

POWER CABLE ACCESSORIES

12 kV up to 42 kV



Completing the picture

BASED ON EXPERIENCE IS THE FUTURE

nkt cables GmbH

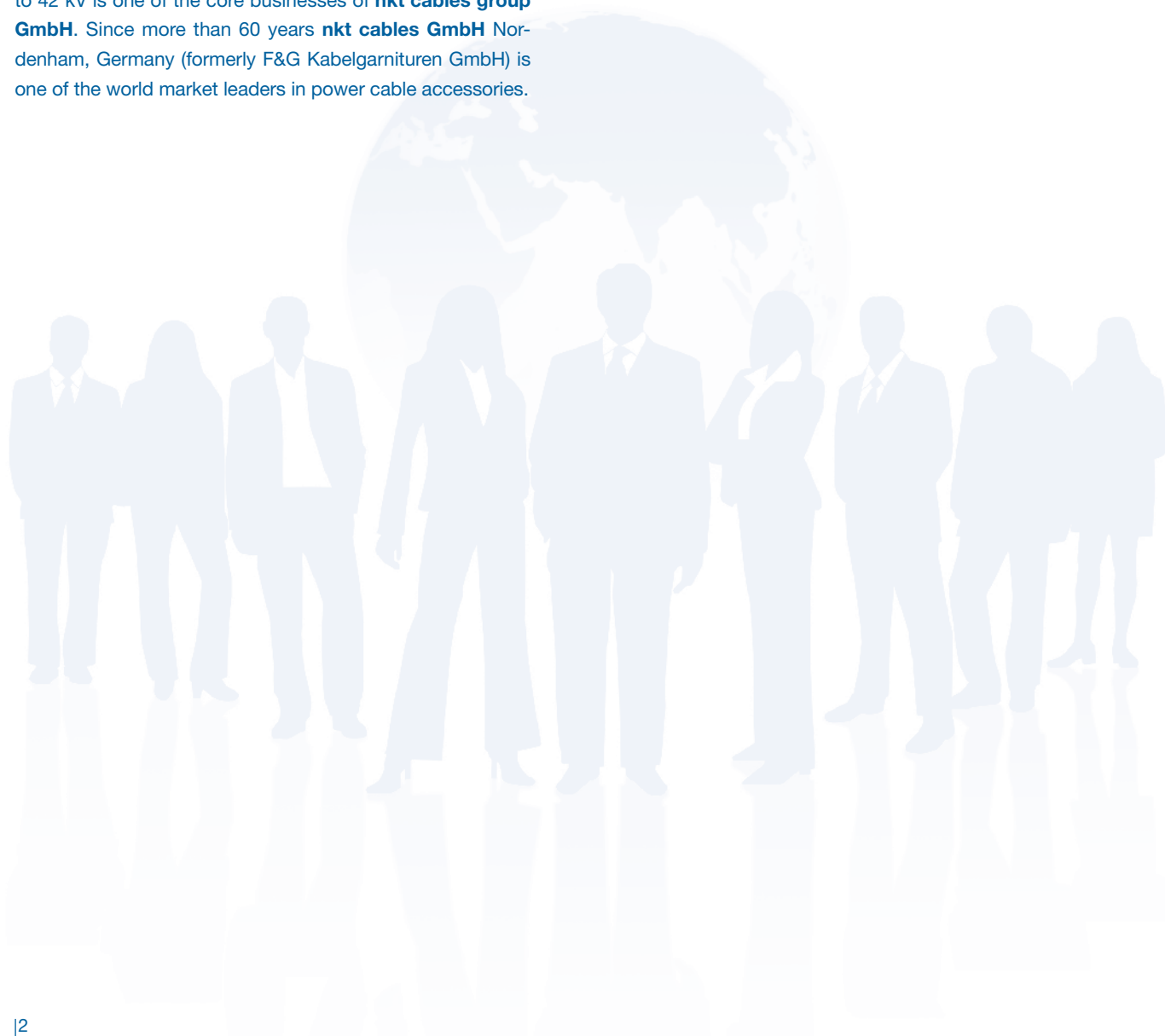
NKT was established in 1891 as cable manufacturer. In 1999 NKT A/S Denmark merged with Felten & Guillaume Kabelwerke GmbH in Germany to form **nkt cables group GmbH** with headquarters in Cologne. **nkt cables group GmbH** is owned by NKT Holding A/S, an industrial group of companies employing 9,110 people.

nkt cables group GmbH bundles the expertise of around 2,500 employees in 10 production and development facilities spread over five European countries and P.R. China.

