



D529 • SAP-No. 198693 • 0504

Medium Voltage

www.cellpack.com

CELLPACK

Electrical Products

a **BBC** GROUP company

Medium Voltage Catalogue

This catalogue presents our joints and terminations in Hybrid, Contrax and Cast-resin technique as well as the complete range of accessories. All products from one source.

Easy ordering – complete delivery

You can choose a required product and it is also possible to order additional accessories. The chapter »accessories« offers all you need for your chosen product.

The »Ordering Examples« explain how to order joints or terminations and additional accessories. The standard straight-through or transition joint e.g. is without connectors. If you would like to receive an aluminium, copper or a screw connector in addition, you can point this out in your order by mentioning »with« together with designation and article number. We include the connector in the joint kit, and you will get the product you require.

CELLPACK Medium Voltage Products are tested according to DIN VDE 0278, CENELEC HD 629 S1, HD 629 S2, IEC 60502-4 and fulfill the qualifications of IEEE and British Standard.



Data, values and illustrations given in this documentation are correct and reliable according to the current state of our knowledge. They represent however no obligatory characteristic warranty. Such a warranty is made only by our product standards. The user of this product must decide on his own responsibility on its suitability for the intended application. Our liability for these products exclusively depends on our general trading conditions.

Changes in the sense of technical progress and misprint reserved. © 2004, CELLPACK GmbH

Hybrid Technique

combines the advantages
of silicone slip-on and heat-shrink technique

Page 6



Contrax Technique

combines the advantages
of silicone slip-on and cold-shrink technique

Page 46



Cast-resin Technique

Page 58



Accessories

for joints and terminations.
See the ordering examples on page 90

Page 63



Miscellaneous

Why are Cellpack products so unique?
Take a look behind the scenes!

Page 86



Hybrid Technique

Straight-through Joints for Polymeric Cables	
Three-core Straight-through Joint Type SMH3MS6	6
Single-core Straight-through Joint Type CHM	8
Three-core Straight-through Joint Type CHM3	10
Terminations for Polymeric Cables	
Three-core-Terminations Type SEEV and SEEV-F	12
Single-core Indoor Termination Type CHE-I	14
Hybrid Single-core Outdoor Termination Type CHE-F	16
Three-core Indoor Termination Type CHE-3I(A)	18
Three-core Outdoor Termination Type CHE-3F(A)	20
Three-core Indoor Termination Type CHE-3I(B)	22
Three-core Outdoor Termination Type CHE-3F(B)	24
Transition Joint from Paper to Polymeric Cables	
Transition Joint Type CHMPR	26
Transition Joint Type CHMP(H)	28
Transition Joint Type CHMP(3Pb)	30
Transition Joint Type CHMP(3Pb)	32
Straight-through Joint for Paper Cables	
Straight-through Joint Type CHMPPR3 and CHMPP(H)3	34
Straight-through Joint Type CHMPP(3Pb)3	36
Terminations for Paper Cables	
Indoor termination Type CHEP-3I and CHEP(H)-3I	38
Outdoor Terminations Type CHEP-3F and CHEP(H)-3F	40
Indoor Termination Type CHEP(3Pb)-3I	42
Outdoor Termination Type CHEP(3Pb)-3F	44

Contrax Technique

Straight-through Joints for Polymeric Cables	
Single-core Straight-through Joint Type CAM	46
Three-core Straight-through Joint Type CAM3	48
Terminations for Polymeric Cables	
Single-core Indoor Termination Type CAE-I	50
Single-core Outdoor Termination Type CAE-F	52
Three-core Indoor Termination Type CAE-3I	54
Three-core Outdoor Termination Type CAE-3F	56

Cast-resin Technique

Cast-resin Joints	
Three-core Straight-through Joint Type M.MS6	58
Three-core Transition joint Type M.MSPB6	60
Injection Technique	62

Accessories

Tubular Compression Cable Lug Cu Type DK-CU-V	63
Tubular Compression Cable Lug Cu – Blocked – Type DK-CU-V-LD	64
Compression Cable Lug Al – Blocked – Type DK-AL-LD	65
Compression Connector Cu Type DV-CU-V	66
Compression Connector Cu – Blocked – Type DVZ-CU-V-LD	67
Compression Connector Al Type DV-AL	68
Compression Connector Al – Blocked – Type DVZ-AL-LD	69
Screw Cable Lug for Cu and Al – Blocked – Type SK-V-AS	70
Screw Connector for Cu and Al – Blocked – Type SV-V-AS	71
Spacer and Sealing Kit Type DAS	72
Earthing Kits for Cables with Tape Screen and/or Armouring Type EGA	73
Right-angle Boots Type CRB — Straight Boots Type CSB	75
Cable Glands Type CG	77
Armouring Transfer for Three-core Joints Type AUF	78
High Voltage Insulation Tape Type No. 60 and No. 62	80
Semi-conducting Tape Type No. 61	81
Copper Braid Tape No. 63	82
Repair Tape Type No. 72	83
Heat-shrink Tube Type SRAT	84

Miscellaneous

Slip-on Auxiliary Device Type AH	86
Other Types of Products Upon Request	87
Cellpack Production Plant	88
Cellpack Testing Systems	89
Ordering Examples	91
Behr Bircher Cellpack BBC Group	93
Index	95

Hybrid Technique

Three-core Straight-through Joint Type SMH3MS6

for three-core polymeric cables without semi-conducting layer up to 7.2 kV

Application

Straight-through joints Type SMH3MS6 are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR) without semi-conducting layer. They are suitable for cables with different cross sections, semi-conducting layers and different cable constructions.

Features

- Quick, easy and safe installation
- High mechanical strength
- Wide cross section range suitable for all types of connectors
- Compact dimensions
- Unlimited shelf life and immediate operation after installation

Design

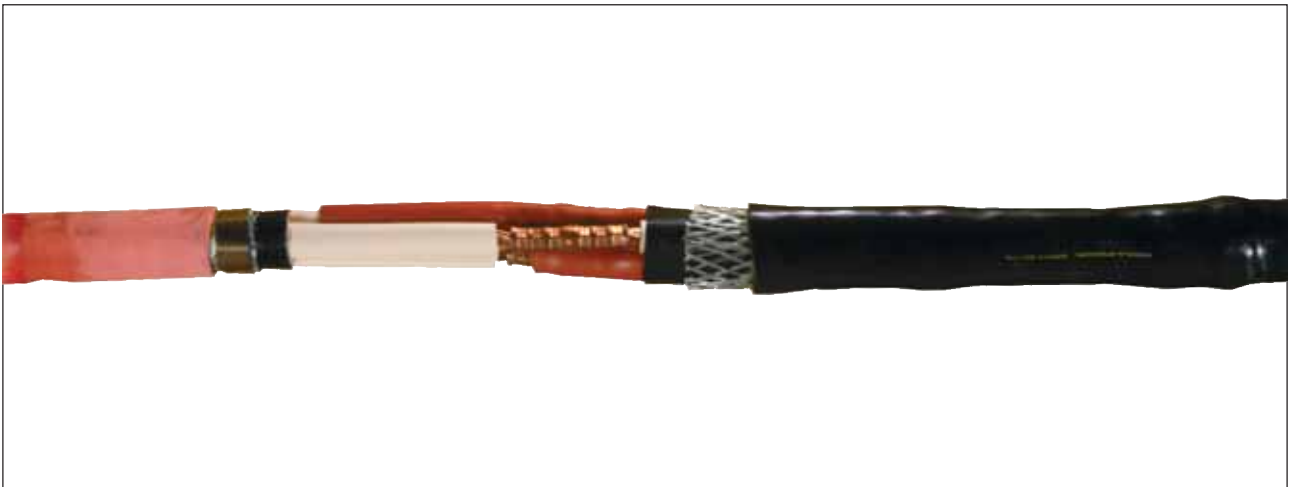
A kit of a joint consists of the following main components:

- Thick-wall heat-shrink inner tubes
- Inner protecting tube(covering the three inner tubes)
- Copper braid sleeve with pressure springs for screen and armouring connection
- Heat-shrink tube for outer protection

Delivery

One kit for three phases without connectors.

Necessary connectors can be ordered separately.



Hybrid Technique

Three-core Straight-through Joint Type SMH3MS6

for three-core polymeric cables without semi-conducting layer up to 7.2 kV

Ordering Details

Art.-No.	Type	Q mm ²	D2 mm	VL mm	L mm
U₀/U (U_m) 3.8/6.6 (7.2) kV					
145630	SMH3 25 – 70 MS6	25 – 70	20	110	850
145633	SMH3 50 – 150 MS6	50 – 150	25	135	1000
145635	SMH3 120 – 300 MS6	120 – 300	40	150	1200

Q = Nominal cross section

D2 = Maximum diameter over connector

VL = Maximum connector length

L = Total length of the straight-through joint

Accessories

The following accessories are not included. They can be ordered separately and will be included in the kit box:

- Compression connector Cu Type DV-CU-V
- Compression connector Al Type DV-AL
- Screw connector for Cu and Al Type SV-V-AS

Hybrid Technique

Single-core Straight-through Joint Type CHM

for all polymeric single-core cables up to 36 kV

Application

Straight-through joints Type CHM are designed to cover single-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of connectors
- For all cables with copper wire or tape screen with or without armouring
- Unlimited shelf life and immediate operation after installation

Design

A kit of a joint consists of the following main components:

- Silicone stress control elements (Fig. 2)
- Blue stress control filling tape (Fig. 3)
- Thick-wall heat-shrink insulation tubes (Fig. 4 and Fig. 5)
- Copper braid sleeve and pressure springs (Fig. 6)
- Thick-wall heat-shrink outer protecting tube with hot melting adhesive (Fig. 7)

Delivery

One kit for one phase without connectors.

Necessary connectors can be ordered separately.



Hybrid Technique
Single-core Straight-through Joint Type CHM
 for all polymeric single-core cables up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	Ø2 mm	VL mm	L mm
		Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
194072	CHM	12kV	10 – 25	9.9	16	90	650
194073	CHM	12kV	35 – 95	12.6	25	135	650
194074	CHM	12kV	95 – 240	17.3	33	145	650
194075	CHM	12kV	150 – 300	19.9	40	220	700
194076	CHM	12kV	300 – 400	23.1	42	220	700
194077	CHM	12kV	500 – 800	27.3	60	350	850
194078	CHM	12kV	800 – 1000	36.8	60	350	850
U₀/U (U_m) 8.7/15 (17.5) kV							
194079	CHM	17kV	35 – 95	12.6	25	135	650
194080	CHM	17kV	70 – 240	17.3	33	145	650
194082	CHM	17kV	240 – 400	23.1	42	220	700
194083	CHM	17kV	400 – 630	27.3	60	330	850
194085	CHM	17kV	630 – 1000	36.8	60	350	850
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
193339	CHM	24kV	10 – 35	12.6	20	100	650
193370	CHM	24kV	50 – 150	17.3	25	135	650
194086	CHM	24kV	70 – 240	19.9	33	145	700
194087	CHM	24kV	150 – 300	23.1	40	220	700
194088	CHM	24kV	400 – 630	27.3	60	330	850
194089	CHM	24kV	630 – 1000	36.8	60	350	850
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
194090	CHM	36kV	35 – 70	19.9	20	110	650
194091	CHM	36kV	70 – 150	23.1	25	135	700
194092	CHM	36kV	150 – 300	27.3	35	220	700
194093	CHM	36kV	300 – 500	27.3	45	220	700
194094	CHM	36kV	500 – 800	36.8	60	250	850

- Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 Ø2 = Maximum diameter over connector
 VL = Maximum length of connector
 L = Total length of the straight-through joint

Note

For cables of U_m = 7.2 kV please use the joints of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connector Cu Type DV-CU-V
- Compression connector Al Type DV-AL
- Screw Connector for Cu and Al Type SV-V-AS

Hybrid Technique

Three-core Straight-through Joint Type CHM3

for all three-core polymeric cables up to 36 kV

Application

Straight-through joints Type CHM3 are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen. For joints from one three-core to three single-core cables the accessory Type DAS (Fig.2) must be ordered separately.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of connectors
- Unlimited shelf life and immediate operation after installation

Design

A kit of a joint consists of the following main components:

- Silicone stress control elements
- Blue stress control filling tape
- Thick-wall heat-shrink insulation tubes
- Copper braid sleeve and pressure springs
- Thick-wall outer protecting heat-shrink tube with hot melting adhesive

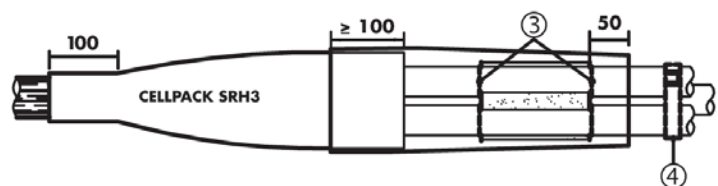
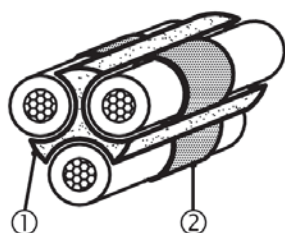
Delivery

One kit for three phases without connectors for cables without armouring.

Accessories for cables with armouring as well as connectors can be ordered separately.



2 Spacer and Sealing Kit Type DAS



- 1 Spacer
- 2 Sealing mastic Type DM1
- 3 Spacer position
- 4 Cable ties Type KS

Hybrid Technique
Three-core Straight-through Joint Type CHM3
 for all three-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	Ø2 mm	VL mm	L mm
		Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
194293	CHM3	12kV	10 – 25	9.9	16	90	1200
194294	CHM3	12kV	35 – 95	12.6	25	135	1200
194295	CHM3	12kV	95 – 240	17.3	33	145	1200
194296	CHM3	12kV	150 – 300	19.9	40	220	1200
U₀/U (U_m) 8.7/15 (17.5) kV							
194297	CHM3	17kV	35 – 95	12.6	25	135	1200
194298	CHM3	17kV	70 – 240	17.3	33	145	1200
194299	CHM3	17kV	120 – 300	19.9	40	220	1200
194300	CHM3	17kV	240 – 400	23.1	42	220	1200
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
194301	CHM3	24kV	10 – 35	12.6	20	100	1200
194302	CHM3	24kV	50 – 150	17.3	25	135	1200
194303	CHM3	24kV	70 – 240	19.9	33	145	1200
194304	CHM3	24kV	150 – 300	23.1	40	220	1200
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
194305	CHM3	36kV	35 – 70	19.9	20	110	1200
194306	CHM3	36kV	70 – 150	23.1	25	135	1200
194307	CHM3	36kV	150 – 300	27.3	35	220	1200

- Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 Ø2 = Maximum diameter over connector
 VL = Maximum length of connector
 L = Total length of the straight-through joint

Note

For cables of U_m = 7.2 kV please use the joints of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connector Cu Type DV-CU-V
- Compression connector Al Type DV-AL
- Screw Connector for Cu and Al Type SV-V-AS
- Armouring transfer Type AUF for armoured cables
- Spacer and sealing kit Type DAS for connecting one three-core with three single-core cables

Hybrid Technique

Three-core-Terminations Type SEEV and SEEV-F

for three-core polymeric cables without semi-conducting layer up to 7.2 kV

Application

Terminations

- Type SEEV for indoor applications
 - Type SEEV-F for outdoor applications
- are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR) without semi-conducting layer.

Features

- Quick, easy and safe installation
- High mechanical strength
- Wide cross section range suitable for all types of cable lugs
- Compact dimensions
- Unlimited shelf life and immediate operation after installation

Design

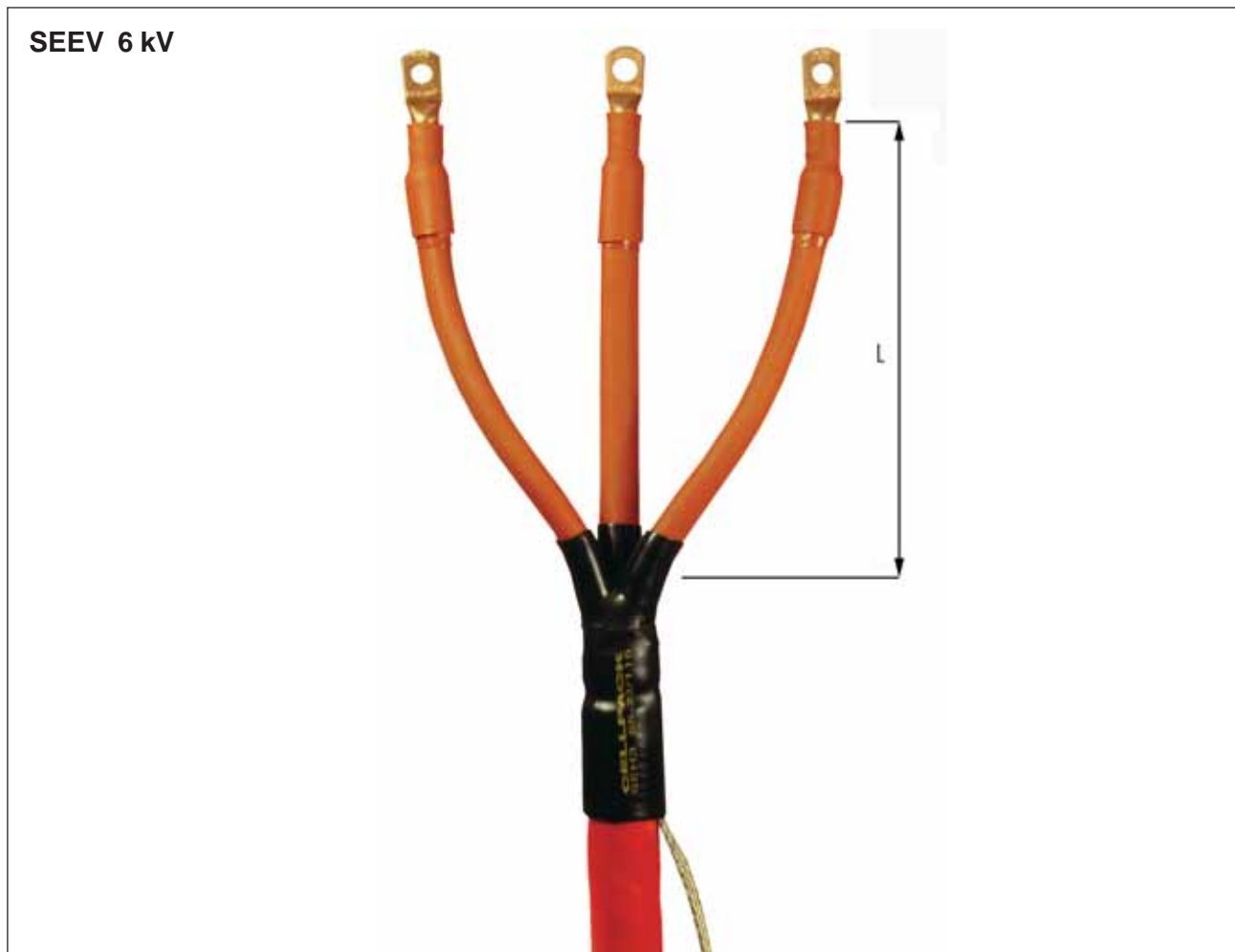
A termination kit consists of the following main components:

- 3-core spreader cap (anti-tracking for SEEV-F)
- Anti-tracking core insulation tubes
- Copper braid for earthing the armouring
- Silicone sheds (SEEV-F only)

Delivery

One kit for three phases without cable lugs.

Necessary cable lugs can be ordered separately.



Hybrid Technique

Three-core-Terminations Type SEEV and SEEV-F

for three-core polymeric cables without semi-conducting layer up to 7.2 kV

Ordering Details

Art.-No.	Type	Q mm ²	ØS mm	L mm
145458	SEEV 16 – 50	16 – 50	—	280
145461	SEEV 70 – 120	70 – 120	—	280
145464	SEEV 150 – 240	150 – 240	—	280
171791	SEEV 300 – 400	300 – 400	—	280
148152	SEEV-F 16 – 50	16 – 50	80	400
182390	SEEV-F 70 – 120	70 – 120	85	400
148153	SEEV-F 150 – 240	150 – 240	85	400

Q = Nominal cross section

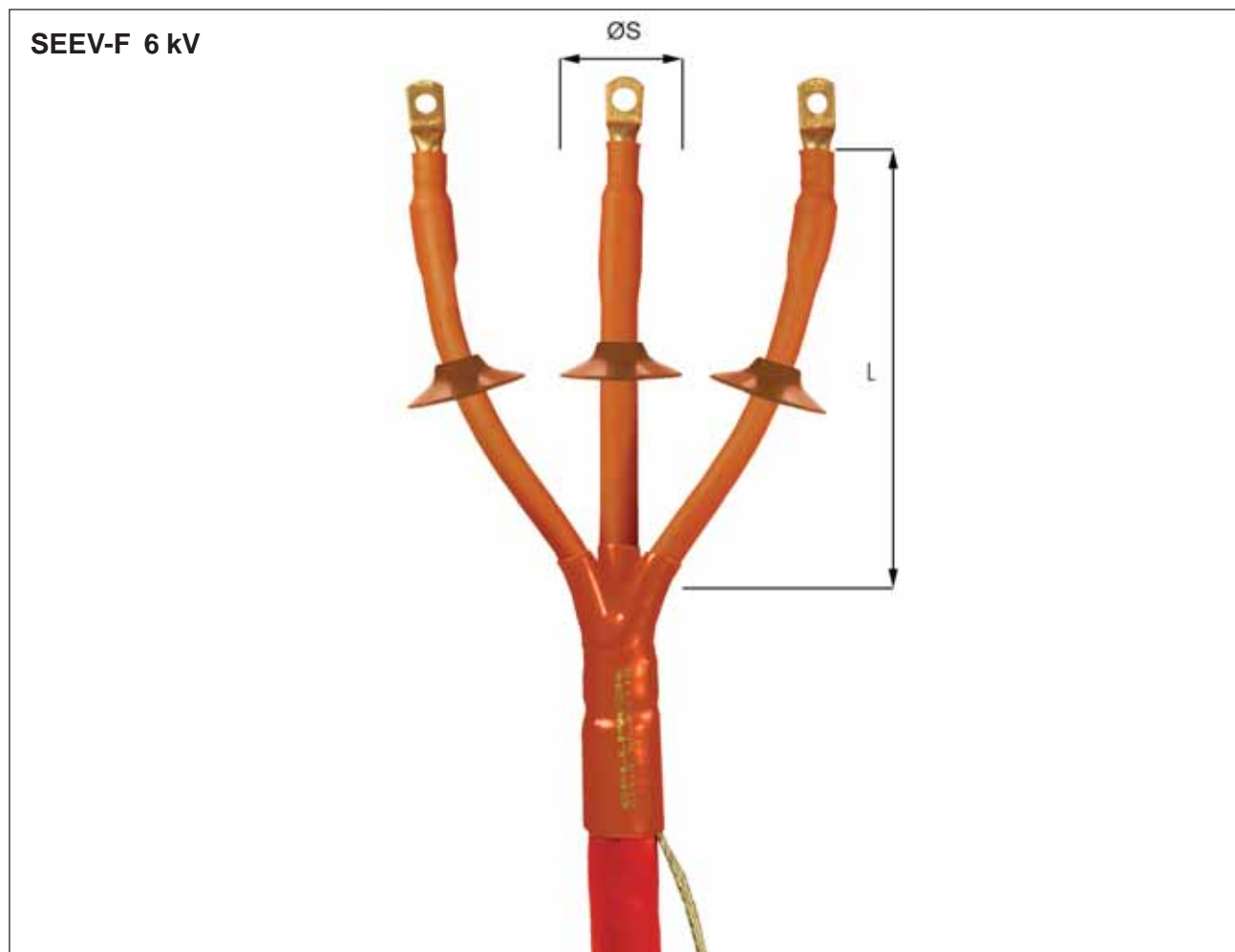
ØS = Diameter of sheds

L = Tail length

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug für Cu and Al Type SK-V-AS



Hybrid Technique

Single-core Indoor Termination Type CHE-I

for all single-core polymeric cables up to 36 kV

Application

Terminations Type CHE-I are designed to cover single-core polymeric cables (PVC, PE, XLPE, EPR) with different semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

Design

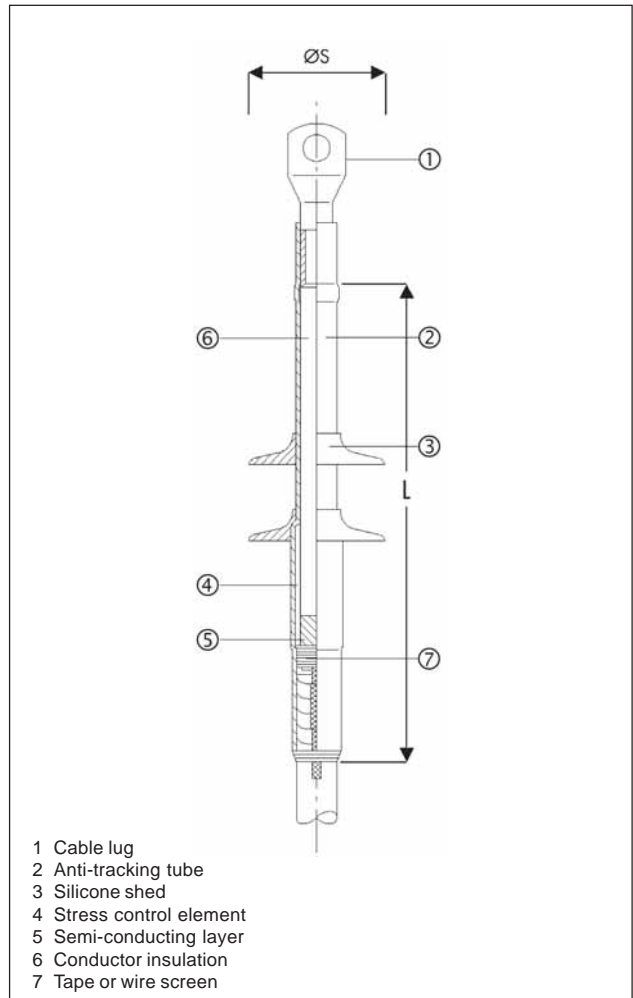
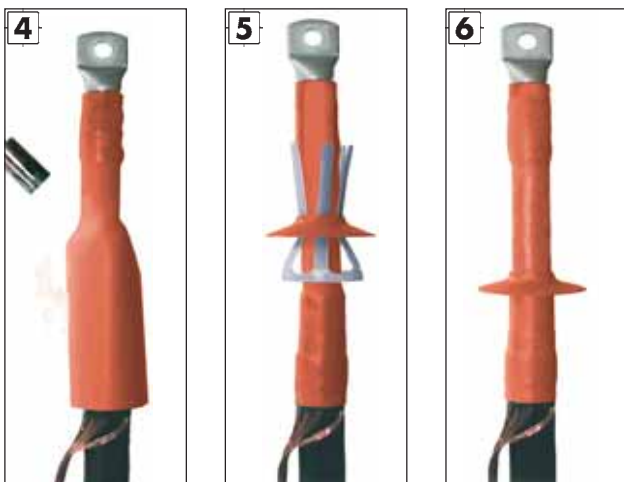
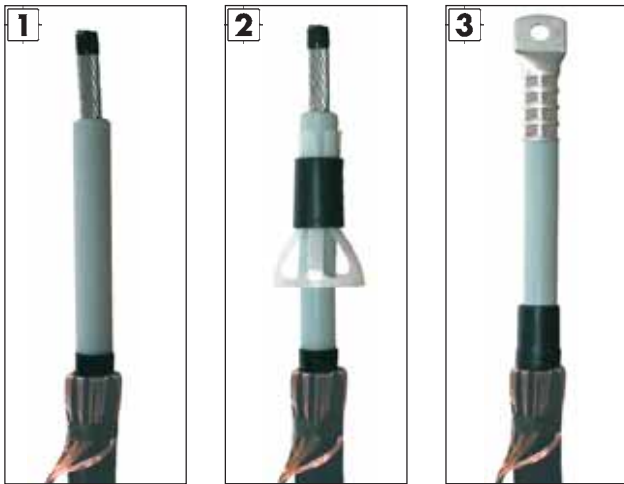
A termination kit consists of the following main components:

- Silicone stress control elements (Fig. 2)
- Weather resistant and anti-tracking heat-shrink tube (Fig. 4)
- Silicone sheds (Fig. 5 and Fig. 6) – if indicated (see »Ordering Details«)

Delivery

One kit for three phases without cable lugs for cables with copper wire screen.

