gel based on silicon	
• cost-effective casting for big quantities	122
• ready-to-use, delivered with static mixer for small volume boxes	124
• to cast branch and connection boxes	121
• to protect electrical components and LEDs	123
Two-component hydrocarbon resin	105
Two-component PUR cast resin	
• flame retardant	107
• flexible	106
• low reactivity to water	109
• reduced hazard-class	104
• removable	110
• universal	102
Two-component shaking gel based on silicon	120

U

Universal sealing compound	276
----------------------------------	-----

V

Voltage-resistant insulating cap	162
Voltage-resistant pot end joint	
• with inner cap, for mass-impregnated paper cables	32
• with inner caps and outer cap, for polymeric cables and conductors	31

W

Warning tape	243
Wire connector	218



INTERNATIONAL PRODUCTION AND SALES COMPANIES

Europe

Cellpack AG Electrical Products

Anglikerstrasse 99
5612 Villmergen
Switzerland
 ☎ +41 56 618 12 34
 ✉ verkauf.epschweiz@cellpack.com

BBC Cellpack GmbH

Carl-Zeiss-Straße 20
79761 Waldshut-Tiengen
Germany
 ☎ +49 7741 6007-0
 ☎ +49 7741 64989
 ✉ electrical.products@cellpack.com

BBC Cellpack GmbH

Carl-Eschebach-Straße 11
1454 Radeberg
Germany
 ☎ +49 3528 41983 0
 ☎ +49 3528 41983 71
 ✉ electrical.products@cellpack.com

Behr Bircher Cellpack BBC Benelux B.V.

Keersluisweg 13
1332 EE Almere Buiten
Netherlands
 ☎ +31 36 549 03 36
 ✉ info@cellpack.nl

Behr Bircher Cellpack BBC Polska Sp. z o.o.

ul. Matuszewska 14,
03-876 Warszawa
Poland
 ☎ +48 22 853 53 54
 ☎ +48 22 853 53 56
 ✉ biuro@cellpack.pl

Behr Bircher Cellpack BBC Italia S.r.l.

Via Mantero, 20
22070 Grandate (CO)
Italy
 ☎ +39 031 426 611
 ☎ +39 031 426 343
 ✉ epitalia@cellpack.com

Behr Bircher Cellpack Ibérica, S.A.

C/Mas Pujol, nr. 47 – Nave 4
Pol. Ind. Sector V
08520 – Les Franqueses del Vallès
Barcelona - Spain
 ☎ +34 93 846 63 76
 ☎ +34 93 849 12 06
 ✉ comercial@cellpackiberica.com

Behr Bircher Cellpack BBC France s.à.r.l.

277 Avenue Charles Chone
54710 Ludres
France
 ☎ +33.3.83.25.60.07
 ☎ +33.3.83.25.88.27
 ✉ info@cellpack-frp.fr

Middle East

Behr Bircher Cellpack Middle East FZ-LLC

B12-210
Academic Zone 01-Business Center 5
RAKEZ Business Zone-FZ
R.A.K / United Arab Emirates
 ☎ +971 50 952 2800
 ✉ EPSSalesME@cellpack.com

Asia-Pacific

Behr Bircher Cellpack BBC India Pvt. Ltd.

801, 8th Floor, NDM-1, Blocks-B, Netaji
Subhash Place,
Pitampura, New Delhi-110034
India
 ☎ +91 11408 949 607
 ✉ info.india@cellpack.com

Behr Bircher Cellpack BBC Far East Pte Ltd

128 Joo Seng Road # 06 – 01
Singapore 368356
 ☎ +65 6747 7024
 ☎ +65 6841 4554
 ✉ info@cellpack.com.sg

Behr Bircher Cellpack BBC Malaysia Sdn. Bhd.

No 17, Jalan Laman Setia 7/3
Setia Business Park
81550 Gelang Patah
Johor – Malaysia
 ☎ +60 7 559 0570
 ☎ +60 7 559 0571
 ✉ info@cellpack.com.my
www.cellpack.com.my

Behr Bircher Cellpack BBC Australia Pty Ltd

8 Ferndale Road
Glen Iris, VIC, 3146
Australia
 ☎ +61 407 103 621
 ☎ +61 2 4659 6531
New Zealand
 ☎ +64 21 591 960
 ☎ +64 9 436 0897
 ✉ salesanz@cellpack.com



Youtube
BBC Cellpack Channel



LinkedIn
BBC Cellpack Electrical Products



Web
www.cellpack.com