Manufacturing and developing power cable accessories up to 42 kV is one of the core businesses of **nkt cables group GmbH**. Since more than 60 years **nkt cables GmbH** Nordenham, Germany (formerly F&G Kabelgarnituren GmbH) is one of the world market leaders in power cable accessories.

The product range covers cable joints, cable connectors for SF6-switchgears and transformers as well as indoor- and outdoor terminations. These types of cable accessories are used for single- and 3-core cables as well as for paper insulated cables.

As the first company introducing silicone rubber terminations already in the sixties, **nkt cables GmbH**, Nordenham is specialized in production of silicone rubber power cable accessories.



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Applications for cable accessories



Silicone rubber

Silicone rubber is a preferred material for cable accessories due to its excellent mechanical and electrical properties.

For more than 40 years silicone has been used successfully as high-quality electrical insulation for voltages up to 400 kV. Silicone rubber features high quality electrical insulation, superior corona and tracking resistance, combined with high elasticity.

It facilitates multi range application, where one silicone rubber body can be used for various conductor cross sections. Optimal flexibility ensures easy assembly of the accessories.

Outstanding features of the silicone rubber insulation material are:

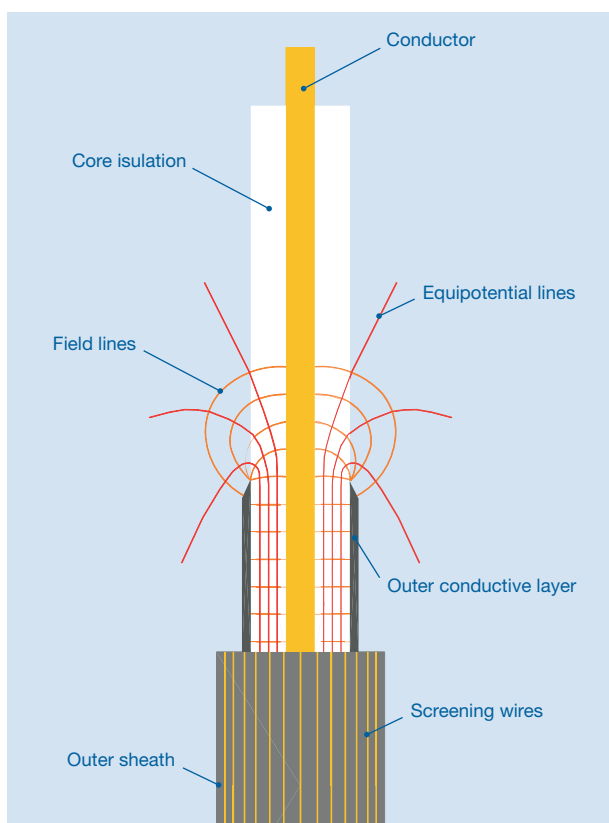
- ✓ UV and ozone resistance
- ✓ durable water rejection
- ✓ weather and aging resistance
- ✓ non-flammable, self-extinguishing, heat resistant
- ✓ applicable for use at temperatures between -50° C and +180° C
- ✓ high elasticity
- ✓ high tracking resistance
- ✓ unlimited storage life
- ✓ friendly to the environment

Stress control

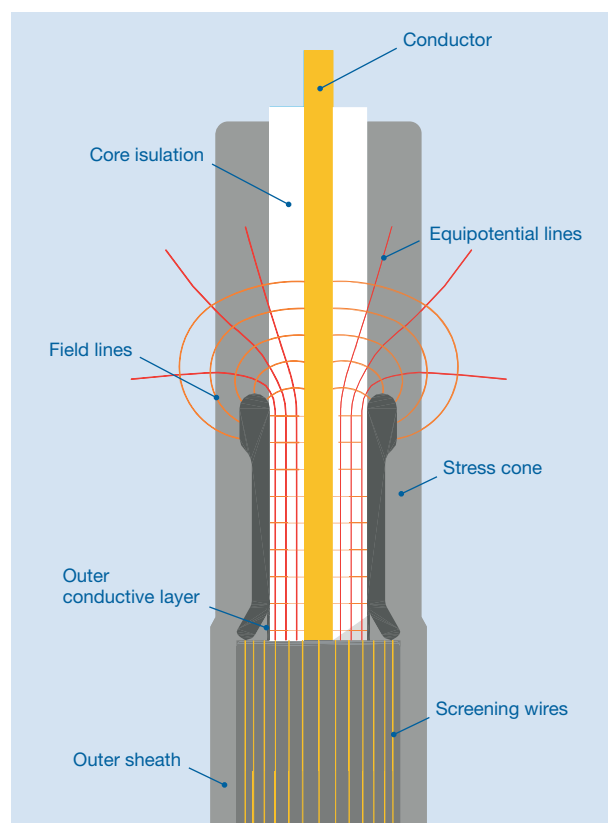
The specific electrical problems of the cable termination are found at the point between the high-grade solid electrical insulation of the cable and the gaseous insulation air which has a significantly lower dielectric strength.