Accessories for cables with tape screen as well as cable lugs can be ordered separately.



Hybrid Technique
Single-core Indoor Termination Type CHE-I
 for all polymeric single-core cables up to 36 kV

Ordering Details

Art.-No.	Type				Ø1 mm	L mm	S	ØS mm
			Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV								
193414	CHE-I	12kV	10 – 25		9.9	220	–	–
193416	CHE-I	12kV	25 – 95		12.6	220	–	–
194017	CHE-I	12kV	95 – 240		17.3	220	–	–
194018	CHE-I	12kV	150 – 400		19.9	220	–	–
194019	CHE-I	12kV	240 – 500		23.1	220	–	–
194030	CHE-I	12kV	400 – 800		27.3	220	–	–
194031	CHE-I	12kV	800 – 1000		36.8	220	–	–
U₀/U (U_m) 8.7/15 (17.5) kV								
194032	CHE-I	17kV	10 – 16		9.9	220	1	80
194033	CHE-I	17kV	16 – 50		12.6	220	1	80
194034	CHE-I	17kV	70 – 240		17.3	220	1	85
194035	CHE-I	17kV	120 – 300		19.9	220	1	85
194036	CHE-I	17kV	185 – 400		23.1	220	1	85
194037	CHE-I	17kV	300 – 630		27.3	220	1	115
194038	CHE-I	17kV	630 – 1000		36.8	220	1	123
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV								
194039	CHE-I	24kV	10 – 35		12.6	220	1	85
194040	CHE-I	24kV	25 – 150		17.3	220	1	85
194041	CHE-I	24kV	70 – 240		19.9	220	1	85
194042	CHE-I	24kV	120 – 300		23.1	220	1	85
194043	CHE-I	24kV	240 – 500		27.3	220	1	115
194044	CHE-I	24kV	630 – 1000		36.8	220	1	123
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV								
194045	CHE-I	36kV	35 – 70		19.9	400	2	85
194046	CHE-I	36kV	50 – 150		23.1	400	2	85
194047	CHE-I	36kV	150 – 400		27.3	400	2	115
194048	CHE-I	36kV	500 – 800		36.8	400	2	123

Q = Nominal cross section – definite assignment confer diameter over conductor insulation

Ø1 = Minimum diameter after removal of the outer semi-conducting layer

L = Total length

S = Number of sheds per phase

ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use terminations of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V-LD
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for cables with tape screen

Hybrid Technique

Hybrid Single-core Outdoor Termination Type CHE-F

for all single-core polymeric cables up to 36 kV

Application

Terminations Type CHE-F are designed to cover single-core polymeric cables (PVC, PE, XLPE, EPR) with different semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

Design

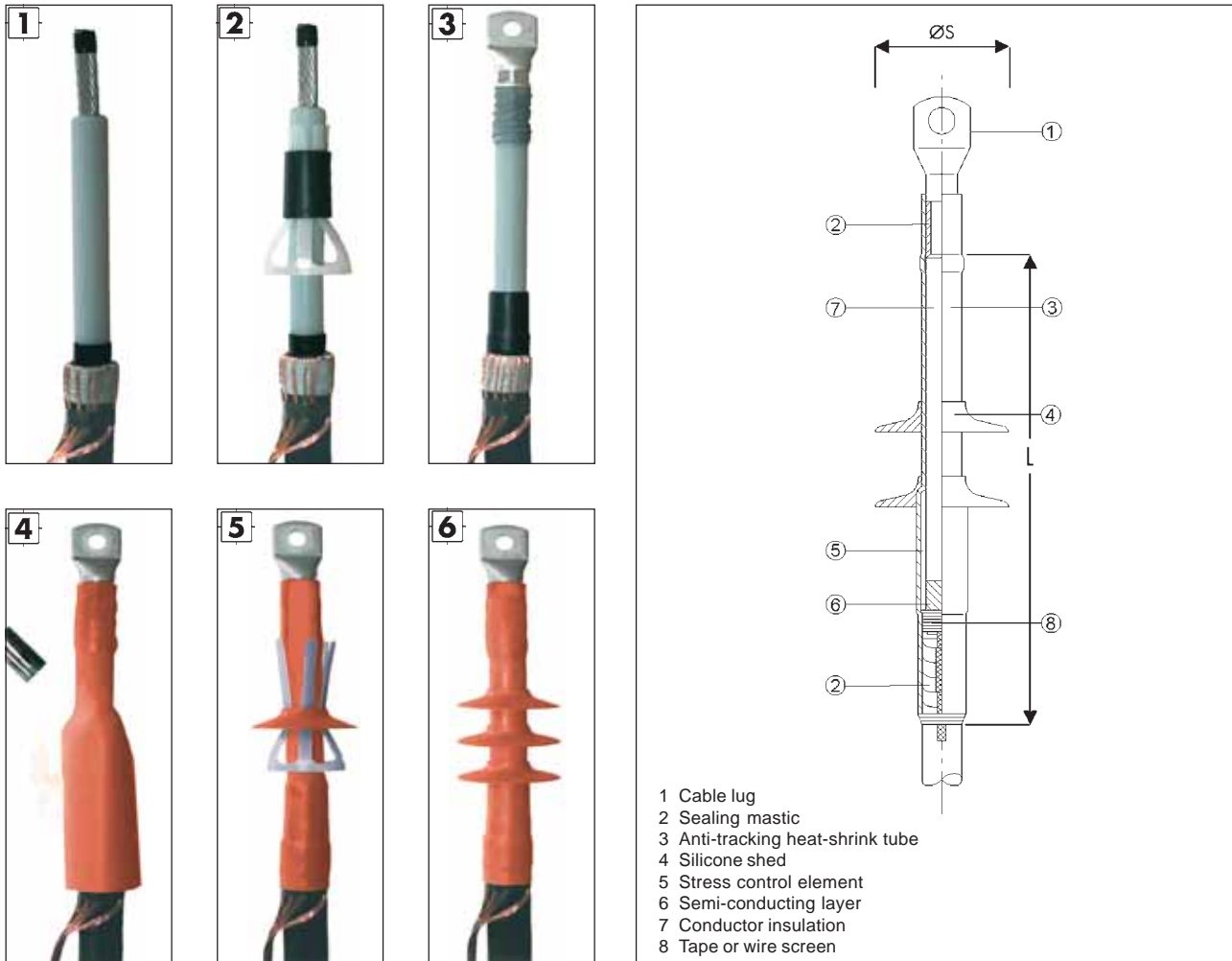
A termination kit consists of the following main components:

- Silicone stress control elements (Fig. 2)
- Sealing mastic (Fig. 3)
- Weatherable anti-tracking heat-shrink tube (Fig. 4)
- Silicone sheds (Fig. 5 and Fig. 6)

Delivery

One kit for three phases without cable lugs for cables with copper wire screen.

Accessories for cables with tape screen as well as cable lugs can be ordered separately.



Hybrid Technique
Hybrid Single-core Outdoor Termination Type CHE-F
 for all single-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type		Q mm ²	Ø1 mm	L mm	S	ØS mm
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
194049	CHE-F 12kV	10 – 25		9.9	220	1	80
194050	CHE-F 12kV	25 – 95		12.6	220	1	80
194051	CHE-F 12kV	95 – 240		17.3	220	1	85
194052	CHE-F 12kV	150 – 400		19.9	220	1	85
194053	CHE-F 12kV	240 – 500		23.1	220	1	85
194054	CHE-F 12kV	400 – 800		27.3	220	1	115
194055	CHE-F 12kV	800 – 1000		36.8	220	1	123
U₀/U (U_m) 8.7/15 (17.5) kV							
194056	CHE-F 17kV	10 – 16		9.9	400	2	80
194057	CHE-F 17kV	16 – 50		12.6	400	2	80
194058	CHE-F 17kV	70 – 240		17.3	400	2	85
194059	CHE-F 17kV	120 – 300		19.9	400	2	85
194061	CHE-F 17kV	185 – 400		23.1	400	2	85
194062	CHE-F 17kV	300 – 630		27.3	400	2	115
194063	CHE-F 17kV	630 – 1000		36.8	400	2	123
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
193372	CHE-F 24kV	10 – 35		12.6	400	3	85
193374	CHE-F 24kV	25 – 150		17.3	400	3	85
194064	CHE-F 24kV	70 – 240		19.9	400	3	85
194065	CHE-F 24kV	120 – 300		23.1	400	3	85
194066	CHE-F 24kV	240 – 500		27.3	400	3	115
194067	CHE-F 24kV	630 – 1000		36.8	400	3	123
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
194068	CHE-F 36kV	35 – 70		19.9	600	4	85
194069	CHE-F 36kV	50 – 150		23.1	600	4	85
194070	CHE-F 36kV	150 – 400		27.3	600	4	115
194071	CHE-F 36kV	500 – 800		36.8	600	4	123

Q = Nominal cross section – definite assignment confer diameter over conductor insulation

Ø1 = Minimum diameter after removal of the outer semi-conducting layer

L = Total length

S = Number of sheds per phase

ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use terminations of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V-LD
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for cables with tape screen

Hybrid Technique

Three-core Indoor Termination Type CHE-3I(A)

for all three-core polymeric cables up to 36 kV

Application

Terminations Type CHE-3I(A) are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR) with different semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

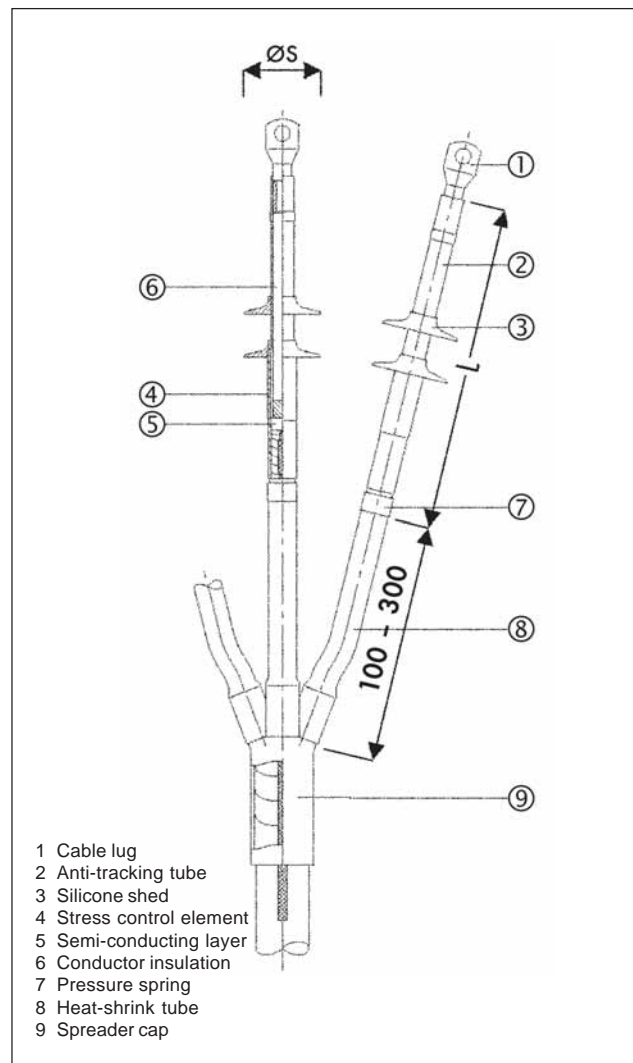
Design

A termination kit consists of the following main components:

- One kit of single-core terminations (red)
- Three-core spreader kit (black) with variable core length. Core lengths > 300 mm on request.

Delivery

One kit for three phases without cable lugs for cables with copper wire screen without armouring. **Accessories for cable with tape screen respectively armouring as well as cable lugs can be ordered separately.**



Hybrid Technique
Three-core Indoor Termination Type CHE-3I(A)
 for all three-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	L mm	S	ØS mm
		Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
146228	CHE-3I(A)	12kV	10 – 25	9.9	220	–	–
146216	CHE-3I(A)	12kV	25 – 95	12.6	220	–	–
146217	CHE-3I(A)	12kV	95 – 240	17.3	220	–	–
146218	CHE-3I(A)	12kV	150 – 400	19.9	220	–	–
U₀/U (U_m) 8.7/15 (17.5) kV							
195365	CHE-3I(A)	17kV	16 – 50	12.6	220	1	85
171761	CHE-3I(A)	17kV	70 – 240	17.3	220	1	85
171762	CHE-3I(A)	17kV	150 – 300	19.9	220	1	85
171763	CHE-3I(A)	17kV	185 – 400	23.1	220	1	85
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
146300	CHE-3I(A)	24kV	10 – 35	12.6	220	1	85
146302	CHE-3I(A)	24kV	25 – 95	17.3	220	1	85
146301	CHE-3I(A)	24kV	70 – 240	19.9	220	1	85
146297	CHE-3I(A)	24kV	120 – 300	23.1	220	1	85
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
146158	CHE-3I(A)	36kV	35 – 70	19.9	400	2	85
146159	CHE-3I(A)	36kV	50 – 150	23.1	400	2	85
146160	CHE-3I(A)	36kV	150 – 400	27.3	400	2	115

Q = Nominal cross section – definite assignment confer diameter over conductor insulation

Ø1 = Minimum diameter after removal of the outer semi-conducting layer

L = Total length

S = Number of sheds per phase

ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use terminations of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for cables with tape screen as well as armouring

Hybrid Technique

Three-core Outdoor Termination Type CHE-3F(A)

for all three-core polymeric cables up to 36 kV

Application

Terminations Type CHE-3F(A) are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR) with different semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

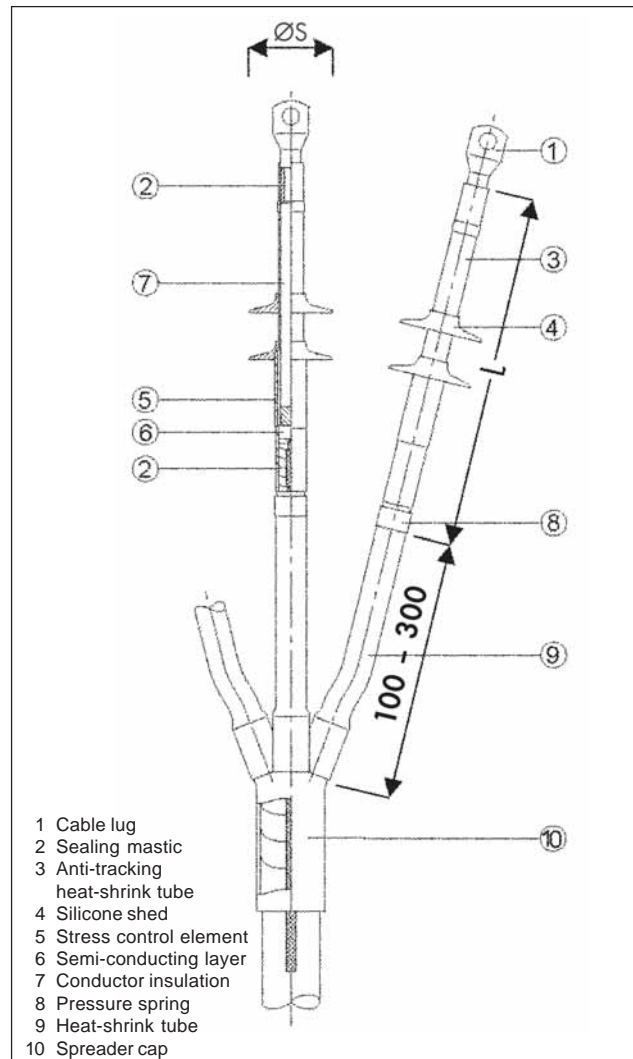
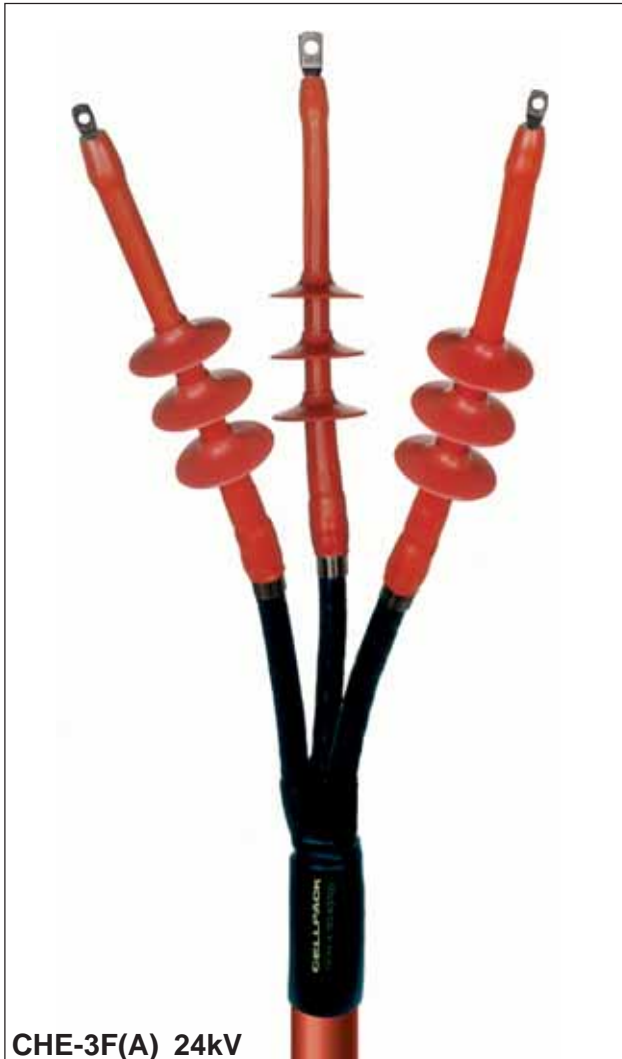
Design

A termination kit consists of the following main components:

- One kit of single-core terminations (red)
- Three-core spreader kit (black) with variable core length. Core lengths > 300 mm on request.

Delivery

One kit for three phases without cable lugs for cables with copper wire screen without armouring. **Accessories for cable with tape screen respectively armouring as well as cable lugs can be ordered separately.**



Hybrid Technique
Three-core Outdoor Termination Type CHE-3F(A)
 for all three-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	L mm	S	ØS mm
		Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
146226	CHE-3F(A)	12kV	10 – 25	9.9	220	1	80
146220	CHE-3F(A)	12kV	25 – 95	12.6	220	1	85
146222	CHE-3F(A)	12kV	95 – 240	17.3	220	1	85
146224	CHE-3F(A)	12kV	150 – 400	19.9	220	1	85
U₀/U (U_m) 8.7/15 (17.5) kV							
195366	CHE-3F(A)	17kV	16 – 50	12.6	400	2	85
171756	CHE-3F(A)	17kV	70 – 240	17.3	400	2	85
171757	CHE-3F(A)	17kV	150 – 300	19.9	400	2	85
146296	CHE-3F(A)	17kV	185 – 400	23.1	400	2	85
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
146303	CHE-3F(A)	24kV	10 – 35	12.6	400	3	85
146304	CHE-3F(A)	24kV	25 – 95	17.3	400	3	85
146306	CHE-3F(A)	24kV	70 – 240	19.9	400	3	85
146298	CHE-3F(A)	24kV	120 – 300	23.1	400	3	85
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
146234	CHE-3F(A)	36kV	35 – 70	19.9	600	4	85
146235	CHE-3F(A)	36kV	50 – 150	23.1	600	4	85
146242	CHE-3F(A)	36kV	150 – 400	27.3	600	4	115

Q = Nominal cross section – definite assignment confer diameter over conductor insulation

Ø1 = Minimum diameter after removal of the outer semi-conducting layer

L = Total length

S = Number of sheds per phase

ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use terminations of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V-LD
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for cables with tape screen as well as armouring

Hybrid Technique

Three-core Indoor Termination Type CHE-3I(B)

for all three-core polymeric cables up to 36 kV

Application

Terminations Type CHE-3I(B) are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR) with different semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

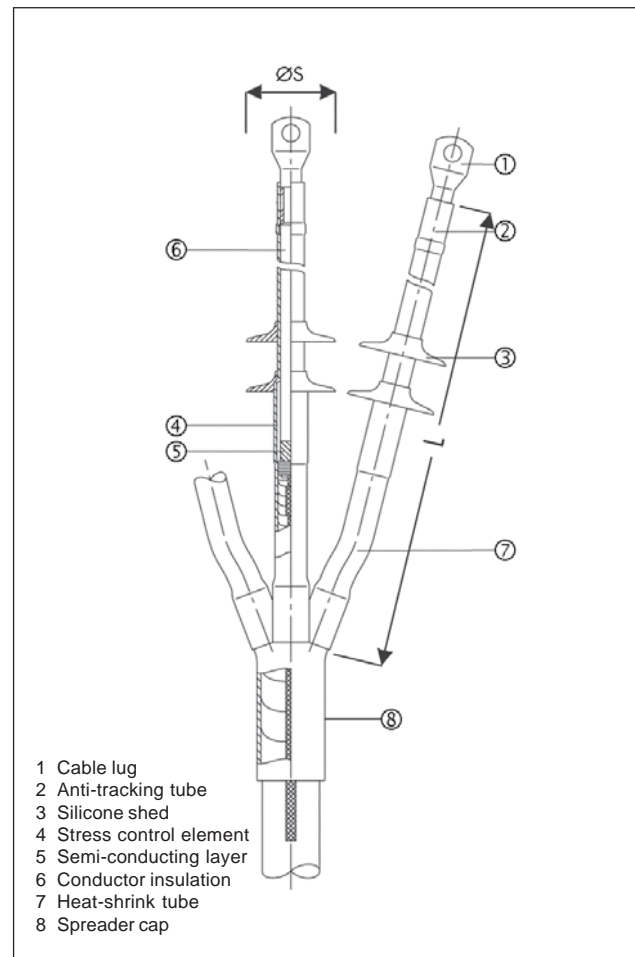
Design

A termination kit consists of the following main components:

- Silicone stress control elements
- Weather resistant and anti-tracking heat-shrink tube
- Anti-tracking spreader cap
- Silicone sheds – if indicated (see »Ordering Details«)

Delivery

One kit for three phases without cable lugs for cables with copper wire screen without armouring. **Accessories for cables with tape screen respectively armouring as well as cable lugs can be ordered separately.**



Hybrid Technique
Three-core Indoor Termination Type CHE-3I(B)
 for all three-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	L mm	S	ØS mm
			Q mm ²				
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
184796	CHE-3I(B)	12kV	10 – 25	9.9	350	–	80
173134	CHE-3I(B)	12kV	25 – 95	14.8	350	–	85
173132	CHE-3I(B)	12kV	95 – 240	17.3	350	–	85
180522	CHE-3I(B)	12kV	150 – 400	19.9	350	–	85
U₀/U (U_m) 8.7/15 (17.5) kV							
182731	CHE-3I(B)	17kV	25 – 50	14.8	400	–	85
182732	CHE-3I(B)	17kV	70 – 240	17.3	400	–	85
182733	CHE-3I(B)	17kV	150 – 300	22.5	400	–	85
182734	CHE-3I(B)	17kV	185 – 400	23.1	400	–	85
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
184797	CHE-3I(B)	24kV	10 – 35	14.8	500	1	85
184798	CHE-3I(B)	24kV	25 – 95	18	500	1	85
184799	CHE-3I(B)	24kV	70 – 240	22.5	500	1	85
184800	CHE-3I(B)	24kV	120 – 400	23.1	500	1	85
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
184801	CHE-3I(B)	36kV	35 – 70	22.5	650	2	85
184802	CHE-3I(B)	36kV	50 – 150	23.1	650	2	85
184803	CHE-3I(B)	36kV	150 – 400	29.1	650	2	115

Q = Nominal cross section – definite assignment confer diameter over conductor insulation

Ø1 = Minimum diameter after removal of the outer semi-conducting layer

L = Total length

S = Number of sheds per phase

ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use terminations of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for cables with copper tape screen as well as armouring

Hybrid Technique

Three-core Outdoor Termination Type CHE-3F(B)

for all three-core polymeric cables up to 36 kV

Application

Terminations Type CHE-3F(B) are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR) with different semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

Design

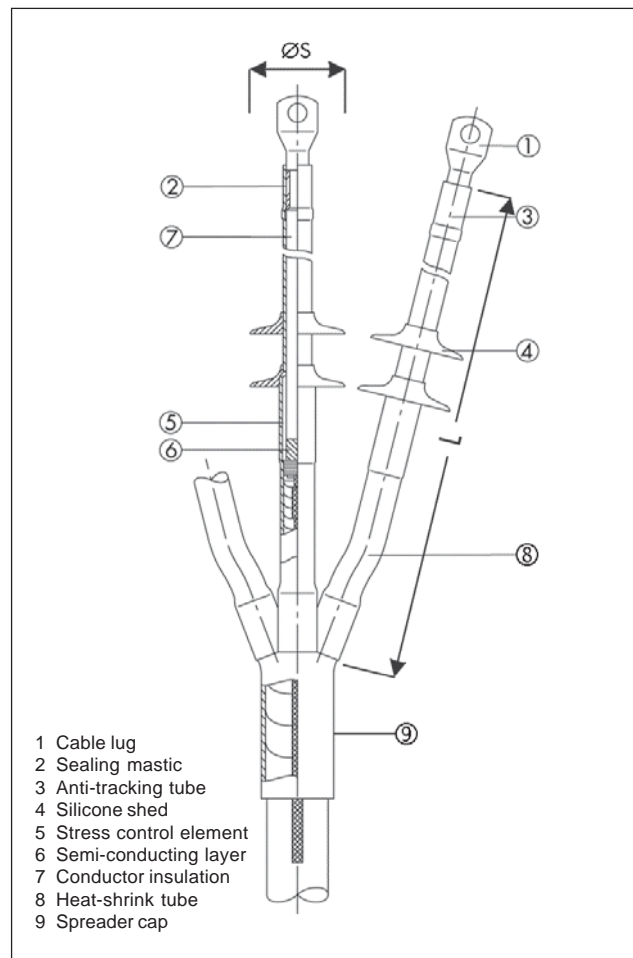
A termination kit consists of the following main components:

- Silicone stress control elements
- Weather resistant and anti-tracking heat-shrink tube
- Sealing mastic
- Anti-tracking spreader cap
- Silicone sheds

Delivery

One kit for three phases without cable lugs for cables with copper wire screen without armouring.

Accessories for cables with tape screen respectively armouring as well as cable lugs can be ordered separately.