In order to achieve sufficient insulating clearance, the outer conductive layer of the cable must be stripped to below the end of the core. This causes unacceptably high field intensities at the end of the outer conductive layer (figure 1) which must be eliminated by means of special measures.

Figure 2 shows the field of the cable termination controlled capacitively by a funnel shaped electrode. It is dimensioned in such a way that field intensities do not exceed at any point. This prevents harmful corona or partial discharge.



Electrical field without stress control (Figure 1)



Electrical field with capacitive stress control (Figure 2)



ACCORDING TO CENELEC HD 629.1 S1 + A1 UND VDE 0278-PART 629-1

Test	Test voltage	Specified voltage U_0/U (U_m) kV	
		6/10(12)	Requirements
Humidity and salt fog	1.25 U_0	7.5 kV	No breakdown, no flashover. Less than 3 ignitions. No visual damages.
Partial discharge	2 U_0	12 kV	Partial discharge: max. 10 pC: XLPE max. 20 pC: PVC
Thermal cycling and AC 15 min and 500 h	2.5 U_0	15 kV	No breakdown, no flashover.
AC 5 min	4.5 U_0	27 kV	No breakdown, no flashover.
DC 15 min	6 U_0	36 kV	No breakdown, no flashover.
Impulse withstand voltage ± 10 x		75 kV	No breakdown, no flashover.

Indoor termination for 6/10 (12) kV

TI 12

TI 12 is an indoor termination made of silicone rubber for connection to air insulated switchgear and transformers up to 12 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed. For conductor cross sections from 185 up to 630 mm² the indoor termination type TI 24 CA and/or TI 36 CA applies.

- ✓ schnelle und einfache Montage
- ✓ quick and easy assembly
- ✓ one-piece design with integrated capacitive stress control system
- ✓ short body
- ✓ long creepage distance by optimized shed arrangement
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 2 sizes cover the range of conductor cross sections up to 240 mm²
- ✓ weight of the TI 12 basic set ~ 0.38 kg

Scope of delivery

- ✓ 3 terminations
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 1 assembly instructions
- ✓ accessories

- 1 cable lug
- 2 termination
- 3 earthing cable lug

TI 12

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.		
			d (mm)	D (mm)	L1 (mm)	Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
25	2	12.7 - 19.2	12.5	39	max. 230	26 291 91	26 291 51	26 291 01
35							26 291 52	26 291 02
50							26 291 53	26 291 03
70							26 291 54	26 291 04
95	3	17.0 - 28.4	17	43	max. 230	26 291 92	26 291 55	26 291 05
120							26 291 56	26 291 06
150							26 291 57	26 291 07
185							26 291 58	26 291 08
240							-	26 291 09

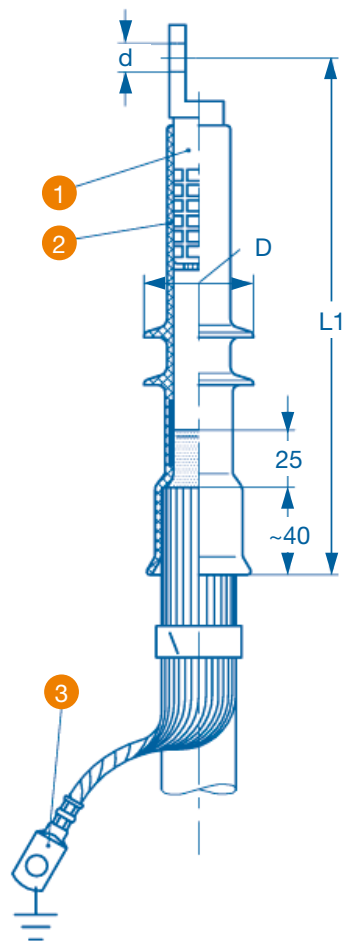
TI 24 CA for 6/10 (12) kV

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.		
			d (mm)	D (mm)	L1 (mm)	Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
185	5	21.2 - 34.6	17	60	max. 340		26 399 78	26 399 28
240							26 399 79	26 399 29
300							26 399 80	26 399 30