Hybrid Technique
Three-core Outdoor Termination Type CHE-3F(B)
 for all three-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	L mm	S	ØS mm
		Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
184805	CHE-3F(B)	12kV	10 – 25	9.9	700	1	80
184806	CHE-3F(B)	12kV	25 – 95	14.8	700	1	85
184807	CHE-3F(B)	12kV	95 – 240	17.3	700	1	85
184808	CHE-3F(B)	12kV	150 – 400	19.9	700	1	85
U₀/U (U_m) 8.7/15 (17.5) kV							
182735	CHE-3F(B)	17kV	25 – 50	14.8	700	2	85
182736	CHE-3F(B)	17kV	70 – 240	17.3	700	2	85
182737	CHE-3F(B)	17kV	150 – 300	22.5	700	2	85
182738	CHE-3F(B)	17kV	185 – 400	23.1	700	2	85
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
184472	CHE-3F(B)	24kV	10 – 35	14.8	850	3	85
184809	CHE-3F(B)	24kV	25 – 95	18	850	3	85
184811	CHE-3F(B)	24kV	70 – 240	22.5	850	3	85
184812	CHE-3F(B)	24kV	120 – 400	23.1	850	3	85
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
184813	CHE-3F(B)	36kV	35 – 70	22.5	850	4	85
184815	CHE-3F(B)	36kV	50 – 150	23.1	850	4	85
184816	CHE-3F(B)	36kV	150 – 400	29.1	850	4	115

Q = Nominal cross section – definite assignment confer diameter over conductor insulation

Ø1 = Minimum diameter after removal of the outer semi-conducting layer

L = Total length

S = Number of sheds per phase

ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use terminations of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for cables with copper tape screen as well as armouring

Hybrid Technique

Transition Joint Type CHMPR

for belted and H-cable to polymeric cables up to 17.5 kV

Application

Transition joints

- Type **CHMPR3-1** for connecting **three** single-core polymeric cables
- Type **CHMPR3** for connecting **one** three-core polymeric cable
also applicable on belted and screened cables (Hoechstaedter) up to 17.5 kV.

For paper cables with small conductors an adapter kit is available.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of connectors with oil barrier
- Applicable on belted and screened cables and all types of polymeric cables
- Unlimited shelf life and immediate operation after installation

Design

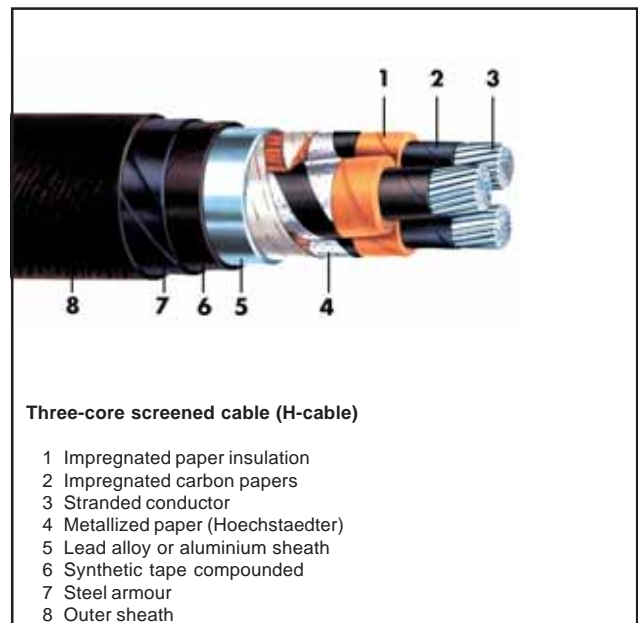
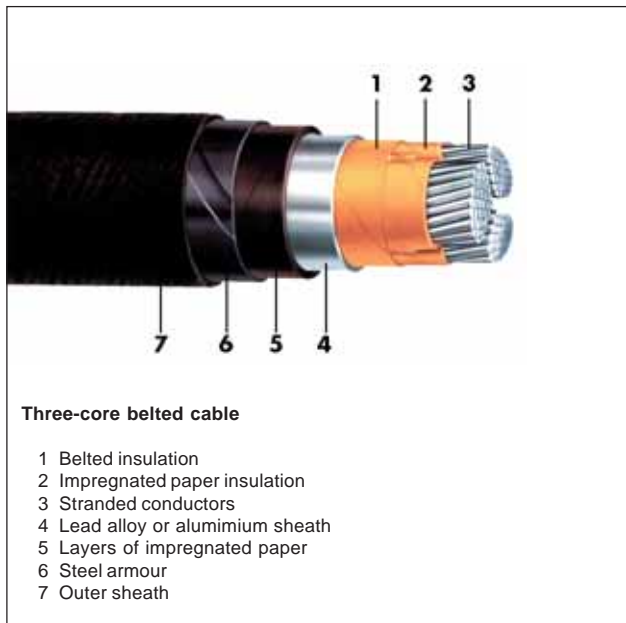
A kit of a joint consists of the following main components:

- Silicone stress control elements
- Blue filling tape with stress control and oil resisting features
- Oil-resisting heat-shrink tube
- Conductive heat-shrink tubes and spreader cap
- Insulating thick-wall heat-shrink tubes
- Copper braid sleeve
- Thick-wall heat-shrink tubes with hot melting adhesive as an outer protection

Delivery

One kit for three phases without connectors.

Required connectors can be ordered separately.



Hybrid Technique Transition Joint Type CHMPR

for belted and H-cable to polymeric cables up to 17.5 kV

Ordering Details

Art.-No.	Type			Q	Ø1 mm	Ø2 mm	VL mm	L mm
	Q mm ²		für 12 kV mm ²					
3-core paper cable to polymeric single-core cables								
U₀/U (U_m) 6/10 (12) kV - 8.7/15 (17.5) kV								
197603	CHMPR3-1	17kV	35 – 50	35 – 70	12.6	20	130	1100
197604	CHMPR3-1	17kV	70 – 240	95 – 240	17.3	33	150	1100
197606	CHMPR3-1	17kV	240 – 400	300 – 400	23.1	42	170	1100
3-core paper cable to three-core polymeric cables								
U₀/U (U_m) 6/10 (12) kV - 8.7/15 (17.5) kV								
197618	CHMPR3	17kV	35 – 50	35 – 70	12.6	20	130	1400
197619	CHMPR3	17kV	70 – 240	95 – 240	17.3	33	150	1400
197620	CHMPR3	17kV	240 – 400	300 – 400	23.1	42	170	1400

- Q = Nominal cross section – definite assignment confer diameter over conductor insulation (Ø 1)
 Ø1 = Minimum diameter over conductor insulation after removing the outer semi-conducting layer (polymeric cables)
 Ø2 = Maximum diameter of the connector
 VL = Maximum connector length
 L = Total length of the transition joint

Note

For cables of U_m = 7.2 kV please use the joint of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Adapter kit (see below)
- Compression connector Cu – blocked – Type DVZ-CU-V-LD
- Compression connector Al – blocked – Type DVZ-AL-LD
- Screw connector for Cu and Al Type SV-V-AS

Ordering Details for Adapter Kits

For small sizes of screened or belted cables the range of joints can be extended by an adapter kit.

Art.-No.	Type	Applicable for U ₀ /U (U _m) ...kV	Q extension		suitable for joints
			from mm ²	to mm ²	
197690	PS(G+H) 17/1	8.7 / 15 (17.5) 6 / 10 (12)	70 – 240	35 – 50	197604 + 197619
			95 – 240	35 – 70	197604 + 197619
197691	PS(G+H) 17/2	8.7 / 15 (17.5) 6 / 10 (12)	240 – 400	70 – 185	197606 + 197620
			300 – 400	95 – 240	197606 + 197620

Hybrid Technique

Transition Joint Type CHMP(H)

for H-cables to polymeric cables from 24 up to 36 kV

Application

Transition joints

- Type **CHMP(H)3-1** for connecting **three** polymeric single-core cables
- Type **CHMP(H)3** for connecting **one** three-core polymeric cable applicable for Hoechstaedter cables from 24 up to 36 kV.

For paper cables with small conductors an adapter kit is available.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of connectors with oil barrier
- Applicable for all types of polymeric cables
- Unlimited shelf life and immediate operation after installation

Design

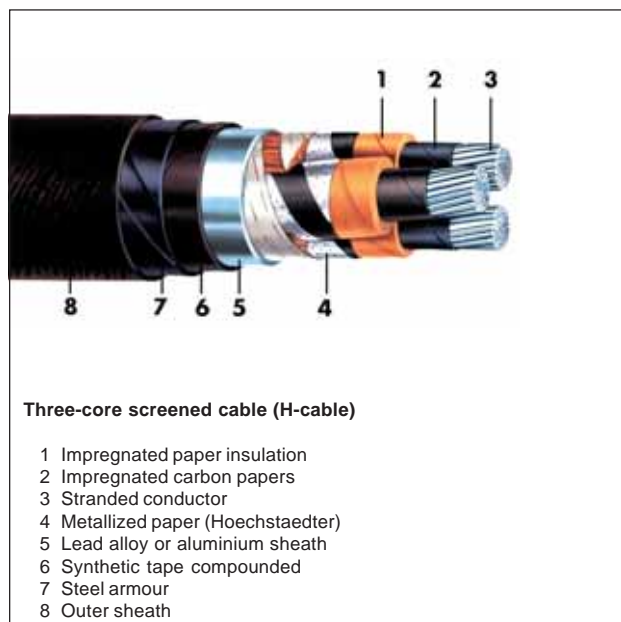
A kit of a joint consists of the following main components:

- Silicone stress control elements
- Blue filling tape with stress control and oil resisting features
- Oil-resisting heat-shrink tube
- Conductive heat-shrink tubes and spreader cap
- Insulating thick-wall heat-shrink tubes
- Copper braid sleeve
- Thick-wall heat-shrink tubes with hot melting adhesive as an outer protection

Delivery

One kit for three phases without connectors.

Required connectors can be ordered separately.



Hybrid Technique
Transition Joint Type CHMP(H)
 for H-cables to polymeric cables from 24 up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	Ø2 mm	VL mm	L mm
		Q mm ²					
Hochstaedter cable to polymeric single-core cables U₀/U (U_m) 12/20 (24) – 12.7/22 (24) kV							
197607	CHMP(H)3-1	24kV	16 – 35	12.6	15	100	1200
197608	CHMP(H)3-1	24kV	35 – 70	17.3	20	110	1200
197609	CHMP(H)3-1	24kV	95 – 240	19.9	33	150	1200
197610	CHMP(H)3-1	24kV	185 – 300	23.1	40	160	1200
Hochstaedter cable to polymeric single-core cables U₀/U (U_m) 18/30 (36) – 19/33 (36) kV							
197614	CHMP(H)3-1	36kV	35 – 50	19.9	18	110	1200
197616	CHMP(H)3-1	36kV	70 – 150	23.1	25	150	1200
197617	CHMP(H)3-1	36kV	185 – 300	27.3	35	160	1200
Hochstaedter cable to three-core polymeric cable U₀/U (U_m) 12/20 (24) – 12.7/22 (24) kV							
197621	CHMP(H)3	24kV	16 – 35	12.6	15	100	1400
197622	CHMP(H)3	24kV	35 – 70	17.3	20	110	1400
197623	CHMP(H)3	24kV	95 – 240	19.9	33	150	1400
197624	CHMP(H)3	24kV	185 – 300	23.1	40	160	1400
Hochstaedter cable to three-core polymeric cable U₀/U (U_m) 18/30 (36) – 19/33 (36) kV							
197625	CHMP(H)3	36kV	35 – 50	19.9	18	110	1400
197626	CHMP(H)3	36kV	70 – 150	23.1	25	150	1400
197627	CHMP(H)3	36kV	185 – 300	27.3	35	160	1400

Q = Nominal cross section – definite assignment confer diameter over conductor insulation (Ø 1)
 Ø1 = Minimum diameter over conductor insulation after removing the outer semi-conducting layer (polymeric cables)
 Ø2 = Maximum diameter of the connector
 VL = Maximum connector length
 L = Total length of the transition joint

Note

For cables of U_m = 7.2 kV please use the joint of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Adapter kit (see below)
- Compression connector Cu – blocked – Type DVZ-CU-V-LD
- Compression connector Al – blocked – Type DVZ-AL-LD
- Screw connector for Cu and Al Type SV-V-AS

Ordering Details for Adapter Kits

For small sizes of screened or belted cables the range of joints can be extended by an adapter kit.

Art.-No.	Type	applicable for U ₀ /U (U _m) ...kV	Q extension		suitable for joints
			from mm ²	to mm ²	
197692	PS(H) 24 /1	12 / 20 (24)	95 – 240	35 – 70	197609 + 197623
197693	PS(H) 24 /2	12 / 20 (24)	185 – 300	95 – 150	197610 + 197624
197694	PS(H) 36 /1	18 / 30 (36)	70 – 150	35 – 50	197616 + 197626
197695	PS(H) 36 /2	18 / 30 (36)	185 – 300	70 – 150	197617 + 197627

Hybrid Technique

Transition Joint Type CHMP(3Pb)

for three-core single lead sheath cables to polymeric cables up to 17.5 kV

Application

Transition joints

- Type **CHMP(3Pb)3-1** for connecting **three** single-core polymeric cables
 - Type **CHMP(3Pb)3** for connecting **one** three-core polymeric cable
- are designed to cover three-core single lead sheath cables up to 17.5 kV.

For paper cables with small conductors an adapter kit is available.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of connectors with oil barrier
- Applicable for all types of polymeric cables
- Unlimited shelf life and immediate operation after installation

Design

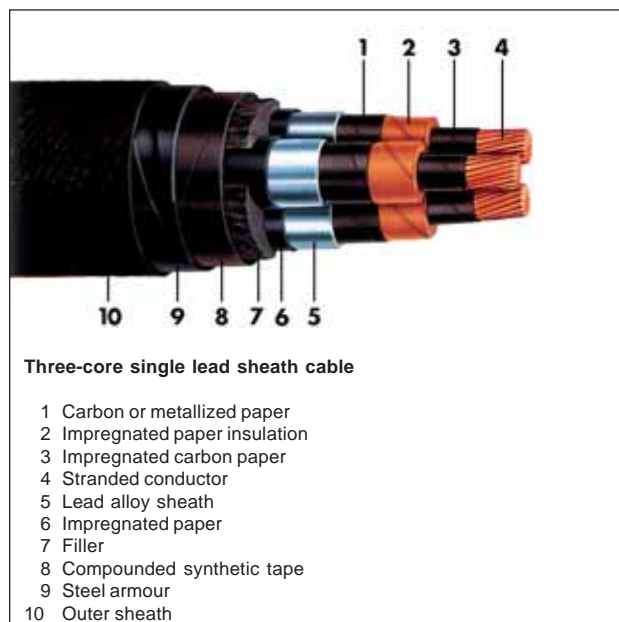
A kit of a joint consists of the following main components:

- Silicone stress control elements
- Blue filling tape with stress control and oil resisting features
- Oil-resisting heat-shrink tube
- Conductive heat-shrink tubes and spreader cap
- Insulating thick-wall heat-shrink tubes
- Copper braid sleeve
- Thick-wall heat-shrink tubes with hot melting adhesive as an outer protection

Delivery

One kit for three phases without connector.

Required connectors can be ordered separately.



Hybrid Technique Transition Joint Type CHMP(3Pb)

for three-core single lead sheath cables to polymeric cables up to 17.5 kV

Ordering Details

Art.-No.	Type			Q	Ø1 mm	Ø2 mm	VL mm	L mm
			Q mm ²	für 12 kV mm ²				
Three-core single lead sheath cable to single-core polymeric cables U₀/U (U_m) 6/10 (12) up to 8.7/15 (17.5) kV								
197628	CHMP(3Pb)3-1	17kV	25 – 50	50 – 95	12.6	20	100	1200
198782	CHMP(3Pb)3-1	17kV	70 – 95	95 – 185	17.3	25	140	1200
197629	CHMP(3Pb)3-1	17kV	120 – 240	150 – 300	19.9	33	150	1200
197630	CHMP(3Pb)3-1	17kV	240 – 300	300 – 400	23.1	40	160	1200
Three-core single lead sheath cable to three-core polymeric cables U₀/U (U_m) 6/10 (12) up to 8.7/15 (17.5) kV								
197638	CHMP(3Pb)3	17kV	25 – 50	50 – 95	12.6	20	100	1400
198783	CHMP(3Pb)3	17kV	70 – 95	95 – 185	17.3	25	140	1400
197639	CHMP(3Pb)3	17kV	120 – 240	150 – 300	19.9	33	150	1400
197640	CHMP(3Pb)3	17kV	240 – 300	300 – 300	23.1	40	160	1400

Q = Nominal cross section – definite assignment confer diameter over conductor insulation (Ø 1)

Ø1 = Minimum diameter over conductor insulation after removing the outer semi-conducting layer (polymeric cables)

Ø2 = Maximum diameter of the connector

VL = Maximum connector length

L = Total length of the transition joint

Note

For cables of U_m = 7.2 kV please use the joint of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Adapter kit (see below)
- Compression connector Cu – blocked – Type DVZ-CU-V-LD
- Compression connector Al – blocked – Type DVZ-AL-LD
- Screw connector for Cu and Al Type SV-V-AS

Ordering Details for Adapter Kits

For small sizes of screened or belted cables the range of joints can be extended by an adapter kit.

Art.-No.	Type	applicable for U ₀ /U (U _m) ...kV	Q extension		applicable for joints
			from mm ²	to mm ²	
197696	PS(3Pb+Pb)	6 / 10 (12)	95 – 185	35 – 70	198782 + 198783
197697	PS(3Pb+Pb)	8.7/15(17.5)	70 – 95	25 – 50	198782 + 198783
197698	PS(3Pb+Pb)	8.7 / 15 (17.5)	120 – 240	70 – 95	197630 + 197640

Hybrid Technique

Transition Joint Type CHMP(3Pb)

for three-core single lead sheath cables to polymeric cables from 24 up to 36 kV

Application

Transition joint

- Type **CHMP(3Pb)3-1** for connecting **three** single-core polymeric cables
 - Type **CHMP(3Pb)3** for connecting **one** three-core polymeric cable
- are designed to cover three-core single lead sheath cables from 24 up to 36 kV.

For paper cables with small conductors an adapter kit is available.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of connectors with oil barrier
- Applicable for all types of polymeric cables
- Unlimited shelf life and immediate operation after installation

Design

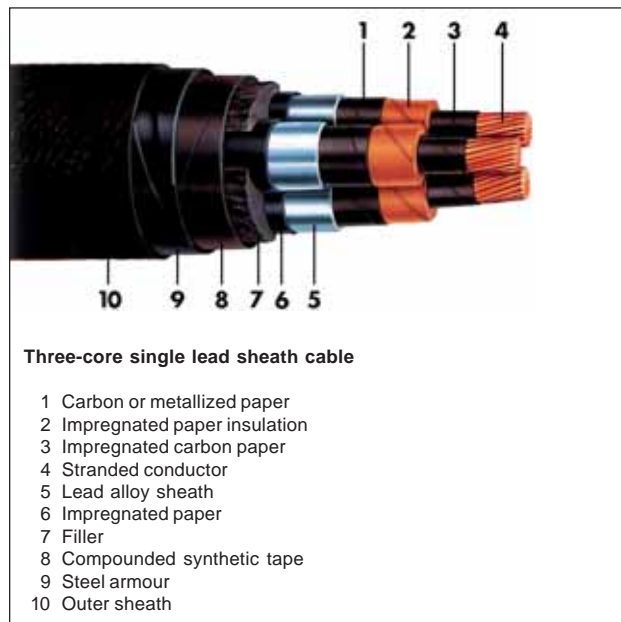
A kit of a joint consists of the following main components:

- Silicone stress control elements
- Blue filling tape with stress control and oil resisting features
- Oil-resisting heat-shrink tube
- Conductive heat-shrink tubes and spreader cap
- Insulating thick-wall heat-shrink tubes
- Copper braid sleeve
- Thick-wall heat-shrink tubes with hot melting adhesive as an outer protection

Delivery

One kit for three phases without connector.

Required connectors can be ordered separately.



Hybrid Technique Transition Joint Type CHMP(3Pb)

for three-core single lead sheath cables to polymeric cables from 24 up to 36 kV

Ordering Details

Art.-No.	Type			Ø1 mm	Ø2 mm	VL mm	L mm
		Q mm ²					
Three-core single lead sheath cable to single-core polymeric cables U₀/U (U_m) 12/20 (24) up to 12.7/22 (24) kV							
197631	CHMP(3Pb)3-1	24kV	16 – 25	12.6	20	100	1200
197632	CHMP(3Pb)3-1	24kV	35 – 95	17.3	25	140	1200
197633	CHMP(3Pb)3-1	24kV	95 – 240	19.9	33	150	1200
197634	CHMP(3Pb)3-1	24kV	185 – 300	23.1	40	160	1200
Three-core single lead sheath cable to single-core polymeric cables U₀/U (U_m) 18/30 (36) up to 19/33 (36) kV							
197635	CHMP(3Pb)3-1	36kV	35 – 50	19.9	18	110	1200
197636	CHMP(3Pb)3-1	36kV	70 – 150	23.1	25	150	1200
197637	CHMP(3Pb)3-1	36kV	185 – 300	27.3	35	160	1200
Three-core single lead sheath cable to three-core polymeric cables U₀/U (U_m) 12/20 (24) up to 12.7/22 (24) kV							
197641	CHMP(3Pb)3	24kV	16 – 25	12.6	20	100	1400
197642	CHMP(3Pb)3	24kV	35 – 95	17.3	25	140	1400
197643	CHMP(3Pb)3	24kV	95 – 240	19.9	33	150	1400
197644	CHMP(3Pb)3	24kV	185 – 300	23.1	40	160	1400
Three-core single lead sheath cable to three-core polymeric cables U₀/U (U_m) 18/30 (36) up to 19/33 (36) kV							
197645	CHMP(3Pb)3	36kV	35 – 50	19.9	18	110	1400
197646	CHMP(3Pb)3	36kV	70 – 150	23.1	25	150	1400
197647	CHMP(3Pb)3	36kV	185 – 300	27.3	35	160	1400

Q = Nominal cross section – definite assignment confer diameter over conductor insulation (Ø 1)

Ø1 = Minimum diameter over conductor insulation after removing the outer semi-conducting layer (polymeric cables)

Ø2 = Maximum diameter of the connector

VL = Maximum connector length

L = Total length of the transition joint

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Adapter kit (see below)
- Compression connector Cu – blocked – Type DVZ-CU-V-LD
- Compression connector Al – blocked – Type DVZ-AL-LD
- Screw connector Cu and Al Type SV-V-AS

Ordering Details for Adapter Kits

For small sizes of screened or belted cables the range of joints can be extended by an adapter kit.

Art.-No.	Type	applicable for U ₀ /U (U _m) ...kV	Q extension		applicable for joints
			from mm ²	to mm ²	
197699	PS(3Pb+Pb)	12 / 20 (24)	95 – 240	35 – 70	197633 + 197643
197700	PS(3Pb+Pb)	12 / 20 (24)	185 – 300	95 – 150	197634 + 197644
197701	PS(3Pb+Pb)	18 / 30 (36)	70 – 150	35 – 50	197636 + 197646
197702	PS(3Pb+Pb)	18 / 30 (36)	185 – 300	70 – 150	197637 + 197647

Hybrid Technique

Straight-through Joint Type CHMPPR3 and CHMPP(H)3

for belted cables up to 17.5 kV • for H-cables from 24 up to 36 kV

Application

Straight-through joints

- Type **CHMPPR3** applicable for belted and Hoechstaedter cable from 6 up to 17.5 kV
- Type **CHMPP(H)3** applicable for Hoechstaedter cable from 24 up to 36 kV

For paper cables with small conductors an adapter kit is available.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of connectors
- Unlimited shelf life and immediate operation after installation

Design

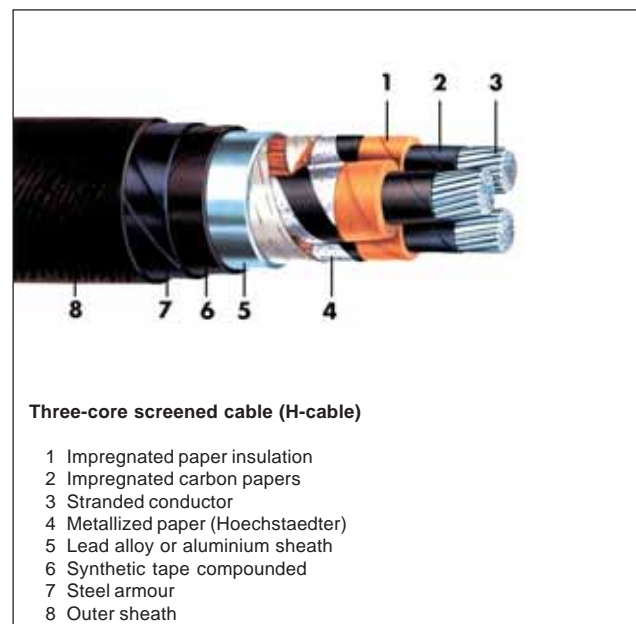
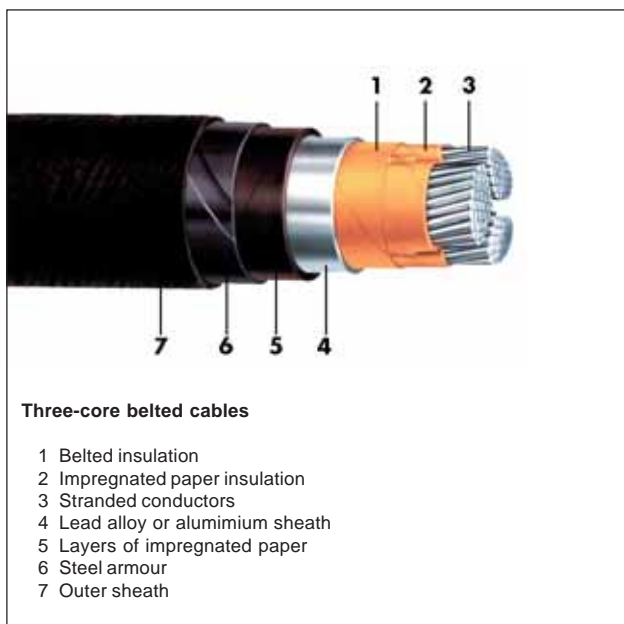
A kit of a straight-through joint consists of the following main components:

- Silicone stress control elements
- Blue filling tape with stress control and oil resisting features
- Oil-resisting heat-shrink tube
- Conductive heat-shrink tubes and spreader cap
- Insulating thick-wall heat-shrink tubes
- Copper braid sleeve
- Thick-wall heat-shrink tubes with hot melting adhesive as an outer protection

Delivery

One kit for three phases without connector.

Required connectors can be ordered separately.



Hybrid Technique

Straight-through Joint Type CHMPPR3 and CHMPP(H)3

for belted cables up to 17.5 kV • for H-cables from 24 up to 36 kV

Ordering Details

Art.-No.	Type		Q		Ø2 mm	VL mm	L mm
		Q mm ²	für 12 kV mm ²				
Belted and Hoechstaedter cables U₀/U (U_m) 6/10 (12) – 8.7/15 (17.5) kV							
197658	CHMPPR3	17kV 35 – 50	35 – 70	20	130	1400	
197659	CHMPPR3	17kV 70 – 240	95 – 240	33	150	1400	
197660	CHMPPR3	17kV 240 – 400	300 – 400	42	170	1400	

Note

The joints mentioned above can be used on cables of 3.6/6 (7.2)kV. Please consider the variation of the conductor size.

Art.-No.	Type		Q		Ø2 mm	VL mm	L mm
		Q mm ²					
Hoechstaedter cable U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
197661	CHMPP(H)3	24kV 16 – 35	15	100	1400		
197662	CHMPP(H)3	24kV 35 – 70	20	110	1400		
197663	CHMPP(H)3	24kV 95 – 240	33	150	1400		
197664	CHMPP(H)3	24kV 185 – 300	40	160	1400		
Hoechstaedter cable U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
197665	CHMPP(H)3	36kV 35 – 50	18	110	1400		
197666	CHMPP(H)3	36kV 70 – 150	25	150	1400		
197667	CHMPP(H)3	36kV 185 – 300	35	160	1400		

Q = Nominal cross section

Ø2 = Maximum diameter of connectors

VL = Maximum length of the connector

L = Total length of the straight-through joint

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connector Cu Type DV-CU
- Compression connector Al Type DV-AL
- Screw connector Cu and Al Type SV-V-AS

Hybrid Technique

Straight-through Joint Type CHMPP(3Pb)3

for three-core single lead sheath cables up to 36 kV

Application

Straight-through joints Type CHMPP(3Pb)3 are designed to cover all three-core single lead sheath cables up to 36 kV.

For paper cables with small conductors an adapter kit is available.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of connectors
- Unlimited shelf life and immediate operation after installation

Design

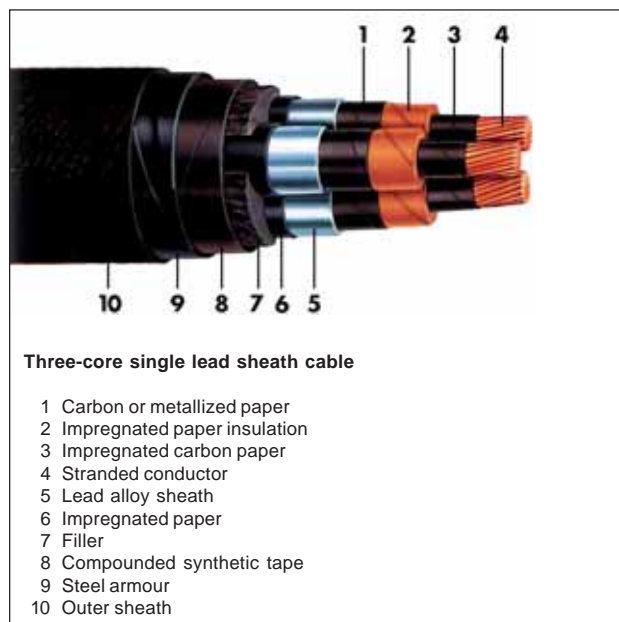
A kit of a joint consists of the following main components:

- Silicone stress control elements
- Blue filling tape with stress control and oil resisting features
- Oil-resisting heat-shrink tube
- Conductive heat-shrink tubes and spreader cap
- Insulating thick-wall heat-shrink tubes
- Copper braid sleeve
- Thick-wall heat-shrink tubes with hot melting adhesive as an outer protection

Delivery

One kit for three phases without connector.

Required connectors can be ordered separately.



Hybrid Technique
Straight-through Joint Type CHMPP(3Pb)3
 for three-core single lead sheath cables up to 36 kV

Ordering Details

Art.-No.	Type		Q		Ø2 mm	VL mm	L mm
		Q mm ²	for 12 kV mm ²				
Three-core single lead sheath cable U₀/U (U_m) 6/10 (12) – 8.7/15 (17.5) kV							
197668	CHMPP(3Pb)3	17kV	25 – 50	50 – 95	20	100	1400
198784	CHMPP(3Pb)3	17kV	70 – 95	95 – 185	25	140	1400
197669	CHMPP(3Pb)3	17kV	120 – 240	150 – 300	33	150	1400
197670	CHMPP(3Pb)3	17kV	240 – 300	300 – 400	40	160	1400

Note

The above mentioned joints can also be used for cables up to 3.6/6 (7.2) kV.
 Please consider the variation of the conductor insulation.

Art.-No.	Type		Q		Ø2 mm	VL mm	L mm
		Q mm ²					
Three-core single lead sheath cable U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
197671	CHMPP(3Pb)3	24 V	16 – 25		20	100	1400
197672	CHMPP(3Pb)3	24kV	35 – 95		25	140	1400
197673	CHMPP(3Pb)3	24kV	95 – 240		33	150	1400
197674	CHMPP(3Pb)3	24kV	185 – 300		40	160	1400
Three-core single lead sheath cable U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV							
197675	CHMPP(3Pb)3	36kV	35 – 50		18	110	1400
197676	CHMPP(3Pb)3	36kV	70 – 150		25	150	1400
197677	CHMPP(3Pb)3	36kV	185 – 300		35	160	1400

- Q = Nominal cross section
- Ø2 = Maximum diameter of the connector
- VL = Maximum connector length
- L = Total length of the straight-through joint

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connector Cu Type DV-CU
- Compression connector Al Type DV-AL
- Screw connector for Cu and Al Type SV-V-AS

Hybrid Technique

Indoor termination Type CHEP-3I and CHEP(H)-3I

for belted cables up to 17.5 kV • for H-cables from 24 up to 36 kV

Application

Indoor terminations

- Type **CHEP-3I** are designed to cover belted cables from 6 up to 17.5 kV
- Type **CHEP(H)-3I** are designed for Hoechstaedter cables from 24 to 36 kV **for MIND cables only**. For cables with draining compound please contact us.

Features

- Quick, easy and safe installation
- For all applications reliable stress control due to an oil-resisting stress control and filling tape and a silicone stress control element respectively
- Wide cross section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

Design

A kit of a termination consists of the following main components:

- Anti-tracking and weather-resistant heat-shrink tube
- Blue filling tape with stress control and oil resisting features and silicone stress control element respectively
- Anti-tracking and weather-resistant heat-shrink spreader cap
- Silicone sheds (for 24 and 36 kV)

Delivery

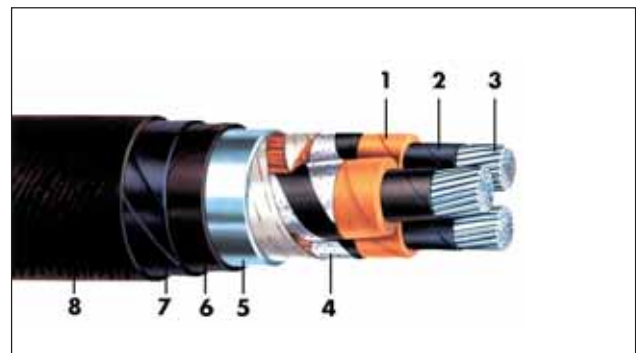
One kit for three phases with solderless earth connection but without cable lugs.

Required cable lugs can be ordered separately.



Three-core belted cable

- 1 Belted insulation
- 2 Impregnated paper insulation
- 3 Stranded conductors
- 4 Lead alloy or aluminium sheath
- 5 Layers of impregnated paper
- 6 Steel armour
- 7 Outer sheath



Three-core screened cable (H-cable)

- 1 Impregnated paper insulation
- 2 Impregnated carbon papers
- 3 Stranded conductor
- 4 Metallized paper (Hoechstaedter)
- 5 Lead alloy or aluminium sheath
- 6 Synthetic tape compounded
- 7 Steel armour
- 8 Outer sheath

Indoor termination Type CHEP-3I and CHEP(H)-3I

for belted cables up to 17.5 kV • for H-cables from 24 up to 36 kV

Ordering Details

Art.-No.	Type		Q für 12 kV mm ²	L mm	S	ØS mm
	Q mm ²					
Belted cables U₀/U (U_m) 6/10 (12) – 8.7/15 (17.5) kV						
197515	CHEP-3I	17kV 16 – 50	16 – 50	500*	–	–
197516	CHEP-3I	17kV 25 – 240	70 – 240	500*	–	–
197517	CHEP-3I	17kV 95 – 300	120 – 400	500*	–	–

* Tail length 1200 mm upon request.

Note

The above mentioned terminations can also be used for cables up to 3.6/6 (7.2) kV. Please consider the variation of the conductor insulation.

Art.-No.	Type		L mm	S	ØS mm
	Q mm ²				
Hochstaedter cable U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV					
197531	CHEP(H)-3I	24kV 16 – 35	500	1	80
197532	CHEP(H)-3I	24kV 50 – 150	500	1	85
197533	CHEP(H)-3I	24kV 70 – 240	500	1	85
197534	CHEP(H)-3I	24kV 120 – 300	500	1	85
Hochstaedter cable U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV					
197535	CHEP(H)-3I	36kV 35 – 70	650	2	85
197536	CHEP(H)-3I	36kV 50 – 240	650	2	85

Q = Nominal cross section

S = Number of sheds per phase

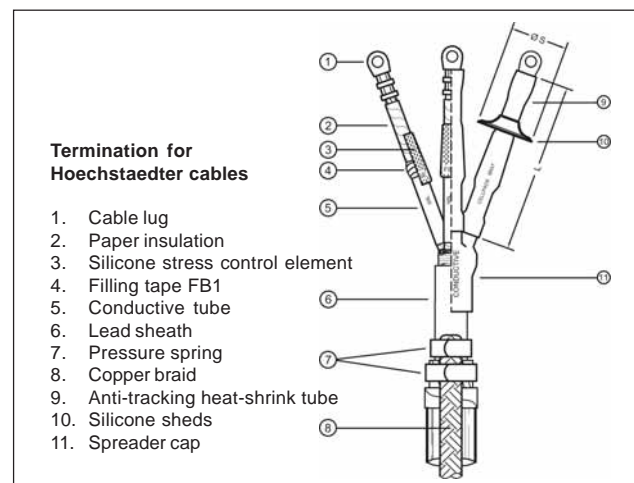
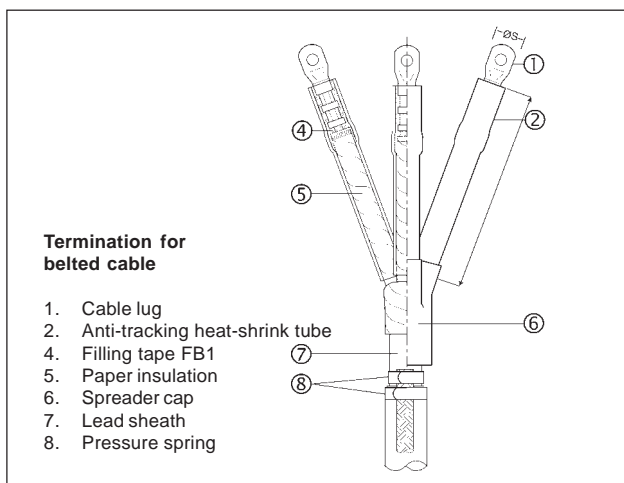
L = Tail length

ØS = Diameter of sheds

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug Cu and Al Type SK-V-AS



Hybrid Technique

Outdoor Terminations Type CHEP-3F and CHEP(H)-3F

for belted cables up to 17.5 kV • for H-cables from 24 up to 36 kV

Application

Outdoor Terminations

- Type **CHEP-3F** are designed to cover belted cables up to 17.5 kV
- Type **CHEP(H)-3F** are designed to cover Hoechstaedter cables from 24 up to 36 kV **for MIND cables only**. For cables with draining compound please contact us.

Features

- Quick, easy and safe installation
- For all applications reliable stress control due to an oil-resisting stress control and filling tape
- Wide cross section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

Design

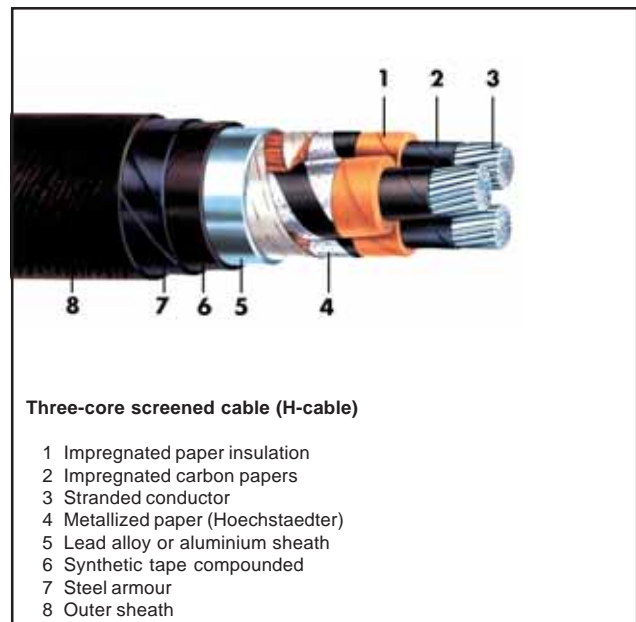
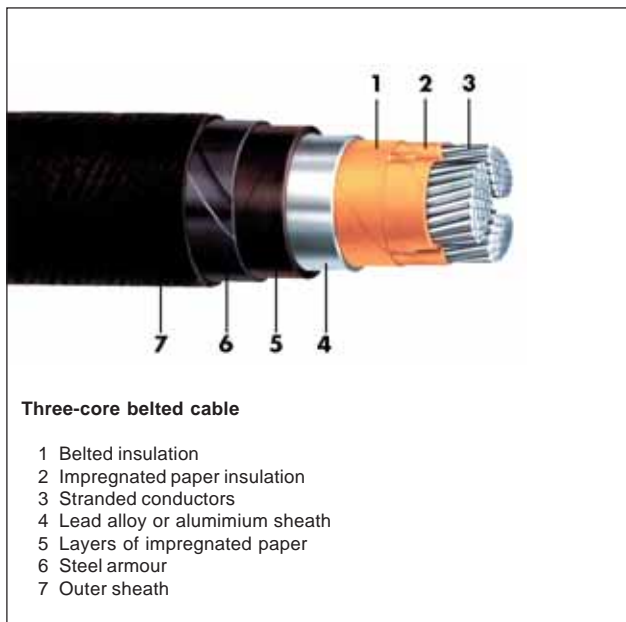
A kit of a termination consists of the following main components:

- Anti-tracking and weather-resistant heat-shrink tube
- Blue filling tape with stress control and oil resisting features
- Anti-tracking and weather-resistant heat-shrink spreader cap
- Silicone sheds

Delivery

One kit for three phases with solderless earth connection but without cable lugs.

Required cable lugs can be ordered separately.



Hybrid Technique

Outdoor Terminations Type CHEP-3F and CHEP(H)-3F

for belted cables up to 17.5 kV • for H-cables from 24 up to 36 kV

Ordering Details

Art.-No.	Type		Q für 12 kV mm ²	L mm	S	ØS mm
	Q mm ²					
Belted cable U₀/U (U_m) 6/10 (12) – 8.7/15 (17.5) kV						
197537	CHEP-3F 17kV	16 – 50	16 – 50	500*	2	80
197538	CHEP-3F 17kV	25 – 240	70 – 240	500*	2	85
197539	CHEP-3F 17kV	95 – 300	120 – 400	500*	2	85

* Tail length 1200 mm upon request.

Note

The above mentioned terminations can also be used for cables up to 3.6/6 (7.2) kV.
Please consider the variation of the conductor insulation.

Art.-No.	Type		L mm	S	ØS mm
	Q mm ²				
Hochstaedter cable U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV					
197543	CHEP(H)-3F 24kV	16 – 35	850	3	80
197544	CHEP(H)-3F 24kV	50 – 150	850	3	85
197545	CHEP(H)-3F 24kV	70 – 240	850	3	85
197546	CHEP(H)-3F 24kV	120 – 300	850	3	85
Hochstaedter cable U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV					
197547	CHEP(H)-3F 36kV	35 – 70	850	4	85
197548	CHEP(H)-3F 36kV	50 – 240	850	4	85

Q = Nominal cross section

L = Tail length

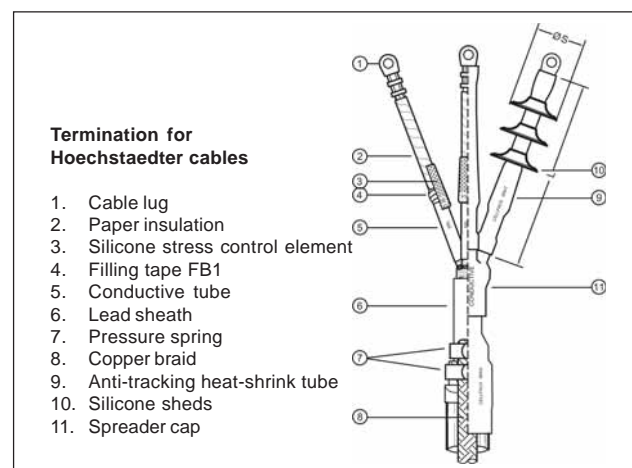
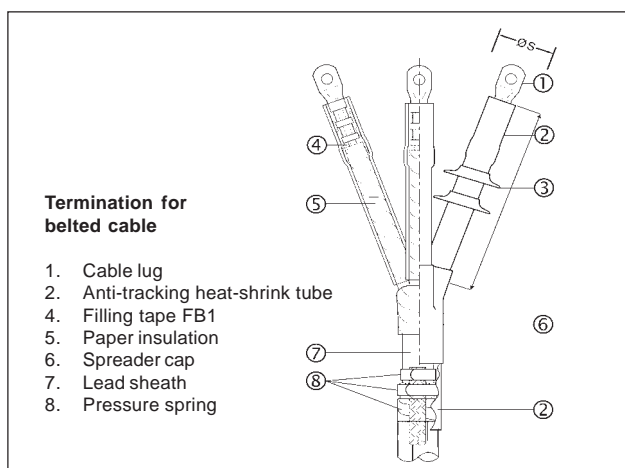
S = Number of sheds per phase

ØS = Diameter of sheds

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu – blocked – Type DK-CU-V-LD
- Compression cable lug Al – blocked – Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS



Hybrid Technique

Indoor Termination Type CHEP(3Pb)-3I

for three-core single lead sheath cables from 24 up to 36 kV

Application

Indoor Terminations Type **CHEP(3Pb)-3I** are designed to cover three-core single lead sheath cables from 24 up to 36 kV – **for MIND cables only**. For cables with draining compound please contact us.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

Design

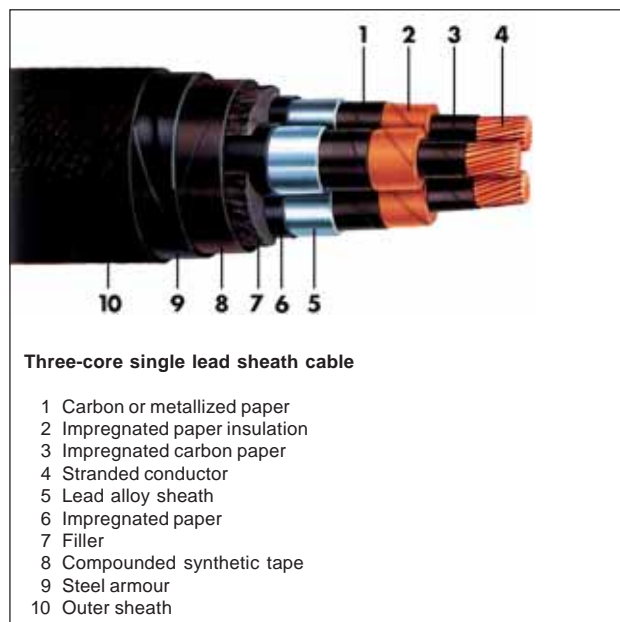
A termination kit consists of the following main components:

- Anti-tracking and weather-resistant heat-shrink tube
- Oil-resisting heat-shrink tube
- Blue filling tape with stress control and oil resisting features
- Silicone stress control elements
- Silicone sheds

Delivery

One kit for three phases with solderless earth connection but without cable lugs.

Required cable lugs can be ordered separately.



Hybrid Technique
Indoor Termination Type CHEP(3Pb)-3I
 for three-core single lead sheath cables from 24 up to 36 kV

Ordering Details

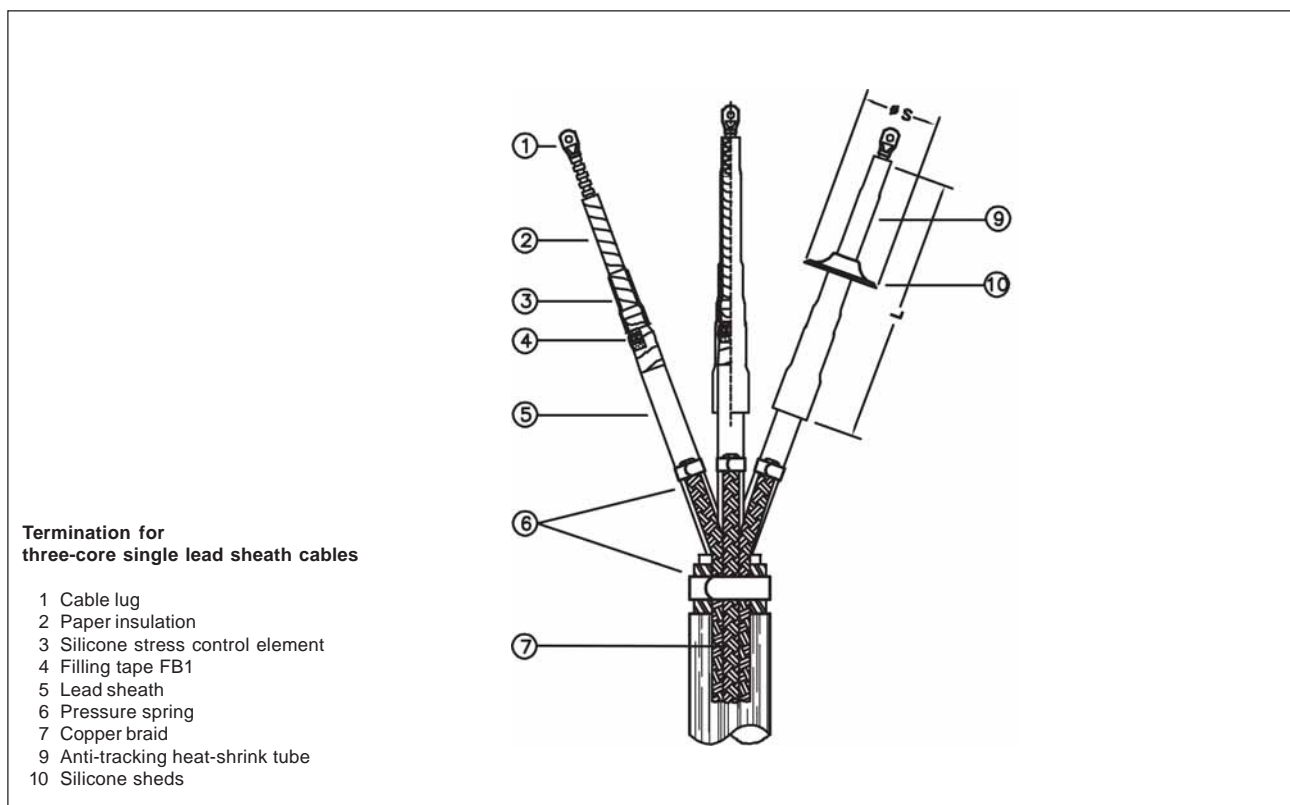
Art.-No.	Type		L mm	S	ØS mm
		Q mm ²			
Three-core single lead sheath cable U_0/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV					
197555	CHEP(3Pb)-3I 24kV	16 – 35	450	1	80
197556	CHEP(3Pb)-3I 24kV	50 – 150	450	1	85
197557	CHEP(3Pb)-3I 24kV	70 – 240	450	1	85
197558	CHEP(3Pb)-3I 24kV	120 – 300	450	1	85
Three-core single lead sheath cable U_0/U (U_m) 18/30 (36) kV – 19/33 (36) kV					
197559	CHEP(3Pb)-3I 36kV	35 – 70	600	2	85
197560	CHEP(3Pb)-3I 36kV	95 – 240	600	2	85

Q = Nominal cross section
 L = Tail length
 S = Number of sheds per phase
 ØS = Diameter of sheds

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS



Hybrid Technique

Outdoor Termination Type CHEP(3Pb)-3F

for three-core single lead sheath cables from 24 up to 36 kV

Application

Outdoor Terminations Type **CHEP(3Pb)-3F** are designed to cover three-core single lead sheath cables from 24 up to 36 kV – **for MIND cables only**. For cables with draining compound please contact us.

Features

- Quick, easy and safe installation due to the combination of slip-on and heat-shrink components
- Reliable stress control for all operating conditions due to flexible silicone stress control elements
- Wide cross section range suitable for all types of cable lugs
- Unlimited shelf life and immediate operation after installation

Design

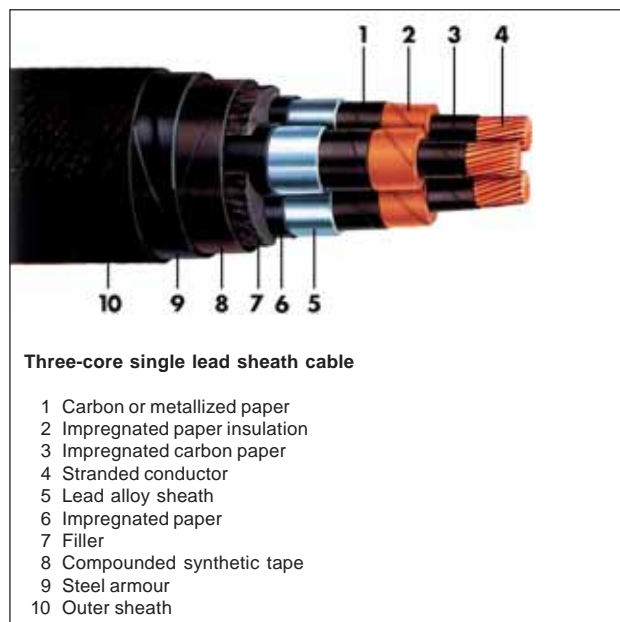
A termination kit consists of the following main components:

- Anti-tracking and weather-resistant heat-shrink tube
- Oil-resisting heat-shrink tube
- Blue filling tape with stress control and oil resisting features
- Silicone stress control elements
- Silicone sheds
- Weather-resistant spreader cap

Delivery

One kit for three phases with solderless earth connection but without cable lugs.

Required cable lugs can be ordered separately.