TI 36 CA for 6/10 (12) kV

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.		
			d (mm)	D (mm)	L1 (mm)	Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
400	27	28.9 - 43.0	17	90	max. 485		26 447 61	26 447 11
500			21				26 447 62	26 447 12
630							-	26 447 13

Illustration see page 36



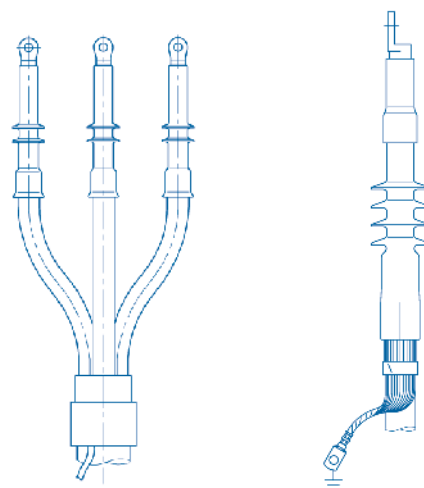
Additional solutions

All terminations can be used on 3-core XPLE cables with a corresponding trifurcating set

trifurcating set

TI 24 CA

details see page 15



Outdoor termination for 6/10 (12) kV

TO 12

TO 12 is an outdoor termination made of silicone rubber for overhead link and other outdoor applications up to 12 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed. For conductor cross sections from 185 up to 630 mm² the outdoor termination type TO 24 CA and/or TO 36 CA applies.

- ✓ quick and easy assembly
- ✓ one-piece design with integrated capacitive stress control system
- ✓ short body
- ✓ long creepage distance and large dry zones
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 1 size covers the range of conductor cross sections from 95 up to 240 mm²
- ✓ weight of the TO 12 basic set ~ 1.1 kg

Scope of delivery

- ✓ 3 terminations
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 1 assembly instructions
- ✓ accessories

- 1 cable lug
- 2 termination
- 3 sealing tape
- 4 earthing cable lug

TO 12

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Basic set without cable lug	Reference no.	
			d (mm)	D (mm)	L1 (mm)		with cable lug	
95	3	17.0 - 28.4	12.5	60	max. 300	26 292 92	26 292 55	26 292 05
120							26 292 56	26 292 06
150							26 292 57	26 292 07
185							26 292 58	26 292 08
240			17				-	26 292 09

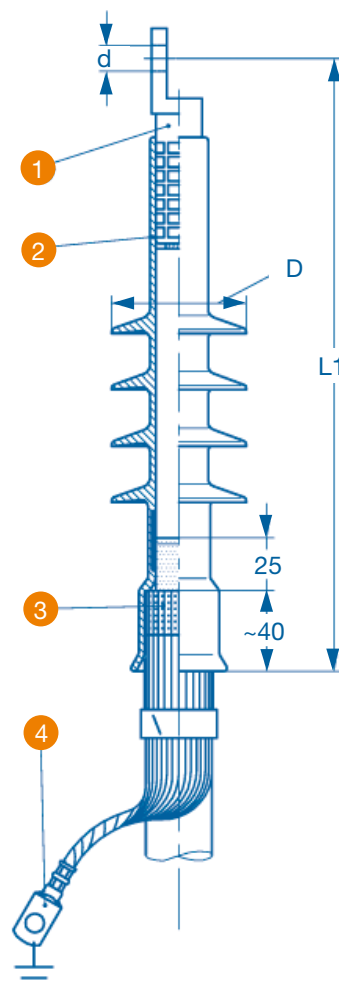
TO 24 CA for 6/10 (12) kV

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.
			d (mm)	D (mm)	L1 (mm)	
185	5	21.2 - 34.6	17	90	max. 400	26 303 78
240						26 303 79
300						26 303 80

TO 36 CA for 6/10 (12) kV

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.
			d (mm)	D (mm)	L1 (mm)	
400	27	28.9 - 43.0	17	156	max. 485	26 445 61
500						26 445 62
630			21			-

Illustration see page 37

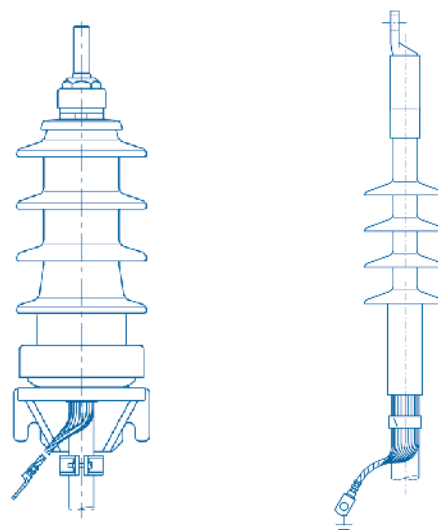


Additional solutions

FP 20 K with porcelain insulator and integrated push-on element made of silicone rubber

Details upon request

TO 24 CA



Elbow connector 250 A/400 A for 6/10 (12) kV

EASW 10/250

EASW 10/250 is a screened elbow cable connector made of silicone rubber for cable connection to switchgear and transformers up to 12 kV with bushings type A (250 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to VDE 0278 part 629-1 have been successfully passed. *For conductor cross sections from 95 mm² the connector type CE24-250 applies.

- ✓ quick and easy assembly
- ✓ one piece design with integrated capacitive stress control system
- ✓ screening by outer conductive layer
- ✓ cable sheath testing without dismantling of connector
- ✓ metal housing or capacitive measuring point (optional)
- ✓ weight of the EASW 10/250 ~ 2.2 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 conductor cable lugs
- ✓ 3 contact pins
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 bushing
- 2 contact pin
- 3 cable lug
- 4 connector body
- 5 sealing tape
- 6 earthing cable lug

EASW 10/250 with bail restraint fixing

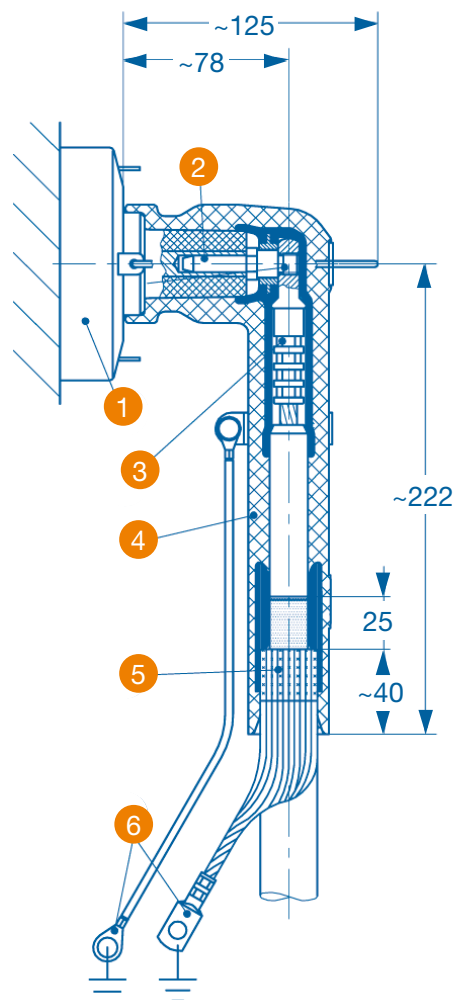
Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point		with measuring point	
25	2	12.7 - 19.2	Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
35			26 311 71	26 311 31	26 313 81	26 313 71
50			26 311 72	26 311 32	26 313 82	26 313 72
70			26 311 73	26 311 33	26 313 83	26 313 73
95	16*	16.9 - 25.0	26 311 74	26 311 34	26 313 84	26 313 74
120			26 364 55	26 364 05	26 366 55	26 366 05
			26 364 56	26 364 06	26 366 56	26 366 06

EASW 10/250 with metal flange / housing

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point		with measuring point	
25	2	12.7 - 19.2	without metal housing	without metal housing	with metal housing	with metal housing
35			Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
50			26 311 61	26 311 11	26 310 61	26 310 11
70			26 311 62	26 311 12	26 310 62	26 310 12
95	16*	16.9 - 25.0	26 311 63	26 311 13	26 310 63	26 310 13
120			26 311 64	26 311 14	26 310 64	26 310 14
			26 402 55	26 402 05	26 401 55	26 401 05
			26 402 56	26 402 06	26 401 56	26 401 06

CE 24-400 with capacitive measuring point for 6/10 (12) kV for bushing type B (400 A)