Hybrid Technique
Outdoor Termination Type CHEP(3Pb)-3F
 for three-core single lead sheath cables from 24 up to 36 kV

Ordering Details

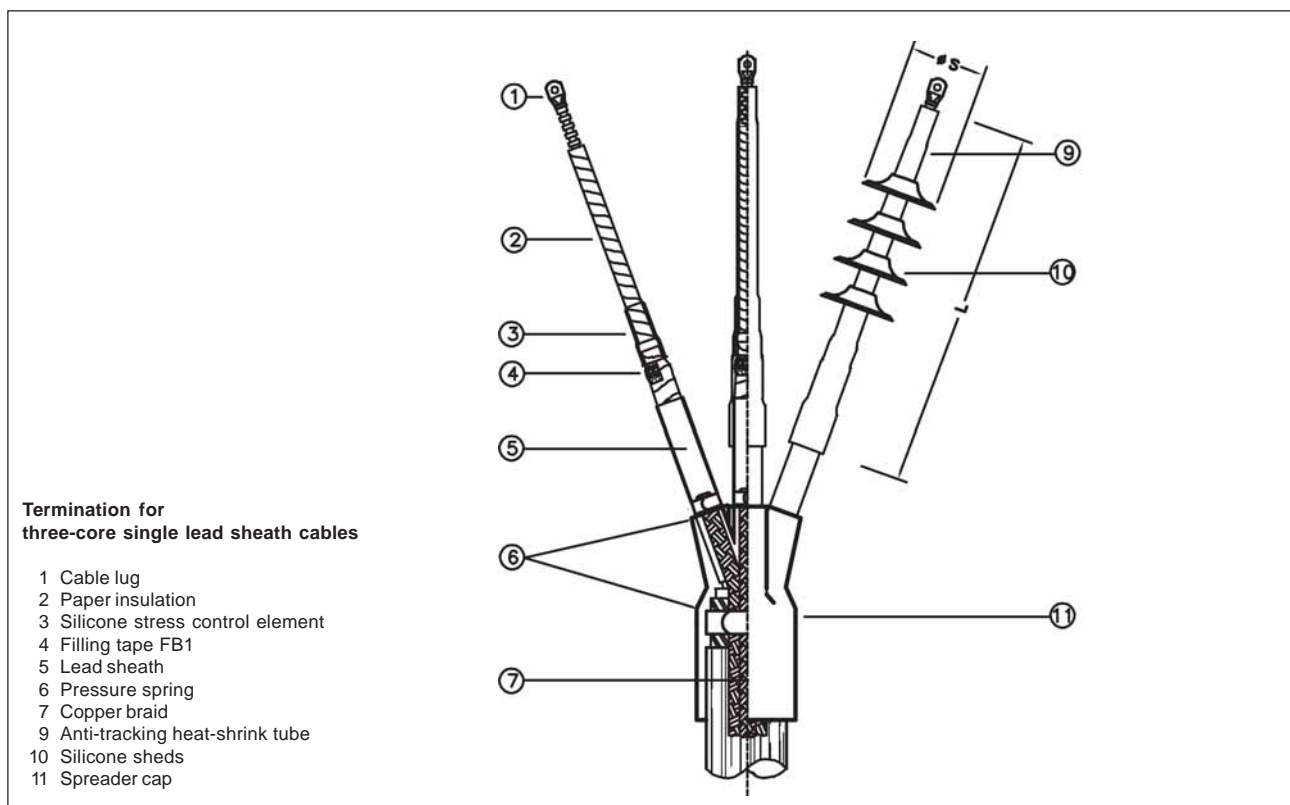
Art.-No.	Type		L mm	S	ØS mm
		Q mm ²			
Three-core single lead sheath cable $U_0/U (U_m)$ 12/20 (24) kV – 12.7/22 (24) kV					
197567	CHEP(3Pb)-3F24kV	16 – 35	600	3	80
197568	CHEP(3Pb)-3F24kV	50 – 150	600	3	85
197569	CHEP(3Pb)-3F24kV	70 – 240	600	3	85
197570	CHEP(3Pb)-3F24kV	120 – 300	600	3	85
Three-core single lead sheath cable $U_0/U (U_m)$ 18/30 (36) kV – 19/33 (36) kV					
197571	CHEP(3Pb)-3F36kV	35 – 70	750	4	85
197572	CHEP(3Pb)-3F36kV	95 – 240	750	4	85

Q = Nominal cross section
 L = Tail length
 S = Number of sheds per phase
 ØS = Diameter of sheds

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu – blocked – Type DK-CU-V-LD
- Compression cable lug Al – blocked – Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS



Contrax Technique

Single-core Straight-through Joint Type CAM

for all single-core polymeric cables up to 24 kV

Application

Straight-through joints Type CAM are designed to cover single-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to factory-moulded silicone components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of connectors
- Applicable for all types of cables
- Unlimited shelf life and immediate operation after installation

Design

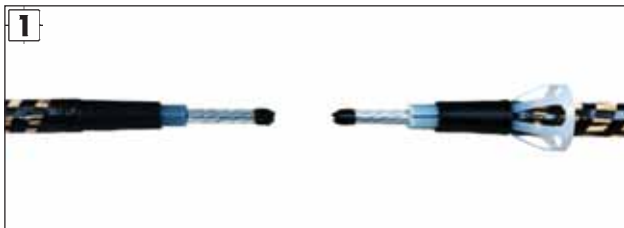
A kit of joint consists of the following main components:

- Factory-moulded silicone body with built-in semi-conducting layer (each piece routine tested)
- Silicone stress control elements
- Copper braid sleeves and pressure springs for screen connection
- Outer protection with EPDM enclosure

Delivery

One piece for one phase without connectors.

Necessary connectors can be ordered separately.



Contrax Technique
Single-core Straight-through Joint Type CAM
 for all single-core polymeric cables up to 24 kV

Ordering Details

Art.-No.	Type		Ø1 mm	Ø2 mm	VL mm	L mm
		Q mm ²				
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV						
199142	CAM 12kV	25 – 95	12.6	32	160	750
199213	CAM 12kV	95 – 240	17.3	32	160	750
199214	CAM 12kV	150 – 400	19.9	35	160	750
199215	CAM 12kV	50 – 240	14.7	35	160	750
U₀/U (U_m) 8.7/15 (17.5) kV						
199216	CAM 17kV	10 – 70	12.6	32	160	750
199217	CAM 17kV	70 – 150	17.3	32	160	750
199218	CAM 17kV	35 – 150	14.7	35	160	750
199219	CAM 17kV	95 – 300	19.9	35	160	750
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV						
199220	CAM 24kV	16 – 120	14.7	35	160	750
199221	CAM 24kV	35 – 95	17.3	32	160	750
199222	CAM 24kV	70 – 240	19.9	35	160	750

- Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 Ø2 = maximum diameter over connector
 VL = maximum length of connector
 L = Total length of the straight-through joint

Basic version includes EPDM enclosure (see Fig. 7 and 8)

Alternatives for outer protection upon request:

- Thick-wall heat-shrink tube
- Injected resin
- Wrapped cover with special tape

Note

For cables of U_m = 7.2 kV please use the joints of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Straight-through joints for cables U₀/U (U_m) 18/30 (36) kV upon request.

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connector Cu Type DV-CU-V
- Compression connector Al Type DV-AL
- Screw connector for Cu and Al Type SV-V-AS

Contrax Technique

Three-core Straight-through Joint Type CAM3

for all three-core polymeric cables up to 24 kV

Application

Straight-through joints Type CAM3 are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

For joints from one three-core to three single-core cables the accessory Type DAS must be ordered separately.

Features

- Quick, easy and safe installation due to factory-moulded silicone components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of connectors
- Applicable for all types of cables
- Unlimited shelf life and immediate operation after installation

Design

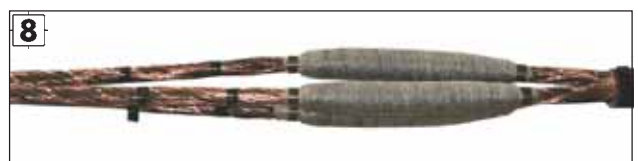
A kit of joint consists of the following main components:

- Factory-moulded silicone bodies with built-in semi-conducting layers (each piece routine tested)
- Silicone stress control elements
- Copper braid sleeves and pressure springs for screen connections
- Injected resin for outer protection

Delivery

One piece for three phases without connectors for cables without armouring.

Accessories for cables with armouring and connectors can be ordered separately.



Contrax Technique
Three-core Straight-through Joint Type CAM3
 for all three-core polymeric cables up to 24 kV

Ordering Details

Art.-No.	Type			Ø1 mm	Ø2 mm	VL mm	L mm
	Q mm ²						
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV							
199223	CAM3	12kV	25 – 95	12.6	32	160	1200
199224	CAM3	12kV	95 – 240	17.3	32	160	1200
199225	CAM3	12kV	150 – 400	19.9	35	160	1200
199226	CAM3	12kV	50 – 240	14.7	35	160	1200
U₀/U (U_m) 8.7/15 (17.5) kV							
199227	CAM3	17kV	10 – 70	12.6	32	160	1200
199228	CAM3	17kV	70 – 150	17.3	32	160	1200
199229	CAM3	17kV	35 – 150	14.7	35	160	1200
199230	CAM3	17kV	95 – 300	19.9	35	160	1200
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV							
199231	CAM3	24kV	16 – 120	14.7	35	160	1200
199232	CAM3	24kV	35 – 95	17.3	32	160	1200
199233	CAM3	24kV	70 – 240	19.9	35	160	1200

- Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 Ø2 = Maximum diameter over connector
 VL = Maximum length of connector
 L = Total length of the straight-through joint

Basic version for outer protection with injected resin.

Alternatives for outer protection upon request:

- Thick-wall heat-shrink tube
- Wrapped cover with special tape

Note

For cables of U_m = 7.2 kV please use the joints of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Straight-through joints for cables U₀/U (U_m) 18/30 (36) kV upon request.

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connector Cu Type DV-CU-V
- Compression connector Al Type DV-AL
- Screw connector Cu and Al Type SV-V-AS
- Armouring transfer Type AUF for armoured cables
- Spacer and sealing kit Type DAS for connecting one three-core cable with three single-core cables

Contrax Technique

Single-core Indoor Termination Type CAE-I

for all single-core polymeric cables up to 36 kV

Application

Terminations Type CAE-I are designed to cover single-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross-sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to a factory-moulded silicone body
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Applicable for all types of cables
- Unlimited shelf life and immediate operation after installation

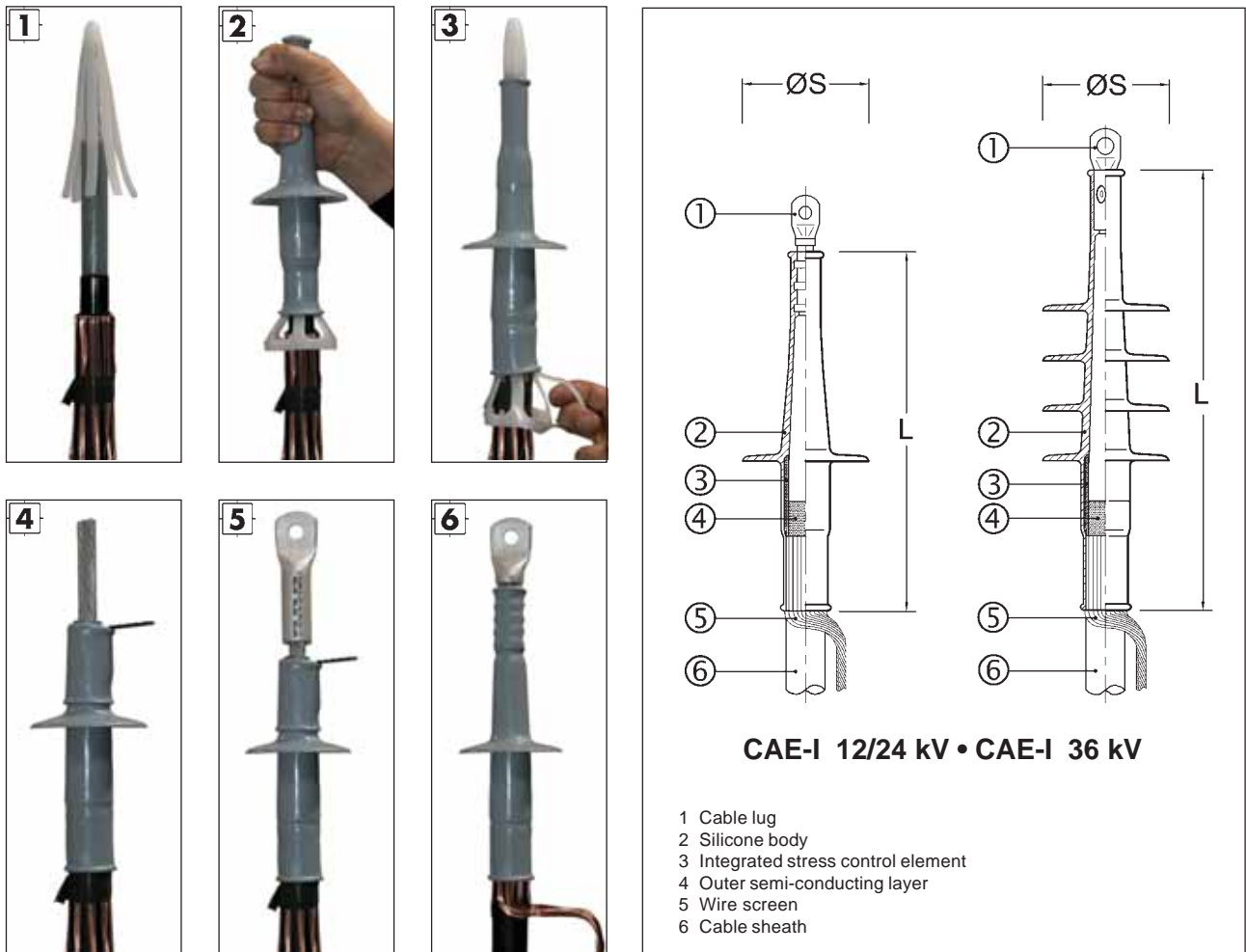
Design

One-piece of factory-moulded silicone body with integrated stress control element.

Delivery

One set of three phases without cable lugs for cables with copper wire screen.

Accessories for tape screened cables can be ordered separately.



Contrax Technique
Single-core Indoor Termination Type CAE-I
 for all single-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type		Ø1 mm	L mm	S	ØS mm
	Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV						
199141	CAE-I 12kV	25 – 95	12.6	270	1	83
199151	CAE-I 12kV	95 – 240	17.3	270	1	87
199152	CAE-I 12kV	150 – 400	19.9	270	1	90
199154	CAE-I 12kV	240 – 500	23.1	270	1	93
199155	CAE-I 12kV	300 – 800	27.3	270	1	97
U₀/U (U_m) 8.7/15 (17.5) kV						
199156	CAE-I 17kV	16 – 50	12.6	270	1	83
199157	CAE-I 17kV	50 – 185	17.3	270	1	87
199158	CAE-I 17kV	95 – 240	19.9	270	1	90
199159	CAE-I 17kV	150 – 400	23.1	270	1	93
199160	CAE-I 17kV	240 – 630	27.3	270	1	97
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV						
199161	CAE-I 24kV	10 – 35	12.6	270	1	83
199162	CAE-I 24kV	35 – 120	17.3	270	1	87
199163	CAE-I 24kV	70 – 240	19.9	270	1	90
199164	CAE-I 24kV	120 – 400	23.1	270	1	93
199165	CAE-I 24kV	240 – 630	27.3	270	1	97
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV						
199166	CAE-I 36kV	16 – 95	19.9	325	4	90
199167	CAE-I 36kV	50 – 240	23.1	325	4	93
199168	CAE-I 36kV	120 – 400	27.3	325	4	97

Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 L = Total length
 S = Number of sheds per phase
 ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use the terminations of U_m = 12 kV. (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V-LD
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug Cu and Al Type SK-V-AS
- Earthing kit Type EGA for tape screened cables

Contrax Technique

Single-core Outdoor Termination Type CAE-F

for all single-core polymeric cables up to 36 kV

Application

Terminations Type CAE-F are designed to cover single-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross-sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to a factory-moulded silicone body
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Applicable for all types of cables
- Unlimited shelf life and immediate operation after installation

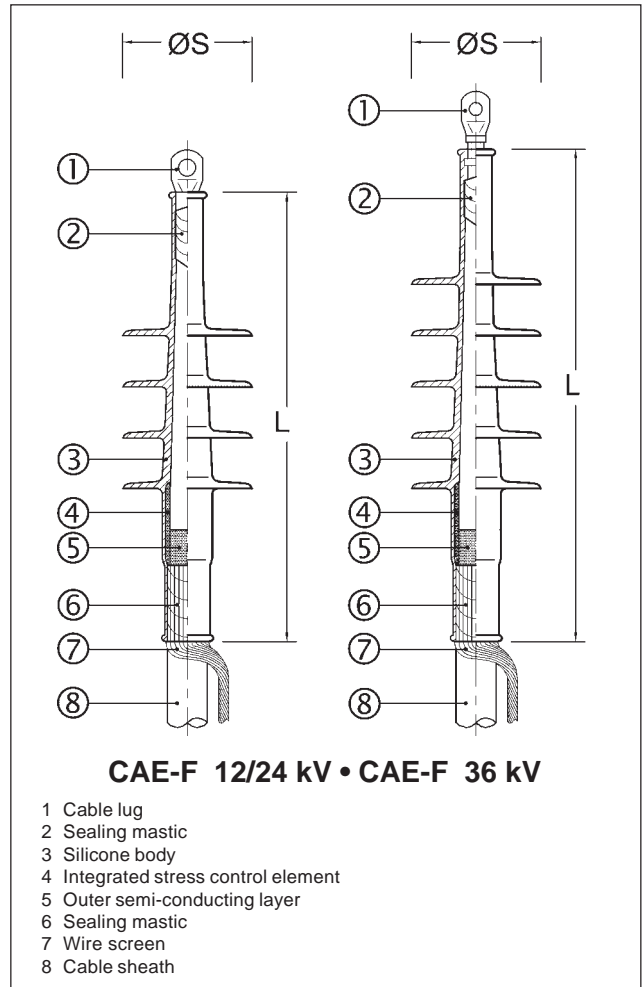
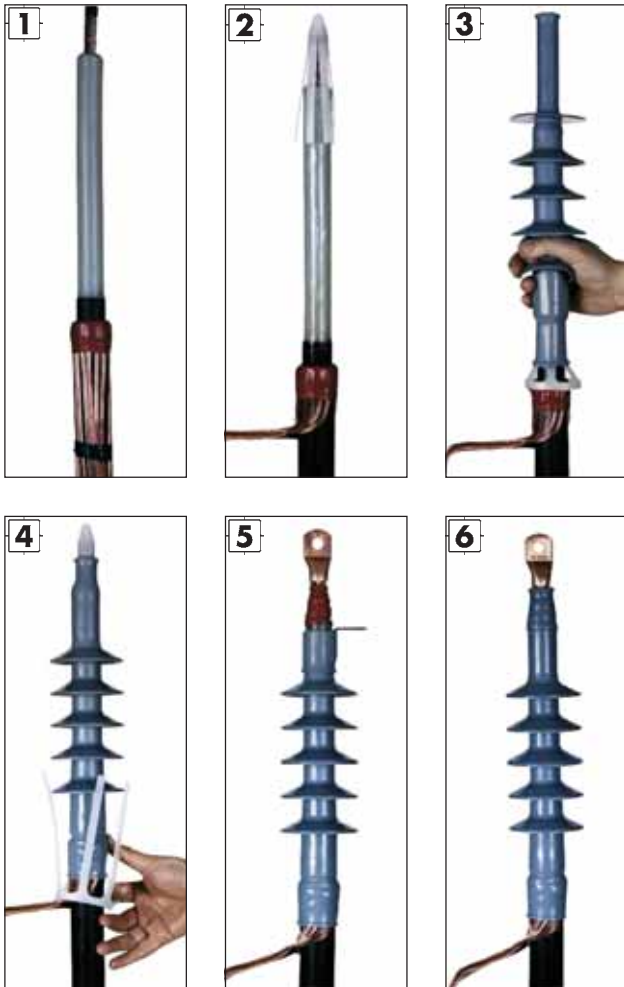
Design

One-piece of factory-moulded silicone body with integrated stress control element.

Delivery

One piece for three phases without cable lugs for cables with wire-screen.

Accessories for tape screended cables and cable lugs can be ordered separately.



Contrax Technique
Single-core Outdoor Termination Type CAE-F
 for all single-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type		Ø1 mm	L mm	S	ØS mm
	Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV						
199183	CAE-F 12kV	25 – 95	12.6	325	4	83
199184	CAE-F 12kV	95 – 240	17.3	325	4	87
199185	CAE-F 12kV	150 – 400	19.9	325	4	90
199186	CAE-F 12kV	240 – 500	23.1	325	4	93
199187	CAE-F 12kV	300 – 800	27.3	325	4	97
U₀/U (U_m) 8.7/15 (17.5) kV						
199188	CAE-F 17kV	16 – 50	12.6	325	4	83
199189	CAE-F 17kV	50 – 185	17.3	325	4	87
199190	CAE-F 17kV	95 – 240	19.9	325	4	90
199191	CAE-F 17kV	150 – 400	23.1	325	4	93
199192	CAE-F 17kV	240 – 630	27.3	325	4	97
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV						
199193	CAE-F 24kV	10 – 35	12.6	325	4	83
199194	CAE-F 24kV	35 – 120	17.3	325	4	87
199195	CAE-F 24kV	70 – 240	19.9	325	4	90
199196	CAE-F 24kV	120 – 400	23.1	325	4	93
199197	CAE-F 24kV	240 – 630	27.3	325	4	97
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV						
199198	CAE-F 36kV	50 – 240	23.1	440	5	93
199199	CAE-F 36kV	120 – 400	27.3	440	5	97

Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 L = Total length
 S = Number of sheds per phase
 ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use terminations of U_m = 12 kV.
 (Check minimum diameter of conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V-LD
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for tape screened cables

Contrax Technique

Three-core Indoor Termination Type CAE-3I

for all three-core polymeric cables up to 36 kV

Application

Terminations Type CAE-3I are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross-sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to factory-moulded silicone bodies and cold-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Applicable for all types of cables
- Unlimited shelf life and immediate operation after installation

Design

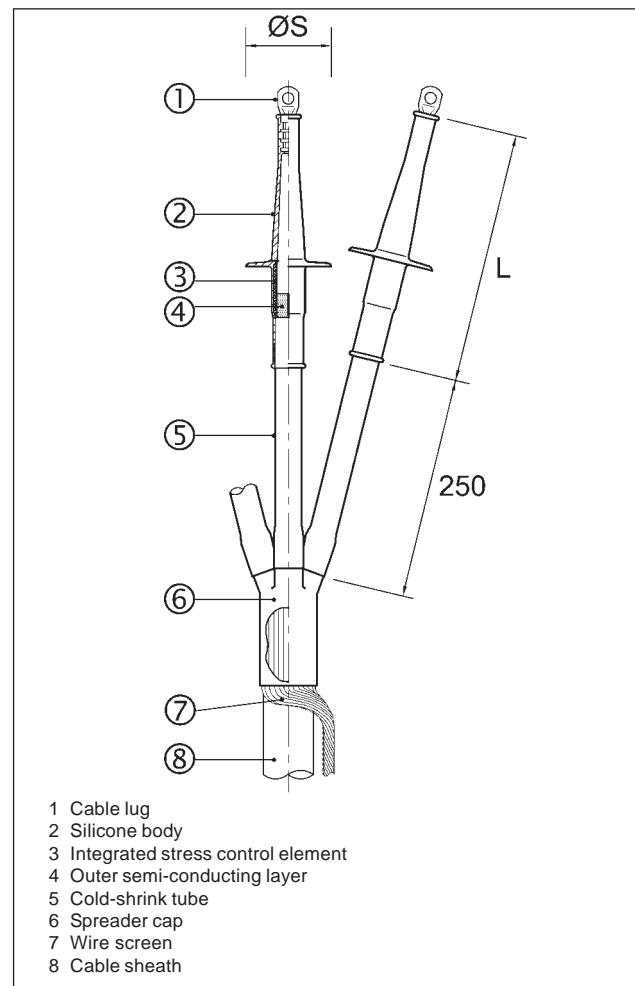
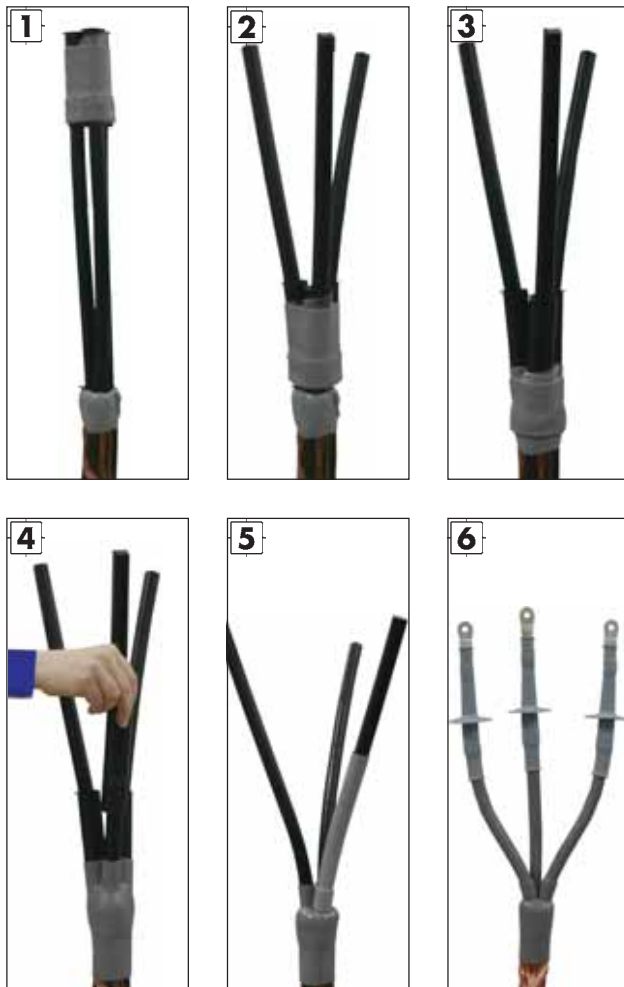
Main components of the kit:

- Cold-shrink silicone spreader cap
- Cold-shrink silicone tubes
- Three one-piece factory-moulded silicone bodies with integrated stress control element.

Delivery

One piece for three phases without cable lugs for cables with wire-screen without armouring.

Accessories for tape screended cables or armouring and cable lugs can be ordered separately.



Contrax Technique
Three-core Indoor Termination Type CAE-3I
 for all three-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type		Ø1 mm	L mm	S	ØS mm
		Q mm ²				
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV						
199169	CAE-3I 12kV	25 – 95	12.6	270	1	83
199170	CAE-3I 12kV	95 – 240	17.3	270	1	87
199171	CAE-3I 12kV	150 – 400	19.9	270	1	90
U₀/U (U_m) 8.7/15 (17.5) kV						
199172	CAE-3I 17kV	16 – 50	12.6	270	1	83
199173	CAE-3I 17kV	50 – 185	17.3	270	1	87
199174	CAE-3I 17kV	95 – 240	19.9	270	1	90
199175	CAE-3I 17kV	150 – 400	23.1	270	1	93
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV						
199176	CAE-3I 24kV	10 – 35	12.6	270	1	83
199177	CAE-3I 24kV	35 – 120	17.3	270	1	87
199178	CAE-3I 24kV	70 – 240	19.9	270	1	90
199179	CAE-3I 24kV	120 – 400	23.1	270	1	93
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV						
199180	CAE-3I 36kV	16 – 95	19.9	325	4	90
199182	CAE-3I 36kV	50 – 240	23.1	325	4	93
199181	CAE-3I 36kV	120 – 400	27.3	325	4	97

Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 L = Total length
 S = Number of sheds per phase
 ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use the terminations of U_m = 12 kV.
 (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for tape screened cables and armouring

Contrax Technique

Three-core Outdoor Termination Type CAE-3F

for all three-core polymeric cables up to 36 kV

Application

Terminations Type CAE-3F are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR). They are suitable for cables with different cross-sections, conductor materials, semi-conducting layers (graphitized, triple extruded or peelable) and with copper wire or tape screen.

Features

- Quick, easy and safe installation due to factory-moulded silicone bodies and cold-shrink components
- Reliable stress control for all operating conditions due to stress control elements made of permanently flexible silicone material
- Wide cross-section range suitable for all types of cable lugs
- Applicable for all types of cables
- Unlimited shelf life and immediate operation after installation

Design

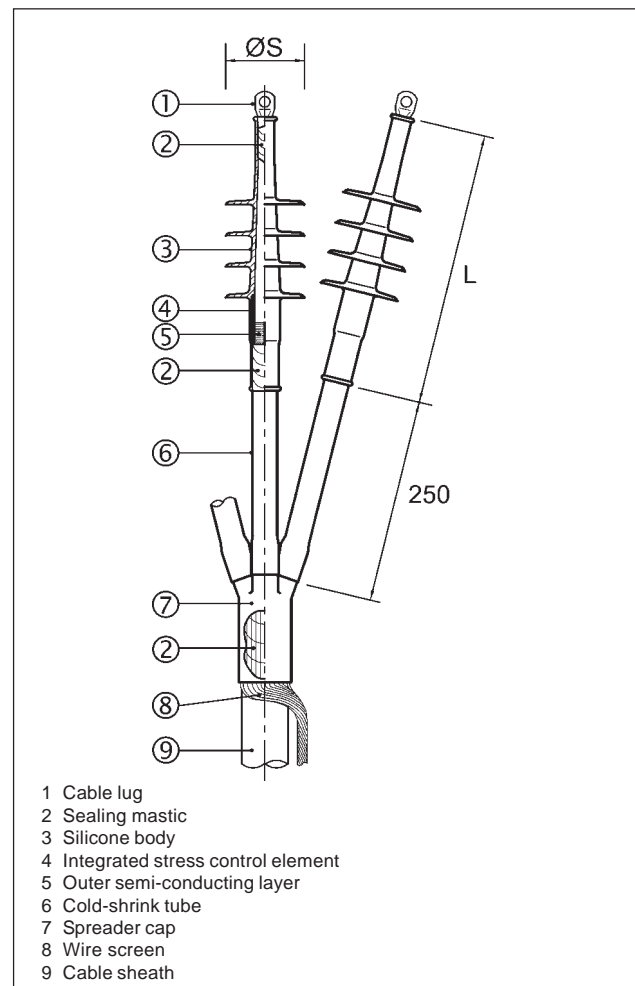
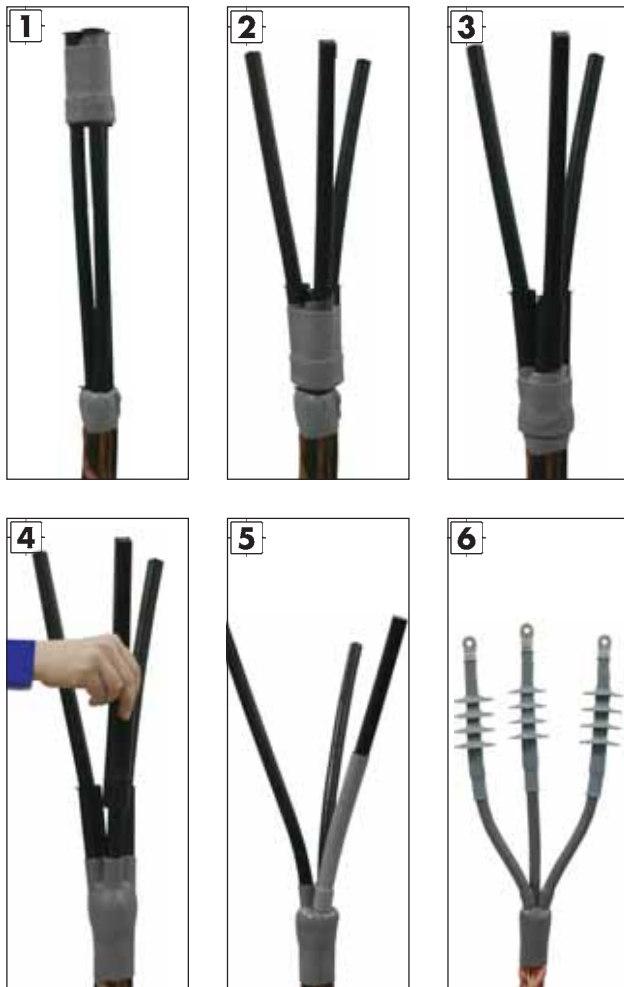
Main components of the kit:

- Cold-shrink silicone spreader cap
- Cold-shrink silicone tubes
- Three one-piece factory-moulded silicone bodies with integrated stress control element.

Delivery

One piece for three phases without cable lugs for cables with wire-screen without armouring.

Accessories for tape screended cables or armouring and cable lugs can be ordered separately.



Contrax Technique
Three-core Outdoor Termination Type CAE-3F
 for all three-core polymeric cables up to 36 kV

Ordering Details

Art.-No.	Type		Ø1 mm	L mm	S	ØS mm
	Q mm ²					
U₀/U (U_m) 6/10 (12) kV – 6.35/11 (12) kV						
199200	CAE-3F 12kV	25 – 95	12.6	325	4	83
199201	CAE-3F 12kV	95 – 240	17.3	325	4	87
199202	CAE-3F 12kV	150 – 400	19.9	325	4	90
U₀/U (U_m) 8.7/15 (17.5) kV						
199203	CAE-3F 17kV	16 – 50	12.6	325	4	83
199204	CAE-3F 17kV	50 – 185	17.3	325	4	87
199205	CAE-3F 17kV	95 – 240	19.9	325	4	90
199206	CAE-3F 17kV	150 – 400	23.1	325	4	93
U₀/U (U_m) 12/20 (24) kV – 12.7/22 (24) kV						
199207	CAE-3F 24kV	10 – 35	12.6	325	4	83
199208	CAE-3F 24kV	35 – 120	17.3	325	4	87
199209	CAE-3F 24kV	70 – 240	19.9	325	4	90
199210	CAE-3F 24kV	120 – 400	23.1	325	4	93
U₀/U (U_m) 18/30 (36) kV – 19/33 (36) kV						
199211	CAE-3F 36kV	50 – 240	23.1	440	5	93
199212	CAE-3F 36kV	120 – 400	27.3	440	5	97

Q = Nominal cross section – definite assignment confer diameter over conductor insulation
 Ø1 = Minimum diameter over conductor insulation after removal of the outer semi-conducting layer
 L = Total length
 S = Number of sheds per phase
 ØS = Diameter of sheds

Note

For cables of U_m = 7.2 kV please use the terminations of U_m = 12 kV.
 (Check the minimum diameter over conductor insulation – Ø1).

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression cable lug Cu Type DK-CU-V
- Compression cable lug Al Type DK-AL-LD
- Screw cable lug for Cu and Al Type SK-V-AS
- Earthing kit Type EGA for tape screened cables and armouring

Cast-resin Technique

Three-core Straight-through Joint Type M.MS6

for three-core polymeric cables without semi-conducting layer up to 7.2 kV

Application

Straight-through joints Type M.MS6 are designed to cover three-core polymeric cables (PVC, PE, XLPE, EPR) without semi-conducting layer. They are suitable for cables with different cross sections, conductor materials and different types of cable constructions. They do not contain any substances disturbing varnishing processes, e.g. within car manufacturing plants.

Features

- Quick, easy and safe installation
- High mechanical strength
- Watertight both longitudinally and transversely
- Good resistance against chemical agents

Design

A kit of joint consists of the following main components:

- Transparent plastic shells
- Hydrolysis-resistant PUR cast-resin
- Spacer tubes for connectors
- Copper braid sleeve and hose-clips for armouring transfer

Delivery

One piece for three phases without connectors.

Necessary connectors can be ordered separately.



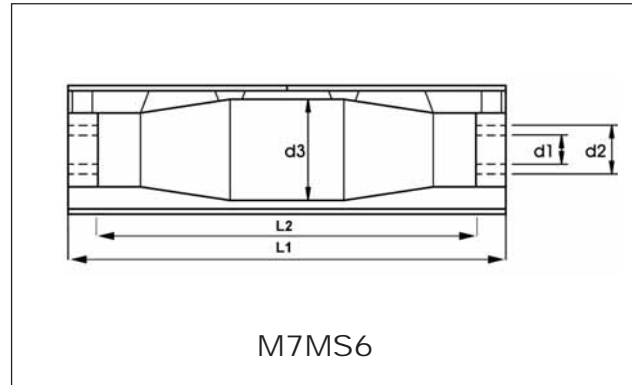
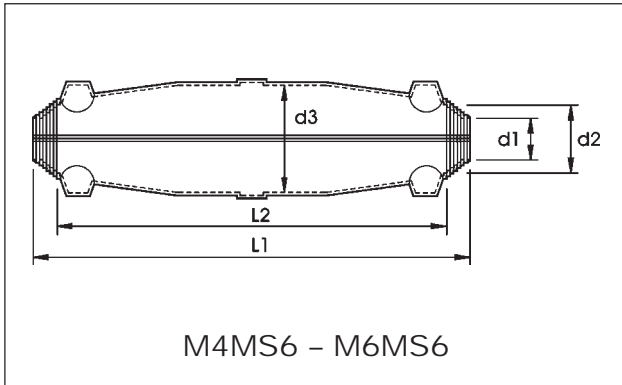
Cast-resin Technique

Three-core Straight-through Joint Type M.MS6

for three-core polymeric cables without semi-conducting layer up to 7.2 kV

Technical Data

Type	L ₁ mm	L ₂ mm	d ₁ mm	d ₂ mm	d ₃ mm
M4MS6	432	384.0	28.9	52	90
M5MS6	550	503.2	40.0	62	110
M6MS6	660	600.0	50.0	78	145
M7MS6	900	800.0	48.0	80	150



Ordering Details

Art.-No.	Type	Ø mm	Q	
			NYFGY	NYCFGY
124318	M4MS6	29 - 55	3 x 70	3 x 50/ 50
124319	M5MS6	42 - 65	3 x 120	3 x 95/ 95
124320	M6MS6	50 - 78	3 x 240	3 x 185/185
124321	M7MS6	48 - 80	3 x 300	3 x 240/240

Ø = Cable diameter

Q = Cross section

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connectors Cu Type DV-CU-V
- Compression connectors Al Type DV-AL

Cast-resin Technique

Three-core Transition joint Type M.MSPB6

for belted to polymeric cables without semi-conducting layer up to 7.2 kV

Application

Transition joints Type M.MSPB6 are designed to connect belted cables with three-core polymeric cables (PVC, PE, XLPE, EPR) without semi-conducting layer. They are suitable for cables of different cross sections and conductor materials and different types of cable constructions. They do not contain any substances disturbing varnishing processes, e.g. within car manufacturing plants.

Features

- Quick, easy and safe installation
- High mechanical strength
- Watertight both longitudinally and transversely
- Good resistance against chemical agents

Design

A kit of joint consists of the following main components:

- Transparent plastic shells
- Hydrolysis-resistant PUR cast-resin
- Spacer tubes for connectors
- Heat-shrink tubes and spreader cap
- Copper braid sleeve and hose-clips for armouring transfer

Delivery

One piece for three phases without connectors.

Necessary connectors can be ordered separately.



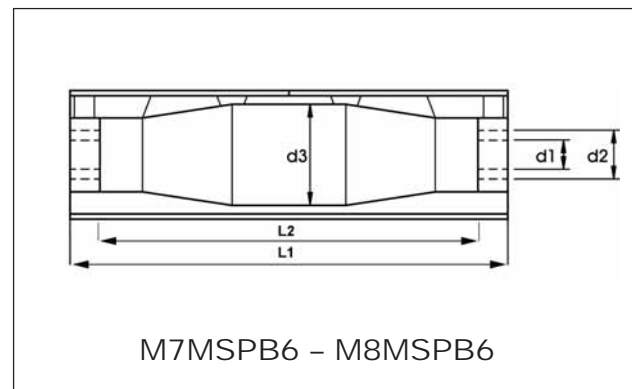
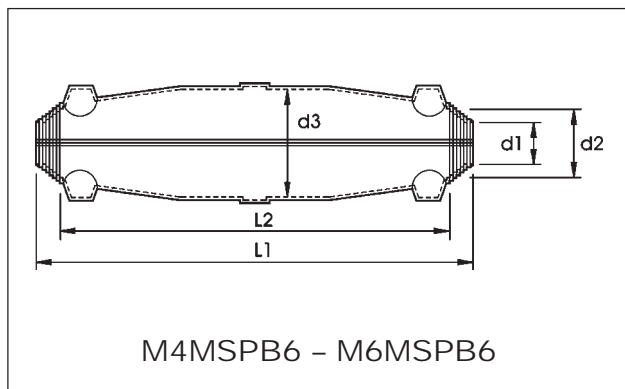
Cast-resin Technique

Three-core Transition joint Type M.MSPB6

for belted to polymeric cables without semi-conducting layer up to 7.2 kV

Technical Data

Type	L ₁ mm	L ₂ mm	d ₁ mm	d ₂ mm	d ₃ mm
M4MSPB6	432	384.0	28.9	52	90
M5MSPB6	550	503.2	41.6	62	110
M6MSPB6	660	600.0	50.0	78	145
M7MSPB6	900	800.0	48.0	80	150
M8MSPB6	1100	1000.0	50.0	90	150



Ordering Details

Art.-No.	Type	Kabel-Ø mm	N(A)YFGY maximum cross section/mm ²	N(A)KBA
124334	M4MSPB6	29 - 55	3 x 70	3 x 70
124335	M5MSPB6	42 - 65	3 x 120	3 x 120
124336	M6MSPB6	50 - 78	3 x 240	3 x 240

Accessories

The following accessories are not included. They can be ordered additionally and will be included in the kit box:

- Compression connectors Cu – blocked – Type DVZ-CU-V-LD
- Compression connectors Al – blocked – Type DVZ-AL-LD

Cast-resin Technique

Injection Technique

for injection joints

Art.-No.	Type		
123740	Standard Pressure Gun	for bags \leq 400 ml	
128706	Pressure Nozzle	Size 2	
160356	Injection Valve	Size 2	
125819	Spacer Tape Nr. 75	1.0 mm x 50 mm x 7 m	
125820	Restricting Tape Nr. 71	0.15 mm x 38 mm x 33 m	
199861	Reinforced Pressure Tape Nr. 73	0.16 mm x 24 mm x 20 m	
132153	EG394T Cast-resin	packing unit: 18 bags Shelf life EGT: 20 months	



Tubular Compression Cable Lug Cu Type DK-CU-V

according to DIN 46235 (except \square) • tin plated

Application

Cable lugs Cu (hexagonal compression type) for copper conductors, designed for indoor terminations, e.g. SEEV, CHE-I, CHE-3I(A), CHE-3I(B), CHEP-3I, CHEP(H)-3I, CHEP(3Pb)-3I, CAE-I, CAE-3I.

Ordering Details

Art.-No.	Type	Q mm ²	B mm	D1 mm	D2 mm	L mm	K
126040	DK-CU-V 6/ 6	6	8.5	3.8	6.4	24	5
\square 126044	DK-CU-V 10/ 8	10	13	4.5	8.4	27	6
126046	DK-CU-V 16/ 8	16	13	5.5	8.4	36	8
\square 126048	DK-CU-V 16/ 12	16	18	5.5	13	36	8
126051	DK-CU-V 25/ 10	25	17	7	10.5	38	10
126052	DK-CU-V 25/ 12	25	19	7	13	38	10
126054	DK-CU-V 35/ 10	35	19	8.2	10.5	42	12
126055	DK-CU-V 35/ 12	35	21	8.2	13	42	12
126059	DK-CU-V 50/ 10	50	22	10	10.5	52	14
126060	DK-CU-V 50/ 12	50	24	10	13	52	14
126064	DK-CU-V 70/ 10	70	24	11.5	10.5	55	16
126065	DK-CU-V 70/ 12	70	24	11.5	13	55	16
126070	DK-CU-V 95/ 12	95	28	13.5	13	65	18
126072	DK-CU-V 95/ 16	95	32	13.5	17	65	18
126074	DK-CU-V 120/ 12	120	32	15.5	13	70	20
126077	DK-CU-V 120/ 16	120	32	15.5	17	70	20
126080	DK-CU-V 150/ 12	150	34	17	13	78	22
126082	DK-CU-V 150/ 16	150	34	17	17	78	22
126085	DK-CU-V 185/ 12	185	37	19	13	82	25
126087	DK-CU-V 185/ 16	185	37	19	17	82	25
126089	DK-CU-V 240/ 12	240	42	21.5	13	92	28
126091	DK-CU-V 240/ 16	240	42	21.5	17	92	28
\square 126093	DK-CU-V 300/ 14	300	48	24.5	15	100	32
126094	DK-CU-V 300/ 16	300	48	24.5	17	100	32
126096	DK-CU-V 400/ 16	400	55	27.5	17	115	38
\square 126098	DK-CU-V 500/ 16	500	60	31	17	125	42
\square 126099	DK-CU-V 625/ 16	625	60	34.5	17	135	44
126102	DK-CU-V 800/ 20	800	75	40	21	165	52
126104	DK-CU-V 1000/ 20	1000	85	44	21	165	58

Compression cable lugs for copper wires RM/SM according to DIN VDE 0295.

Use suitable compression tool with DIN dies.

Q = Nominal cross section

B = Width

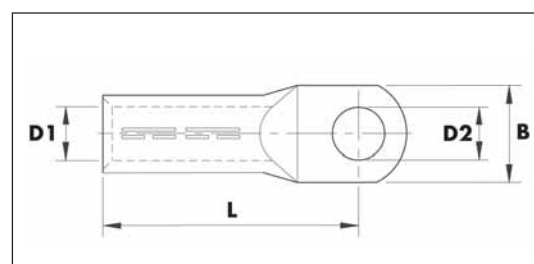
D1 = Centric bore hole

D2 = Flat hole diameter

L = Length

K = Die code no.

All measurements according to DIN 46235, edition July, 1983 (except \square)



Accessories

Tubular Compression Cable Lug Cu – Blocked – Type DK-CU-V-LD

according to DIN 46235 (except α) • tin plated

Application

Cable lugs Cu (hexagonal compression type) for copper conductors, designed for outdoor terminations, e.g. SEEV-F, CHE-F, CHE-3F(A), CHE-3F(B), CHEP-3F, CHEP(H)-3F, CHEP(3Pb)-3F, CAE-F, CAE-3F.

Ordering Details

Art.-No.	Type	Q mm ²	B mm	D1 mm	D2 mm	L mm	K
α 159667	DK-CU-V-LD 16/ 12	16	18	5.5	13	36	8
126134	DK-CU-V-LD 25/ 10	25	17	7	10.5	38	10
159670	DK-CU-V-LD 35/ 12	35	21	8.2	13	42	12
126135	DK-CU-V-LD 50/ 12	50	24	10	13	52	14
148432	DK-CU-V-LD 70/ 12	70	24	11.5	13	55	16
126136	DK-CU-V-LD 95/ 12	95	28	13.5	13	65	18
195350	DK-CU-V-LD 120/ 12	120	32	15.5	13	70	20
126137	DK-CU-V-LD 150/ 16	150	34	17	17	78	22
195351	DK-CU-V-LD 185/ 16	185	37	19	17	82	25
126138	DK-CU-V-LD 240/ 16	240	42	21.5	17	92	28
176369	DK-CU-V-LD 300/ 16	300	46	24.5	17	100	32
126105	DK-CU-V-LD 400/ 16	400	54	27.5	17	115	38
α 126106	DK-CU-V-LD 500/ 16	500	60	31	17	125	42

Q = Nominal cross section

B = Width

D1 = Centric bore hole

D2 = Flat hole diameter

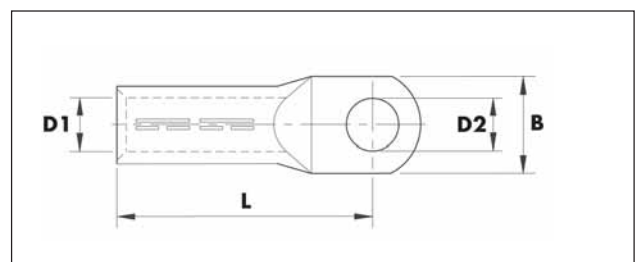
L = Length

K = Die code no.

All measurements according to DIN 46235, edition July 1983 (except α)

Compression cable lugs for copper wires RM/SM according to DIN VDE 0295.

Use suitable compression tool with DIN dies.



Compression Cable Lug Al – Blocked – Type DK-AL-LD

according to DIN 46329 (except ⌘)

Application

Cable lugs Al (hexagonal compression type) for aluminium conductors, designed for indoor and outdoor terminations, e.g. SEEV, SEEV-F, CHE-I, CHE-F, CHE-3I(A), CHE-3I(B), CHE-3F(A), CHE-3F(B), CHEP-3I, CHEP-3F, CHEP(H)-3I, CHEP(H)-3F, CHEP(3Pb)-3I, CHEP(3Pb)-3F, CAE-I, CAE-F, CAE-3I, CAE-3F.

Ordering Details

Art.-No.	Type	Q			B	D1	D2	L	K
		RM/SM	SE	RE					
		mm ²							
⌘ 194950	DK-AL-LD 16/10	16	25	16	20	5.4	10.5	50	12
194949	DK-AL-LD 25/10	25	35	25	25	6.8	10.5	50	12
194947	DK-AL-LD 25/12	25	35	25	25	6.8	13	50	12
194945	DK-AL-LD 35/10	35	50	35	25	8	10.5	62	14
194944	DK-AL-LD 35/12	35	50	35	25	8	13	62	14
194943	DK-AL-LD 50/12	50	70	50	25	9.8	13	62	16
194942	DK-AL-LD 70/12	70	95		25	11.2	13	72	18
194941	DK-AL-LD 95/12	95	120		25	12.6	13	75	22
⌘ 194940	DK-AL-LD 95/16	95	120		30	12.6	17	80	22
194939	DK-AL-LD 120/12	120	150		30	14.7	13	80	22
194938	DK-AL-LD 120/16	120	150		30	14.7	17	80	22
194937	DK-AL-LD 150/12	150	185		30	16.3	13	90	25
194936	DK-AL-LD 150/16	150	185		30	16.3	17	90	25
194935	DK-AL-LD 185/12	185	240		30	18.3	13	91	28
194934	DK-AL-LD 185/16	185	240		30	18.3	17	91	28
194933	DK-AL-LD 240/16	240	300		38	21	17	103	32
194932	DK-AL-LD 300/16	300			38	23.3	17	103	34
194930	DK-AL-LD 400/20	400			38	26	21	116	38
194908	DK-AL-LD 500/20	500			44	29	21	122	44

Q = Nominal cross section

RM = Stranded round

SM = Stranded sector shaped

SE = Sector shaped solid

RE = Round solid

B = Width

D1 = Centric bore hole

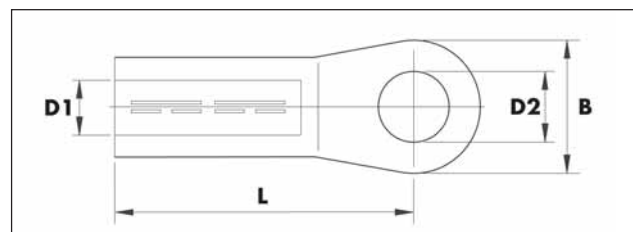
D2 = Flat hole diameter

L = Length

K = Die code no.

All measurements according to DIN 46329, edition July 1983 (except ⌘)

Use suitable compression tool with DIN dies.



Accessories

Compression Connector Cu Type DV-CU-V

according to DIN 46267 • tin plated • without separator

Application

Non-tension connector (hexagonal compression type) for copper conductors, designed for joints, e.g. SMH3MS6, CHM, CHM3, CHMPPR3, CHMPP(H)3, CHMPP(3Pb)3, CAM, CAM3, M.MS6.

Ordering Details

Art.-No.	Typ	Q mm ²	D1 mm	L mm	K
125895	DV-CU-V 6	6	3.8	30	5
125950	DV-CU-V 10	10	4.5	30	6
125951	DV-CU-V 16	16	5.5	50	8
125952	DV-CU-V 25	25	7	50	10
125953	DV-CU-V 35	35	8.2	50	12
125954	DV-CU-V 50	50	10	56	14
125955	DV-CU-V 70	70	11.5	56	16
125956	DV-CU-V 95	95	13.5	70	18
125957	DV-CU-V 120	120	15.5	70	20
125958	DV-CU-V 150	150	17	80	22
125959	DV-CU-V 185	185	19	85	25
125960	DV-CU-V 240	240	21.5	90	28
125961	DV-CU-V 300	300	24.5	100	32
125962	DV-CU-V 400	400	27.5	150	38
125967	DV-CU-V 500	500	31	160	42
125963	DV-CU-V 625	625	34.5	160	44
125964	DV-CU-V 800	800	40	200	52
125965	DV-CU-V 1000	1000	44	200	58

Q = Nominal cross section

D1 = Centric bore hole

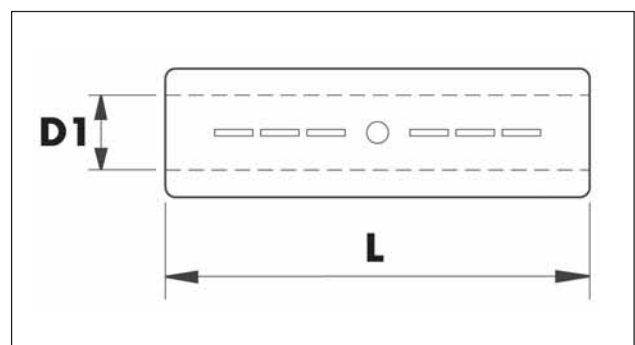
L = Length

K = Die code no. ~ outer diameter

All measurements according to DIN 46267 part 1, edition October 1985.

Non-tension compression connector for copper wires RM/SM according to DIN VDE 0295.

Use suitable compression tool with DIN dies.



Compression Connector Cu – Blocked – Type DVZ-CU-V-LD

according to DIN 46267 • tin plated • with separator

Application

Non-tension connector (hexagonal compression type) with separator for copper conductors, suitable for transition joints, e.g. CHMPR, CHMP(H), CHMP(3Pb), M.MSPB6.

Ordering details

Art.-No.	Type	Q mm ²	D1 mm	L mm	K
166374	DVZ-CU-V-LD 6	6	3.8	30	6
125966	DVZ-CU-V-LD 10	10	4.5	30	6
125897	DVZ-CU-V-LD 16	16	5.5	50	8
125898	DVZ-CU-V-LD 25	25	7	50	10
125899	DVZ-CU-V-LD 35	35	8.2	50	12
125900	DVZ-CU-V-LD 50	50	10	56	14
125901	DVZ-CU-V-LD 70	70	11.5	56	16
125902	DVZ-CU-V-LD 95	95	13.5	70	18
125903	DVZ-CU-V-LD120	120	15.5	70	20
125904	DVZ-CU-V-LD150	150	17	80	22
125905	DVZ-CU-V-LD185	185	19	85	25
125906	DVZ-CU-V-LD240	240	21.5	90	28
125907	DVZ-CU-V-LD300	300	24.5	100	32

Q = Nominal cross section

D1 = Centric bore hole

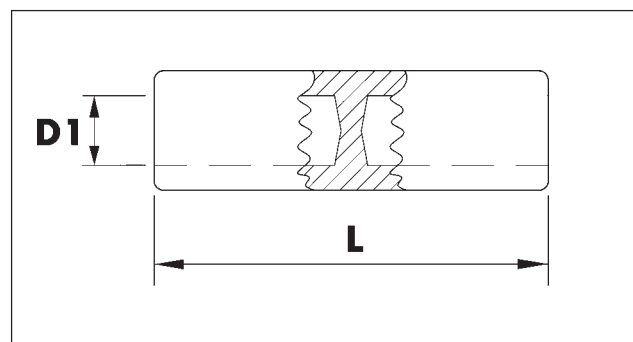
L = Length

K = Die code no. ~ outer diameter

All measurements according to DIN 46267 part 1, edition October 1985.

Non-tension compression connector for copper conductors RM/SM according to DIN VDE 0295.

Use suitable compression tool with DIN dies.



Accessories

Compression Connector Al Type DV-AL

according to DIN 46267 (except α) • uncoated • without separator

Application

Non-tension connector (hexagonal compression type) without separator for aluminium conductors, designed for joints, e.g. SMH3MS6, CHM, CHM3, CHMPPR3, CHMPP(H)3, CHMPP(3Pb)3, CAM, CAM3, M.MS6.

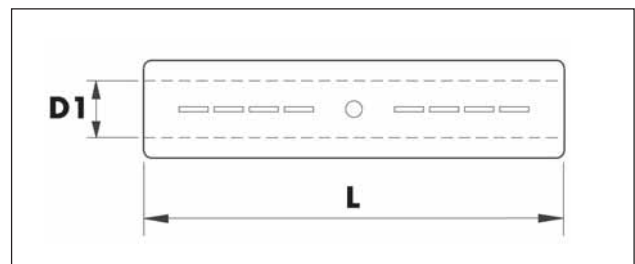
Ordering Details

Art.-No.	Type	Q			D1	L	K
		RM/SM	SE	RE			
		mm ²					
α 195344	DV-AL 16	16	25	16	5.8	55	12
195345	DV-AL 25	25	35	25	6.8	70	12
195346	DV-AL 35	35	50	35	8	85	14
195347	DV-AL 50	50	70	50	9.8	85	16
125947	DV-AL 70	70	95		11.2	105	18
125948	DV-AL 95	95	120		12.6	105	22
125888	DV-AL 120	120	150		14.7	105	22
125889	DV-AL 150	150	185		16.3	125	25
125890	DV-AL 185	185	240		18.3	125	28
125891	DV-AL 240	240	300		21	145	32
125892	DV-AL 300	300			23.3	145	34
195348	DV-AL 400	400			26	210	38
195349	DV-AL 500	500			29	210	44

- Q = Nominal cross section
- RM = Stranded round
- SM = Stranded sector shaped
- SE = Sector shaped solid
- RE = Round solid
- D1 = Centric bore hole
- L = Length
- K = Die code no.

All measurements according to DIN 46267 part 2, edition October 1985 (except α)

Non-tension compression connector for aluminium wire RM/SM, SE and RE according to DIN VDE 0295. Use suitable compression tool with DIN dies.



Compression Connector Al – Blocked – Type DVZ-AL-LD

according to DIN 46267 part 2 • Al uncoated • with separator

Application

Non-tension connector (hexagonal compression type) with separator for aluminium conductors, suitable for transition joints, e.g. CHMPR, CHMP(H), CHMP(3Pb), M.MSPB6.

Ordering Details

Art.-No.	Type	Q			D1	L	K
		RM/SM	SE	RE			
		mm ²					
198217	DVZ-AL-LD 16	16	25		5.4	75	12
198219	DVZ-AL-LD 25	25	35		6.8	75	12
198220	DVZ-AL-LD 35	35	50		8	90	14
198221	DVZ-AL-LD 50	50	70		9.8	90	16
198222	DVZ-AL-LD 70	70	95		11.2	110	18
198223	DVZ-AL-LD 95	95	120		13.2	110	22
198225	DVZ-AL-LD 120	120	150		14.7	110	22
198226	DVZ-AL-LD 150	150	185		16.3	130	25
198228	DVZ-AL-LD 185	185	240		18.3	130	28
198230	DVZ-AL-LD 240	240	300		21	150	32
198232	DVZ-AL-LD 300	300			23.3	155	34

Q = Nominal cross section

RM = Stranded round

SM = Stranded sector shaped

SE = Sector shaped solid

RE = Round solid

D1 = Centric bore hole

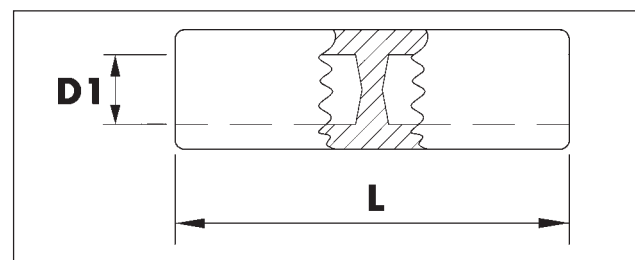
L = Length

K = Die code no.

All measurements according to DIN 46267 part 2, edition oktober 1985

Non-tension compression connector for aluminium conductors RM/SM, SE and RE according to DIN VDE 0295.

Use suitable compression tool with DIN dies.



Accessories

Screw Cable Lug for Cu and Al – Blocked – Type SK-V-AS

Al tin plated • with shear-off head bolt

Application

Screw cable lug for aluminium conductors and copper conductors RM/SE designed for indoor and outdoor terminations, e.g. SEEV, SEEV-F, CHE-I, CHE-F, CHE-3I(A), CHE-3I(B), CHE-3F(A), CHE-3F(B), CHEP-3I, CHEP-3F, CHEP(H)-3I, CHEP(H)-3F, CHEP(3Pb)-3I, CHEP(3Pb)-3F, CAE-I, CAE-F, CAE-3I, CAE-3F.

Delivery

- Screw cable lug
- Shear-off head bolt/s
- Eccentric ring/s for conductor adjustment

Ordering Details

Art.-No.	Type	Q mm ²	A mm	B mm	D1 mm	D2 mm	D3 mm	L mm	S
195308	SK-V-AS 16/ 95	16 – 95	32	30	12.5	13	24	60	1
195309	SK-V-AS 50/150	50 – 150	35	30	15	13	30	65	1
195310	SK-V-AS 95/240	95 – 240	56	33	20	13	33	95	2
195311	SK-V-AS 120/300	120 – 300	64	38	25	13	38	100	2
195312	SK-V-AS 185/400	185 – 400	79	42	26	17	42	115	3
195313	SK-V-AS 400/630	400 – 630	94	52	34	17	52	130	3

Q = Nominal cross section

A = Bore hole depth

B = Width

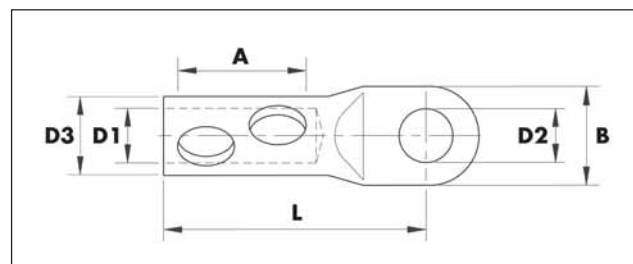
D1 = Centric bore hole

D2 = Flat hole diameter

D3 = Outer diameter

L = Length

S = Number of bolts



Screw Connector for Cu and Al – Blocked – Type SV-V-AS

Al tin plated • with shear-off head bolt • with separator

Application

Screw Connector Type SV-V-AS for aluminium and copper conductors RM/SE, designed for straight-through and transition joints, e.g. CHM, CHM3, CHMPR, CHMP(H), CHMP(3Pb), CHMPPR3, CHMPP(H)3, CHMPP(3Pb)-3, CAM, CAM3.

Delivery

- Screw Connector
- Shear-off head bolts
- Eccentric rings for conductor adjustment

Ordering Details

Art.-No.	Typ	Q mm ²	A mm	D1 mm	D3 mm	L mm	S
195303	SV-V-AS 16/ 95	16 – 95	32	12.5	24	70	2
195304	SV-V-AS 50/ 150	50 – 150	35	15.5	30	85	2
179373	SV-V-AS 95/ 240	95 – 240	56	20	33	120	4
195305	SV-V-AS 120/ 300	120 – 300	67	25	38	142	4
195306	SV-V-AS 185/ 400	185 – 400	82	26	42	170	6
195307	SV-V-AS 400/ 630	400 – 630	94	34	54	200	6

Q = Nominal cross section

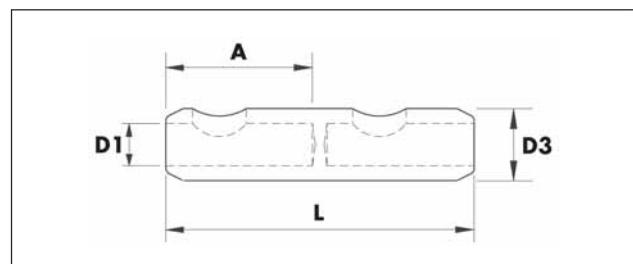
A = Bore hole depth

D1 = Centric bore hole

D3 = Outer diameter

L = Length

S = Number of bolts



Accessories

Spacer and Sealing Kit Type DAS

Application

The spacer and sealing kit Type DAS was designed to suit straight-through joints from three-core to single-core cables. It is already included in the standard transition joints Type CHMPR3-1 and CHMP(H)3-1.

Delivery

- Spacer
- Sealing putty
- Cable tie
- Working instructions

Ordering Details

Art.-Nr	Type	maximum cross section			
		12 kV mm ²	17.5 kV mm ²	24 kV mm ²	36 kV mm ²
198756	DAS0	185	150	120	—
194292	DAS1	300	240	240	120
198757	DAS2	500	400	400	300



Earthing Kits for Cables with Tape Screen and/or Armouring Type EGA

for terminations

1. Earthing kits Type EGA for terminations for single-core cables with copper tape screen or aluminium screen (Fig.1) and for three-core cables without armouring (Fig. 3).

Components: 3 flat copper braids and 3 pressure springs

Ordering Details EGA – see »selection chart« on the following page

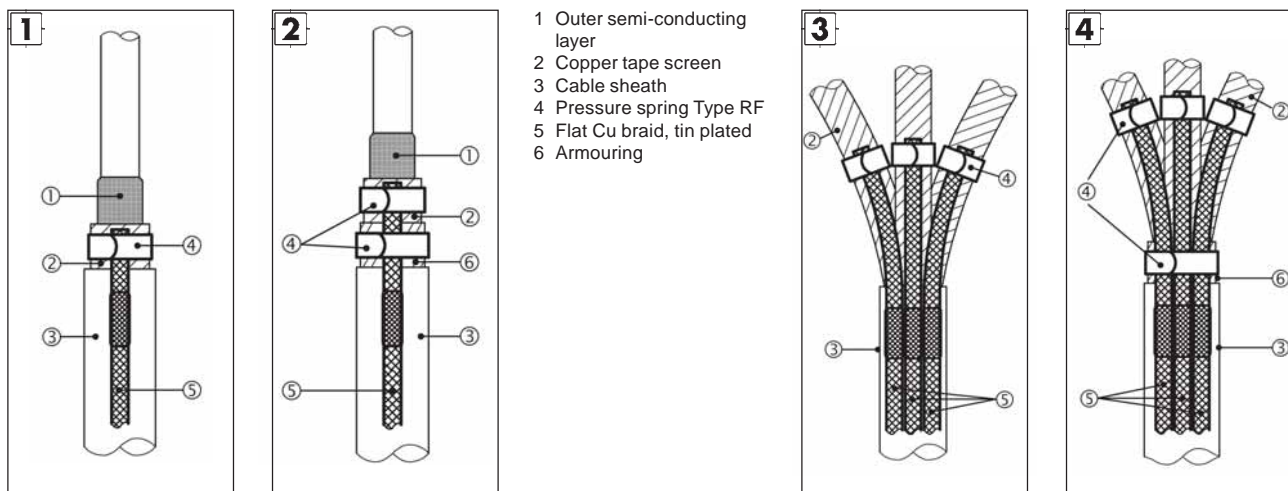
Art.-No.	Type	Cross section flat cu braid mm ²	Length mm	Ø hole mm	Pressure spring Type
143502	EGA 16 – 2	16	500	8.5	RF 2
143503	EGA 16 – 3	16	500	8.5	RF 3
143505	EGA 25 – 3	25	500	10.5	RF 3
143506	EGA 25 – 4	25	500	10.5	RF 4
143508	EGA 35 – 4	35	500	10.5	RF 4
143509	EGA 35 – 5	35	500	10.5	RF 5

2. Earthing kits Type EGA for terminations for single-core and three-core cable with armouring. Please order the adequate EGA under 1. and *one* additional pressure spring (see Fig. 2 for single-core cable and Fig. 4 for three-core cable)

Components: EGA under 1. and pressure spring/s according to the following table:

Ordering Details Pressure Springs – see »selection chart« on the following page

Art.-No.	Type	Cable Ø mm	Width mm
126296	RF2	17 – 28	16
126297	RF3	23 – 39	16
126298	RF4	33 – 49	16
126299	RF5	44 – 70	20
126300	RF6	55 – 92	20



Accessories

Earthing Kits for Cables with Tape Screen and/or Armouring Type EGA

for terminations

Selection chart for earthing kits according to **1.** and **2.**

Type	7.2 kV	12 kV	17.5 kV	24 kV	36 kV		
Nominal cross section ... mm ²						K1	K3
EGA 16 – 2	– 150	– 120	– 70	– 50		RF3	RF5
EGA 16 – 3	150 – 240	120 – 240	95 – 185	70 – 150	– 120	RF4	RF5
EGA 25 – 3	150 – 500	120 – 500	95 – 300	70 – 300	70 – 240	RF4	RF6
EGA 25 – 4					150 – 300	RF5	RF6
EGA 35 – 4	500 – 1000	500 – 1000	400 – 800	300 – 800	185 – 500	RF5	RF6
EGA 35 – 5			800 – 1000	800 – 1000	500 – 1000	RF6	

K1 = Additional pressure spring Type RF for armoured single-core cables (Fig. 2, previous page)

K3 = Additional pressure spring Type RF for armoured three-core cables (Fig. 4, previous page)

- 3.** Earthing kits Type EGA for terminations for three-core cables according to British Standard. Components: 1 support ring, 2 hose clamps, 3 pressure springs, 2 flat copper braids (short), 1 flat copper braid (long) and 1 heat-shrink tube

Ordering Details

Art.-No.	Type	Inner-Ø Support ring mm	Cross section flat cu braid mm ²	Pressure spring Type
185050	EGA3BS(53)	53	25	RF2
185051	EGA3BS(68)	68	25	RF2
185052	EGA3BS(73)	73	25	RF3
185053	EGA3BS(87)	87	35	RF3
185054	EGA3BS(97)	97	35	RF4

Selection chart for earthing kits according to **3.**

Type	7.2 kV	12 kV	17.5 kV	24 kV	36 kV
Nominal cross section ... mm ²					
EGA3BS(53)	– 150	– 95	– 70	– 50	
EGA3BS(68)	150 – 240	120 – 240	95 – 185	70 – 150	– 50
EGA3BS(73)	240 – 300	185 – 300	150 – 240	120 – 185	70 – 95
EGA3BS(87)			185 – 300	185 – 300	120 – 185
EGA3BS(97)					185 – 300

Right-angle Boots Type CRB — Straight Boots Type CSB

up to 24 kV

Application

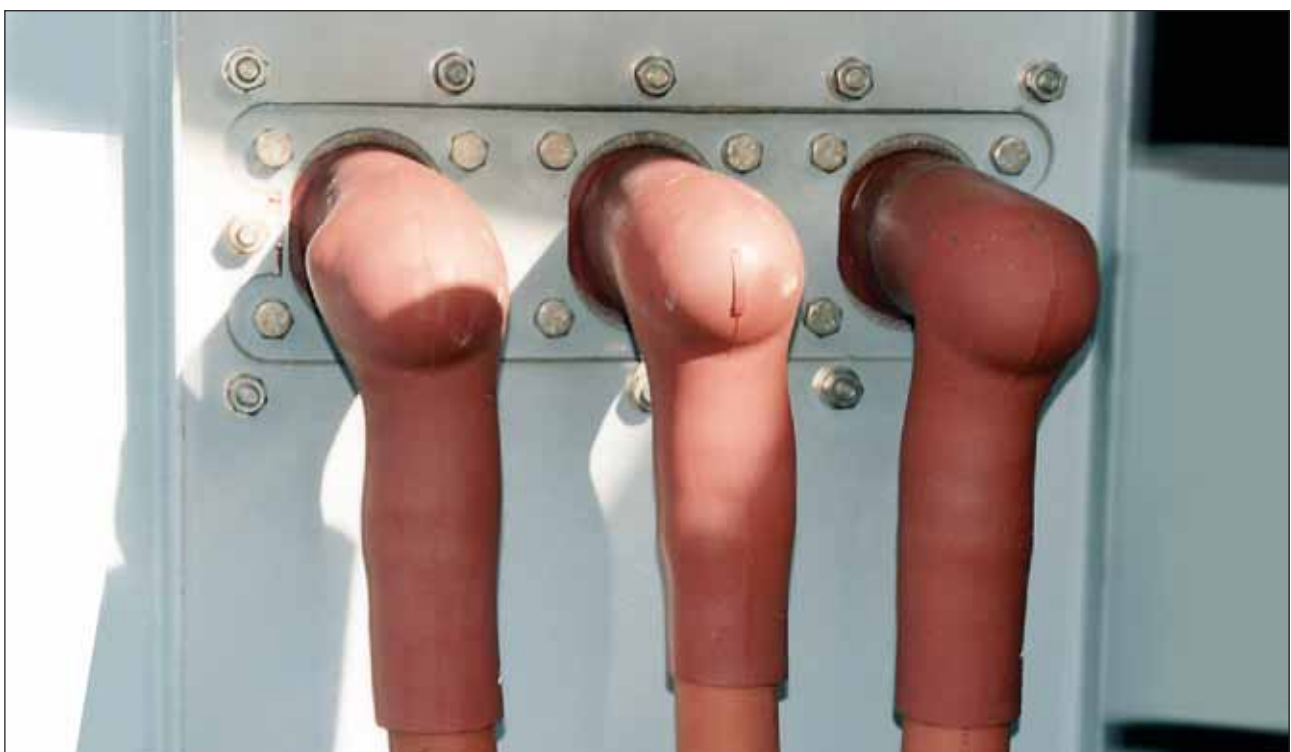
Right-angle boots Type CRB and straight boots Type CSB are weather- and track-resistant moulded parts to insulate and cover connectors between cable lug and straight or right-angled connections in transformer boxes and switchgears. The boots are shrunk over these connections in order to reduce the airclearance between phase to phase and phase to earth. They also give protection against flashover due to high humidity.

Delivery

- 3 boots
- 15 sealant tapes (5 per boots)

Ordering Details

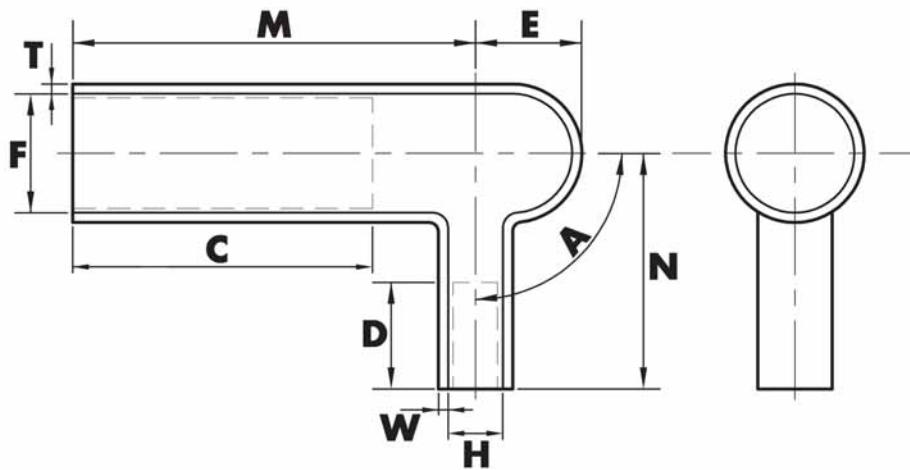
Art.-No.	Type	U ₀ /U (U _m) ... kV		
		6/10 (12) 6.35/11 (12)	8.7/15 (17.5)	12/20 (24) 12.7/22 (24)
approx. ... mm ²				
Right-angle boots				
182725	CRB1	10 – 95	10 – 70	10 – 50
182726	CRB2	120 – 300	70 – 300	70 – 300
182727	CRB3	400 – 630	240 – 500	240 – 300
Straight boots				
182729	CSB1	35 – 240	25 – 300	10 – 300
182730	CSB2	35 – 630	25 – 630	10 – 400



Accessories

Right-angle Boots Type CRB — Straight Boots Type CSB

up to 24 kV

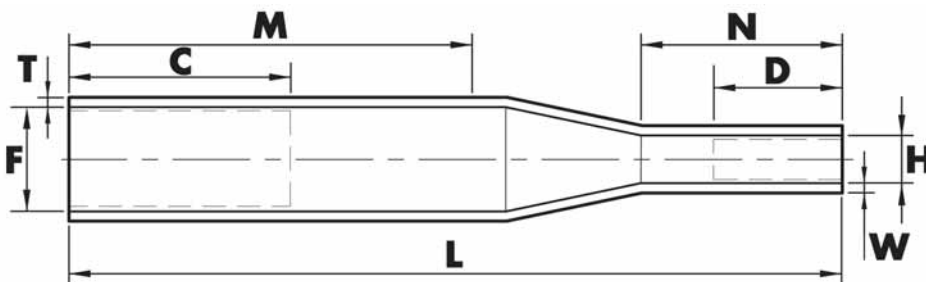


Dimensions Right-angle Boots

Type	H+	H	F+	F	E+	M+	N+	C+	D+	W+	T+	A+	A
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
CRB1	15	48	35	81	45	125	145	50	25	4.5	4.5	90°	60°
CRB2	25	48	35	81	45	125	145	50	25	5	5	90°	60°
CRB3	25	70	35	95	45	125	145	50	25	5	5	90°	60°

+ recovered

Tolerances	Thickness	W, T	± 10 %
	Lengths	E, M, N, C, D	± 10 %
	Diameters	H, F	± 5 %



Dimensions Straight Boots

Type	H+	H	F+	F	L+	M+	N+	C	D	W+	T+
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
CSB1	18	35	30	81	220	140	45	50	25	4.5	4.5
CSB2	18	60	30	81	220	140	45	50	25	4.5	4.5

+ recovered

Tolerances	Thickness	W, T	± 10 %
	Lengths	E, L, M, N, C, D	± 10 %
	Diameters	H, F	± 5 %

Cable Glands Type CG

for XLPE and paper cable (MIND)

Application

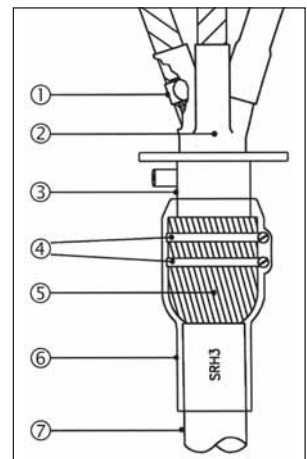
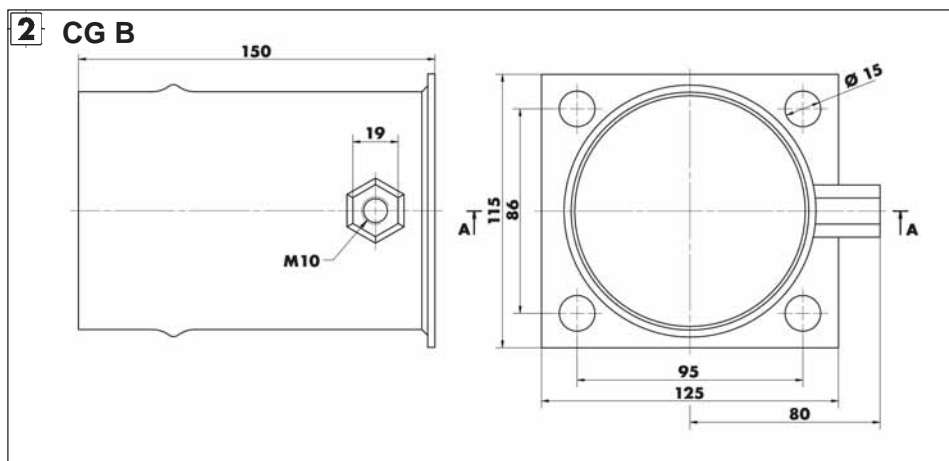
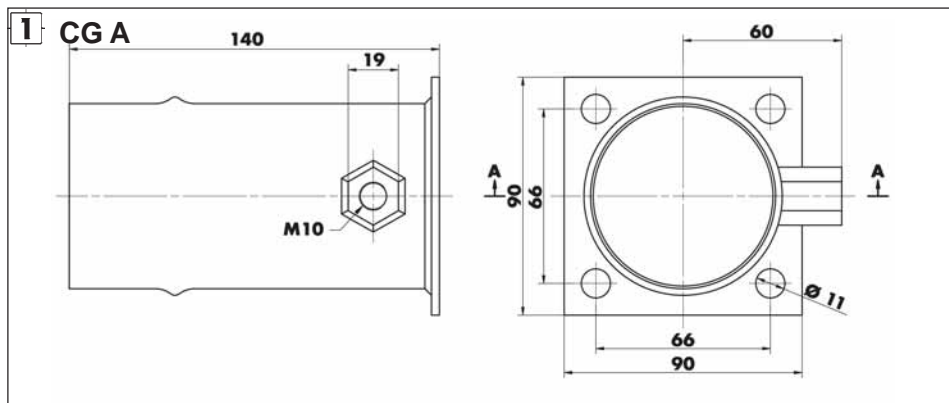
Cable glands for connections on transformer and switchgear boxes

Ordering Details

Art.-No.	Type	Diameter under armouring	
		XLPE Cable	Paper Cable (MIND)
183662	CG A	36 – 52	30 – 46
183661	CG B	53 – 80	47 – 75

Delivery

- Gland + 4 bolts and nuts
- Heat-shrink tube



- 1 Pressure spring
- 2 Spreader cap
- 3 Gland cap
- 4 Hose-clip
- 5 Armouring
- 6 Heat-shrink tube
- 7 Cable sheath

Accessories

Armouring Transfer for Three-core Joints Type AUF

- Armouring transfer for joints for three-core cables with armouring (Fig. 1).
Components: 1 flat copper braid 35 mm² (1200 mm length) – 2 pressure springs

Ordering Details

Art.-No.	Type	Cross section flat cu braid mm ²	Pressure spring Type
195367	AUF5	35	RF5
195368	AUF6	35	RF6

Selection Chart

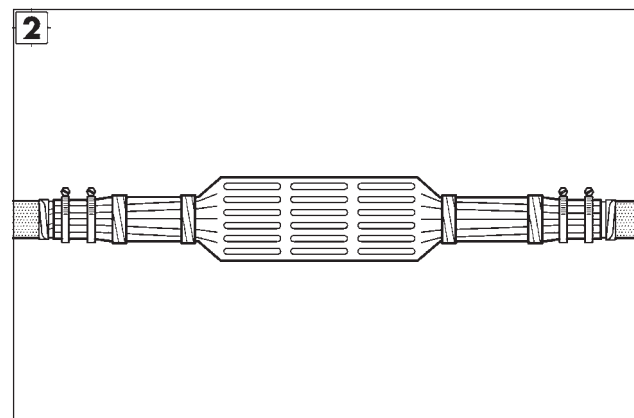
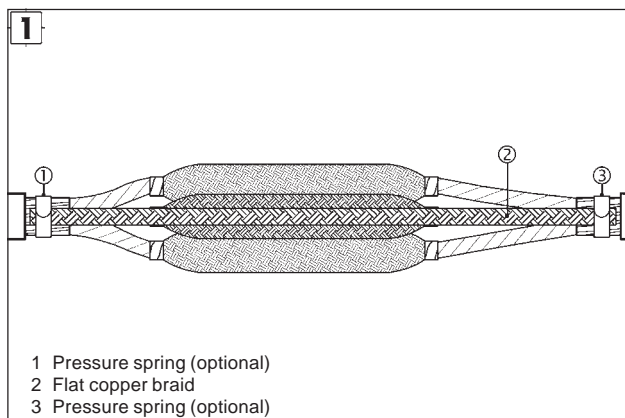
Type	7.2 kV	12 kV	17 kV	24 kV	36 kV
	Nominal cross section ... mm ²				
AUF5	– 300	– 240	– 240	– 150	– 70
AUF6	400	300 – 400	300 – 400	185 – 300	95 – 300

- Armouring transfer for three-core cables with armouring according to British Standard (Fig. 2).
Components: 1 steel canister – 2 support rings – 4 hose clamps – fabric tape

Ordering Details

Art.-No.	Type	LS mm	ØSR mm
195369	AUF 1100/53	1100	53
195380	AUF 1100/73	1100	73
195381	AUF 1100/87	1100	87
195382	AUF 1100/97	1100	97

LS = Length steel canister
ØSR= Inner diameter support ring



Armouring Transfer for Three-core Joints Type AUF

Selection chart for earthing kits according to 3.

Type	7.2 kV	12 kV	17.5 kV	24 kV	36 kV
	Nominal cross section ... mm ²				
AUF 1100/53	– 150	– 95	– 70	– 50	
AUF 1100/73	150 – 300	120 – 300	95 – 240	70 – 150	– 95
AUF 1100/87			150 – 300	150 – 300	120 – 185
AUF 1100/97					150 – 300



Accessories

High Voltage Insulation Tape Type No. 60 and No. 62

pliable • self-amalgamating • EPR base

Application

- Conductor insulation of polymeric cables up to 46 kV
- Repair and bonds between numerous insulating and sheathing materials, e.g. PE, XLPE, EPR, PVC, butyl, neoprene etc.
- For temporary insulation or protection

Features

- Excellent physical and electrical properties that guarantee high durability
- Good dielectric properties
- High weather-resistance
- Extremely ductile
- Amalgamates quickly to a homogeneous insulation without cavities
- Compatible with a wide range of substances
- Non tacky
- Easy to handle and remove

Colour

Black



Ordering Details

Art.-No.	Type	Colour	Thickness mm	Width mm	Length m
125533	No. 60	Black	0.5	19	10
145908	No. 62	Black	0.75	19	10

Technical Data

Tensile strength	3.0 N/mm ²
Elongation at break	800 %
Water absorption	0.05 %
Electrolytic corrosion	none
Flammability	~ Polyethylene
Ozone resistance	passed
Dielectric strength	36 kV/mm
Dielectric constant (50 Hz)	2.8
Power factor (50 Hz)	0.006
Volume resistivity (20 °C)	10 ¹³ Ohm-m
Temperature range	40 – 100 °C
• short-time up to	130 °C

Semi-conducting Tape Type No. 61

highly elastic • self-amalgamating • EPR base

Application

- Connection of semi-conducting layers of polymeric medium voltage cables
- Control of electrical stresses on uneven surfaces, e.g. for connectors and cable lugs

Features

- Good dielectric and physical properties that guarantee high duration
- Amalgamates to a homogeneous semi-conducting mass without cavities
- Imprint »Caution - semi conducting layer« preserves from wrong application

Colour

Black

Ordering Details

Art.-No.	Type	Colour	Thickness mm	Width mm	Length m
125590	No. 61	Black	0.75	19	9.1
125604	No. 61	Black	0.75	19	5.0

Technical Data

Tensile Strength	3.0 N/mm ²
Elongation at break	900 %
Electrolytic corrosion	none
Flammability	flammable
Ozone resistance	very good
Volume resistivity (20 °C)	10 Ohm-m
Temperature range	-40 – +100 °C
• short-time up to	130 °C



Accessories

Copper Braid Tape No. 63

tinned

Application

Connection of

- Screens
- Earthing systems
- Conductive connections

Features

- Braided tinned copper wires
- Highly flexible
- Unbreakable
- Perfect fitting and easy to wrap

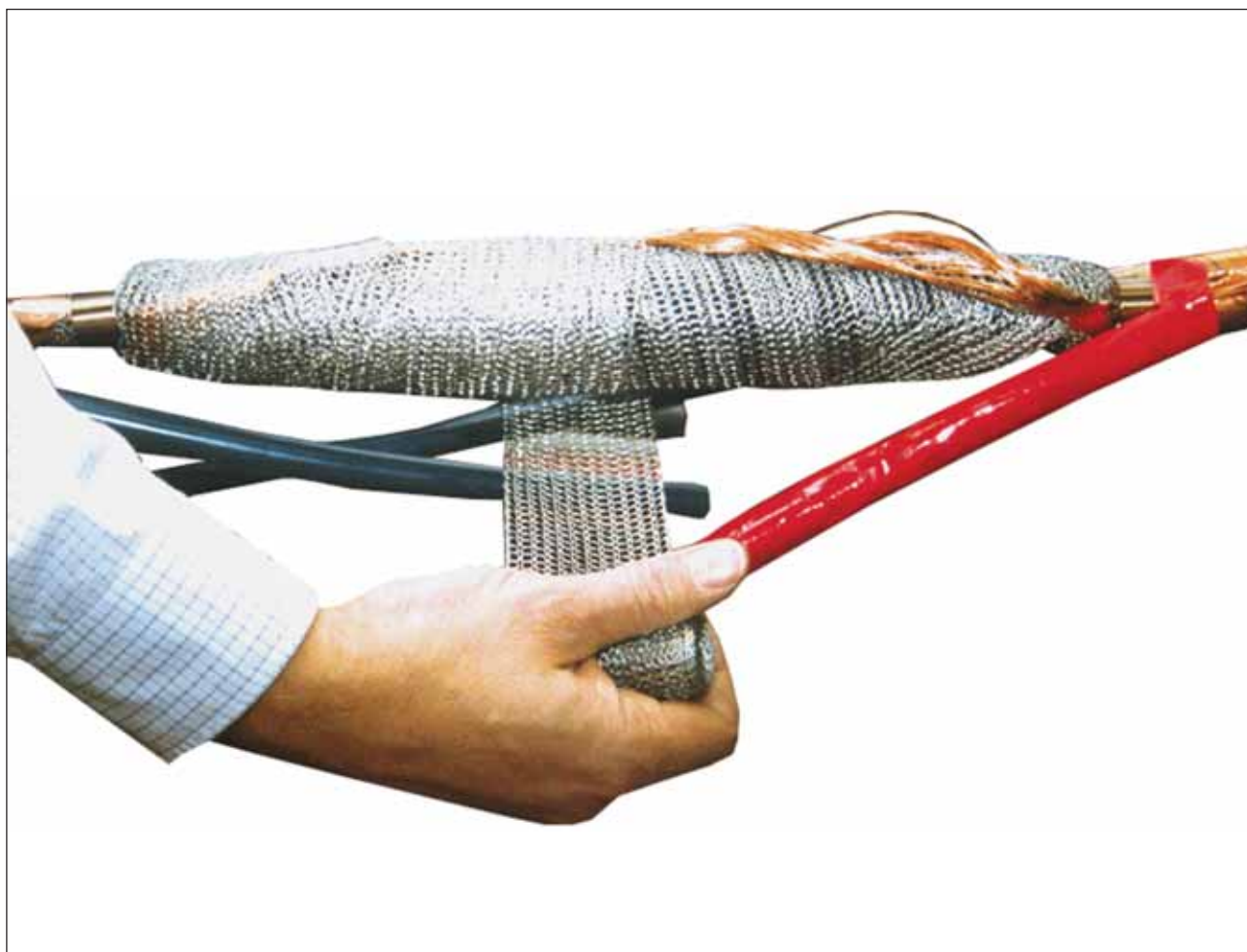
Colour

Silver



Ordering Details

Art.-No.	Type	Colour	Thickness mm	Width mm	Length m
126314	No. 63	Silver	0.5	25	9.1



Repair Tape Type No. 72

polyisobutylene base

Application

Repair of damaged cable sheaths and outer protection for straight-through joints.

Features

- Self-amalgamating

Colour

Black

Ordering Details

Art.-No.	Type	Colour	Thickness mm	Width mm	Length m
125587	No. 72	Black	0.75	25	10



Accessories

Heat-shrink Tube Type SRAT

thick-wall • shrink ratio 3 : 1



Application

- insulation tube for terminations from 3.6 up to 42 kV
- insulation tube for medium voltage bus-bar systems (reduction of minimum clearance)
- Prevents corrosion

Features

- Thick-wall
- Halogen-free
- High tensile strength
- Resistant to cold-flow
- Anti-tracking according to IEC 112
- Very high dielectric strength
- Excellent chemical and electrical properties
- UV-resistant
- Non-corrosive

Material

Cross-linked polyolefin, free of lead and cadmium

Colour

Red-Brown

Ordering Details

Art.-No.	Type	Inner Ø mm		W* mm	Length supplied m	Packing unit piece x m
		before shrinking	after			
144888	SRAT 19 - 6/1000	19	6	3.0	1	10 x 1
144892	SRAT 29 - 9/1000	29	6	3.0	1	10 x 1
144898	SRAT 38 - 12/1000	38	12	3.1	1	10 x 1
132464	SRAT 48 - 15/1000	48	15	3.1	1	10 x 1
144921	SRAT 60 - 20/1000	60	20	3.1	1	10 x 1
144935	SRAT 80 - 26/1000	80	26	3.1	1	10 x 1
144943	SRAT 120 - 40/1000	120	40	3.1	1	10 x 1
144884	SRAT 19 - 6/ m	19	6	3.0	30	1 x 30
144882	SRAT 29 - 9/ m	29	6	3.0	30	1 x 30
144880	SRAT 38 - 12/ m	38	12	3.1	30	1 x 30
144878	SRAT 48 - 15/ m	48	15	3.1	30	1 x 30
144886	SRAT 60 - 20/ m	60	20	3.1	30	1 x 30
144876	SRAT 80 - 26/ m	80	26	3.1	30	1 x 30

W* = Wall thickness, recovered

Physical Properties

Density	DIN 53479	~ 1.3	g/cm ³
Hardness	DIN 53 505	< 50	Shore D
Elongation at tear	DIN IEC 15C/590/CD	> 350	%
Tensile strength	DIN IEC 15C/590/CD	> 13	MPa
Longitudinal shrinkage	DIN IEC 15C/590/CD	+5/-15	%
Shrink ratio	DIN IEC 15C/590/CD	> 3 : 1	
Concentricity expanded	DIN IEC 15C/590/CD	50	%
Concentricity recovered	DIN IEC 15C/590/CD	85	%

Thermal properties

Operating temperature range	DIN IEC 15C/590/CD	-40 – +120	°C
Shrinking temperature	CP-PM-1004*	> 125	°C
Burning behaviour		flammable	
Flexibility at low temperature	DIN IEC 15C/590/CD	-40	°C
Thermal ageing (168 h/150 °C)	DIN IEC 15C/590/CD		
• Elongation at tear		> 300	%
• Tensile strength		> 13	MPa

Electrical properties

Dielectric strength (23 °C)	DIN VDE 030 T2	16	kV/mm
Tracking	IEC 112 RWD-Test	CTI 600 – 7	mm

Chemical properties

Copper compatability	DIN IEC 15C/590/CD	non-corrosive	
Water absorbtion	DIN 53 495 1L	< 0.15	%
Resistance to fungus and decay	DIN IEC 15C/590/CD	rate 1	

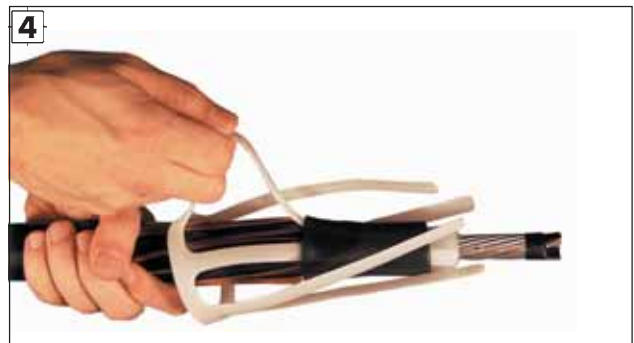
* Internal Specification according to DIN ISO 9001

Miscellaneous

Slip-on Auxiliary Device Type AH

simplifies installation

Application



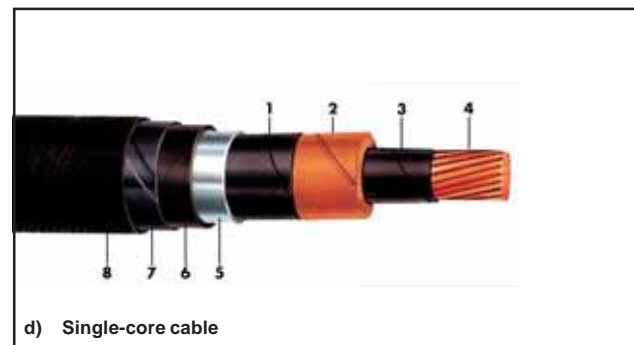
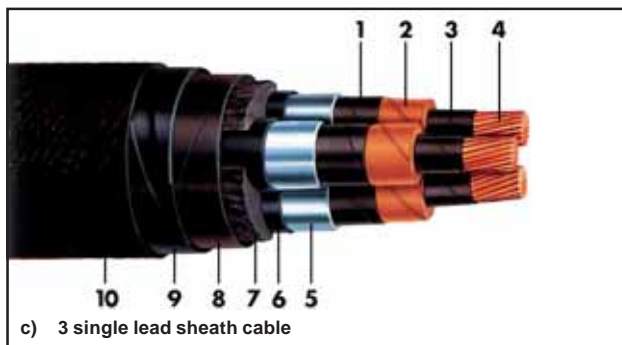
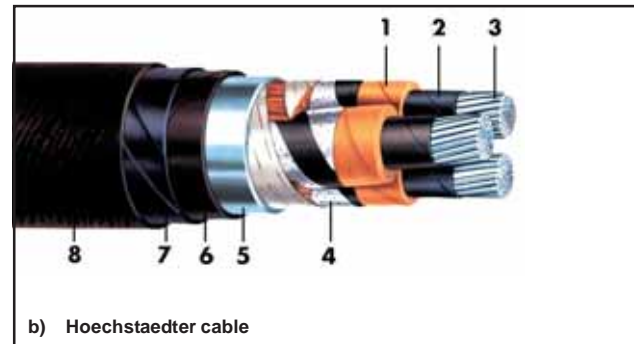
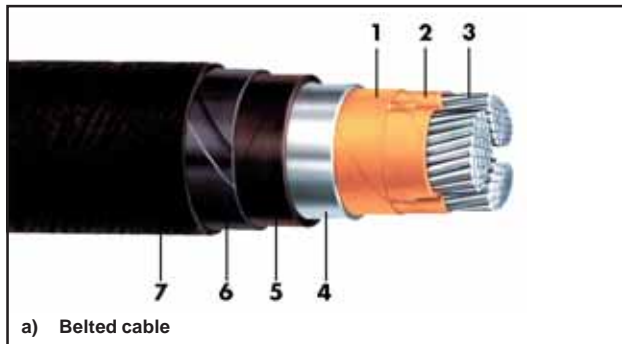
CELLPACK's product range of Medium voltage joints and terminations includes this patented slip-on auxiliary device. The device considerably simplifies slipping-on and positioning of the elastic, cylindrical joints and termination components onto cables, whose diameter exceeds the component's inner diameter. Also steps and edges do not damage the component's inner surface.



Other Types of Products Upon Request

for paper cables up to 36 kV

Application



1. Transition joints

- for cables according to **d)** transition joints on single-core polymeric cables from 6 up to 36 kV

2. Straight-through joints

- for cables according to **d)** straight-through joints from 6 up to 36 kV

3. Terminations (indoor and outdoor)

- for cables according to **b)** terminations from 6 up to 17.5 kV
- for cables according to **c)** terminations from 6 up to 17.5 kV
- for cables according to **d)** terminations from 6 up to 36 kV

4. Repair joints

- for cables according to **c)** repair joints from 12 up to 36 kV
- for cables according to **d)** repair joints from 12 up to 36 kV

Miscellaneous

Cellpack Production Plant

Cellpack invests into state-of-the-art technology

Quality control of silicone sheds ...



... and Contrax terminations



Assembling of cable accessories



New injection machinery for silicone components



Cellpack Testing Systems

for Medium Voltage joints and terminations

Equipment for impulse test up to 300 kV



Saltfog chamber with AC transformer 50 kV



AV test equipment up to 150 kV/75 kVA



Equipment for partial discharge measurements



Water tank for submersed heat-cycling of cable joints



Basic material laboratory



Impact Test Equipment

Chemical laboratory



Miscellaneous Cellpack Testing Systems

Cellpacks strong partner for R & D: Zittau-Görlitz (FH) University

High Voltage laboratory



Long term testing of joints and terminations – in air and under water



Ordering Examples

Example 1

Connection of two single-core polymeric cables 20 kV, 150 mm² Al with compression connector

Joint + Accessory	Type	Art.-No.	Quantity
Single-core straight -through joint	CHM 24kV 70 - 240	194086	1 set
with compression connector Al	DV-AL 150	125889	1 piece

Example 2

Connection of two single-core polymeric cables 20 kV, 150 mm² Al with compression connector

Joint + Accessory	Type	Art.-No.	Quantity
Single-core straight -through joint	CAM 24kV 70 - 240	199222	1 set
with compression connector Al	DV-AL 150	125889	1 piece

Example 3

Connection of one three-core with three single-core polymeric cables 15 kV, 300 mm² Cu with compression connectors

Joint + Accessories	Type	Art.-No.	Quantity
Three-core straight-through joint	CHM3 17kV 70-240	194298	1 set
with compression connectors Cu	DV-CU-V 300	125961	3 pieces
with spacer and sealing kit	DAS1	194292	1 piece

Example 4

Indoor termination for three single-core polymeric cables 30 kV, 150 mm² Cu with copper tape screen and armouring, with compression cable lug flat hole 12

Termination + Accessories	Type	Art.-No.	Quantity
Single-core indoor termination	CHE-I 36kV 50-150	194046	1 set
with compression cable lug Cu	DK-CU-V 150/12	126080	3 pieces
with earthing kit	EGA 25-4	143506	1 set
with pressure spring	RF5	126299	3 pieces

Example 5

Indoor termination for three single-core polymeric cables 30 kV, 150 mm² Cu with copper tape screen and armouring, with compression cable lug flat hole 12

Termination + Accessories	Type	Art.-No.	Quantity
Single-core indoor termination	CAE-I 36kV 50-240	199167	1 set
with compression cable lug Cu	DK-CU-V 150/12	126080	3 pieces
with earthing kit	EGA 25-4	143506	1 set
with pressure spring	RF5	126299	3 pieces

Miscellaneous Ordering examples

Example 6 – British Standard

Indoor termination for three-core polymeric cable 11 kV, 185 mm² with copper tape screen and armouring, with compression cable lug flat hole 16 and right-angle boots and cable gland

Termination + Accessories	Type	Art.-No.	Quantity
3-core indoor termination	CHE-3I 12kV 95-240	173132	1 set
with compression cable lug Cu	DK-CU-V 185/16	126087	3 pieces
with right-angle boot (separate packing)	CRB2	182726	1 set
with cable gland (separate packing)	CG A	183662	1 piece

Example 7

Transition of one three-core belted cable 10 kV, 50 mm² Al to three single-core polymeric cable 150 mm² Al with screw connector

Joint + Accessory	Type	Art.-No.	Quantity
Transition joint	CHMPR 3-1 17kV 70-240	197604	1 set
with screw connectors	SV-V-AS 50/150	195304	3 pieces
with adapter kit	PS (G+H) 17/1	197690	1 piece

Example 8

Connection of two belted cables 20 kV (H-Kabel), 185 mm² each, with screw connectors

Joint + Accessory	Type	Art.-No.	Quantity
Straight-through joint	CHMPP(H)3 24kV 95-240	197663	1 set
with screw connectors	SV-V-AS 95/240	179373	3 pieces

Example 9

Indoor termination for three-core belted cable 17 kV, 240 mm² Cu with compression cable lug flat hole 12

Termination + Accessory	Type	Art.-No.	Quantity
three-core indoor termination	CHEP-3I 17kV 25-240	197516	1 set
with compression cable lugs	Cu DK-CU-V 150/12	126080	3 pieces

Example 10

Outdoor termination for 3-core single lead sheath cable 30 kV, 185 mm² Al with compression cable lug flat hole 16

Termination + Accessory	Type	Art.-No.	Quantity
three-core outdoor termination	CHEP(3Pb)-3F 36kV 50-240	197572	1 set
with compression cable lug Al	DK-AL-LD 185/16	194934	3 pieces

Behr Bircher Cellpack BBC Group

The Behr Bircher Cellpack BBC Group is a management-controlled privately owned company group with different activities in industry, office automation and in financial investments in the financial and real estate.

The following companies belong to the BBC Group:

- **Cellpack Electrical Products** in Waldshut-Tiengen/Germany, is one of the leading suppliers of underground connection systems for power distribution in Germany and Switzerland . Own marketing companies serve the primary markets.
- Plastic parts and assemblies, semi-finished plastic products and granules are processed and distributed by **Cellpack Plastics Technology**/Villmergen, in Switzerland, Germany and France.
- **Cellpack Packaging**, one of the leading Swiss suppliers of flexible packaging owns production sites in Villmergen/Switzerland for flexography and pouch making and in Lauterecken/Germany for rotogravure. Own marketing companies serve Switzerland, Germany, France and Czechia.
- **Celltec** in St. Gallen/Switzerland is one of the leading suppliers of office technology solutions with 14 subsidiaries in Switzerland. Celltec is Switzerland's sole distributor of quality products from Ricoh, the world's number one in office technology.
- **Bircher Process Control** in Beringen/Switzerland operates in the engineering field and owns a production site in Hranice, Czechia.
- **Bircher Reglomat** in Beringen/Speicher is Europe's market leader in touch or motion actuated sensor systems for comfort and safety applications. It leads subsidiaries in its primary markets.
- **Gebrüder Dreifuss Dienstleistungen & Immobilien** in Wohlen/Switzerland rents out buildings and housing.

Bircher ProcessControl AG

Wiesengasse 20
8222 Beringen
Switzerland
Tel. +41 (052) 687 11 11
Fax +41 (052) 687 11 22
E-Mail: processcontrol@bircher.com

Bircher Reglomat AG

Wiesengasse 20
8222 Beringen
Switzerland
Tel. +41 (052) 687 11 11
Fax +41 (052) 687 11 12
E-Mail: info@bircher.com

Celltec AG

St.-Joseffen-Strasse 30
9001 St. Gallen
Switzerland
Tel. +41 (0)71 274 8300
Fax +41 (0)71 274 8390
E-Mail: celltec@celltec.ch

Cellpack GmbH Electrical Products

Carl-Zeiss-Straße 20
79761 Waldshut-Tiengen
Germany
Tel. +49 (0)7741 60070
Fax +49 (0)7741 64989
E-Mail: electrical.products@cellpack.com

Cellpack AG Packaging

Anglikerstrasse 99
5612 Villmergen
Switzerland
Tel. +41 (0)56 618 18 18
Fax +41 (0)56 622 12 13
E-Mail: packaging@cellpack.com

Cellpack AG Plastics Technology

Anglikerstrasse 99
5612 Villmergen
Switzerland
Tel. +41 (0)56 618 14 28
Fax +41 (0)56 621 00 21
E-Mail: plastics.technology@cellpack.com

BBC Technology AG

Anglikerstrasse 99
5612 Villmergen
Switzerland
Tel. +41 (0)56 618 14 96
Fax +41 (0)56 622 12 13
E-Mail: info@bbcgroup.biz

BBC Holding

8454 Buchberg
Switzerland
Tel. +41 (0)1 886 61 81

For more information about production sites and sales offices please refer to:

www.bbcgroup.biz

A

AH 86
AUF 78, 79

C

CAE-3F 56
CAE3-I 54
CAE-F 52
CAE-I 50
CAM 46
CAM3 48
CG 77
CHE-3F(A) 20, 21
CHE-3F(B) 24
CHE-3I(A) 18, 19
CHE-3I(B) 22, 23
CHE-F 16, 17
CHE-I 14, 15
CHEP-3F 40, 41
CHEP-3I 38, 39
CHEP(3Pb)-3F 44, 45
CHEP(3Pb)-3I 42, 43
CHEP(H)-3F 40, 41
CHEP(H)-3I 38, 39
CHM 8
CHM3 10
CHMP(3Pb) 30, 31, 32, 33
CHMP(H) 28, 29
CHMPP(3Pb)3 36, 37
CHMPP(H)3 34, 35
CHMPPR3 34, 35
CHMPR 26, 27
CRB 75, 76
CSB 75, 76

D

DAS 72
DK-AL-LD 65
DK-CU-V 63
DK-CU-V-LD 64
DV-AL 68
DV-CU-V 66
DVZ-AL-LD 69
DVZ-CU-V-LD 67

E

EGA 73, 74

M

M.MS6 58, 59
M.MSPB6 60, 61

N

Nr. 60 80
Nr. 61 81
Nr. 62 80
Nr. 63 82
Nr. 72 83

S

SEEV 12, 13
SEEV-F 12, 13
SK-V-AS 70
SMH3MS6 6, 7
SRAT 84, 85
SV-V-AS 71



Solutions For Professionals



Cellpack AG Electrical Products
Werk 1, Anglikerstrasse 99
5612 Villmergen
Schweiz

Telefon +41 (0) 56 618 12 34 / 24
Fax +41 (0) 56 618 12 45
E-Mail electrical.products@cellpack.com



Cellpack GmbH
Carl-Zeiss-Straße 20
79761 Waldshut-Tiengen
Deutschland

Telefon +49 (0) 77 41 6 00 70
Fax +49 (0) 77 41 6 49 89
E-Mail electrical.products@cellpack.com



Cellpack Benelux B.V.
Keersluisweg 13
1332 EE Almere Buiten
Nederland

Telefoon +31 (0) 36 549 03 36
Fax +31 (0) 36 532 74 99
E-Mail info@cellpack.nl



Cellpack Ibérica S.A.
Avda. San Julián 220, Nave 29
Polígono Industrial «Congost»
08400 Granollers-Barcelona
España

Téléfono +34 93 846 63 76
Fax +34 93 849 12 06
E-Mail comercial@cellpackiberica.com



Cellpack S.à.r.l.
277, Boulevard des Technologies
54710 Ludres
France

Téléphone +33 3 832 56 0 07
Télécopieur +33 3 83 25 88 27
E-Mail cellpackfrance@cegetel.net



Cellpack Far East (PTE) LTD.
128 Joo Seng Road # 06 – 01
Singapore 368356

Telephone +65 747 70 24
Fax +65 841 45 54
E-Mail cellpack@singnet.com.sg