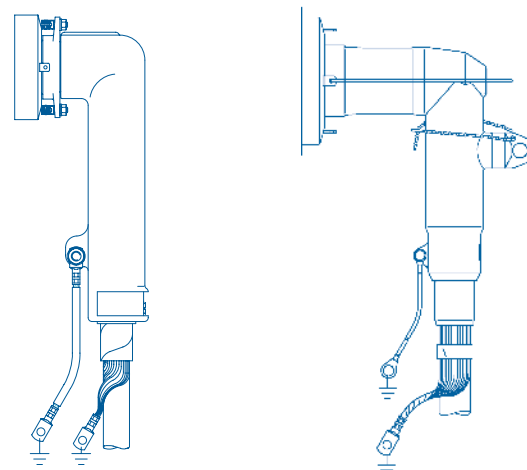
Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug	
25	type 02	12.7 - 25.0	26 416 92	Al-conductor	Cu-conductor
35				26 416 51	26 416 01
50				26 416 52	26 416 02
70				26 416 53	26 416 03
95				26 416 54	26 416 04
120				26 416 55	26 416 05
150	type 03	21.2 - 34.6	26 416 93	26 416 56	26 416 06
185				26 416 57	26 416 07
240				26 416 58	26 416 08
300				26 416 59	26 416 09
				26 416 60	26 416 10



Additional solutions

EASW 10/250
with metal housing

CE 24-400
for bushings type B



Straight connector 250 A for 6/10 (12) kV

EASG 10/250

EASG 10/250 is a screened straight cable connector made of silicone rubber for cable connection to switchgear and transformers up to 12 kV with bushings type A (250 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ integrated capacitive stress control system
- ✓ screening by outer conductive layer
- ✓ cable sheath testing without dismantling of connector
- ✓ capacitive measuring point (optional)
- ✓ weight of the EASG 10/250 ~ 2.2 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 contact pins
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

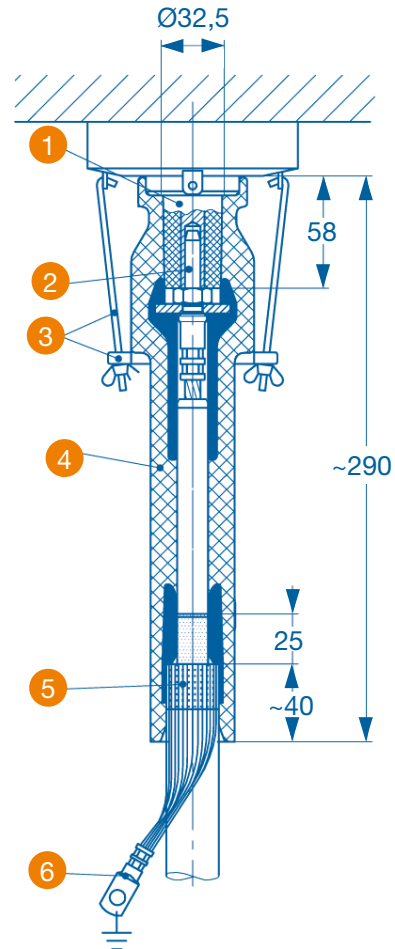
- 1 bushing
- 2 contact pin
- 3 bail restraint
- 4 connector body
- 5 sealing tape
- 6 earthing cable lug

EASG 10/250 with bail restraint fixing

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point		with measuring point	
			Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
25	2	12.7 - 20.0	26 317 51	26 317 01	26 317 81	26 317 71
35			26 317 52	26 317 02	26 317 82	26 317 72
50			26 317 53	26 317 03	26 317 83	26 317 73
70			26 317 54	26 317 04	26 317 84	26 317 74
95	3	17.0 - 25.0	26 317 55	26 317 05	26 317 85	26 317 75

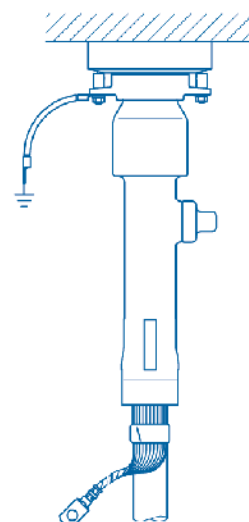
EASG 10/250 with metal flange

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point		with measuring point	
			Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
25	2	12.7 - 20.0	26 317 61	26 317 11	26 317 41	26 317 21
35			26 317 62	26 317 12	26 317 42	26 317 22
50			26 317 63	26 317 13	26 317 43	26 317 23
70			26 317 64	26 317 14	26 317 44	26 317 24
95	3	17.0 - 25.0	26 317 65	26 317 15	26 317 45	26 317 25



Additional solutions

EASG 10/250 with metal flange fixing, capacitive measuring point (optional)



Cable connector 630 A for 6/10 (12) kV

CB 12-630

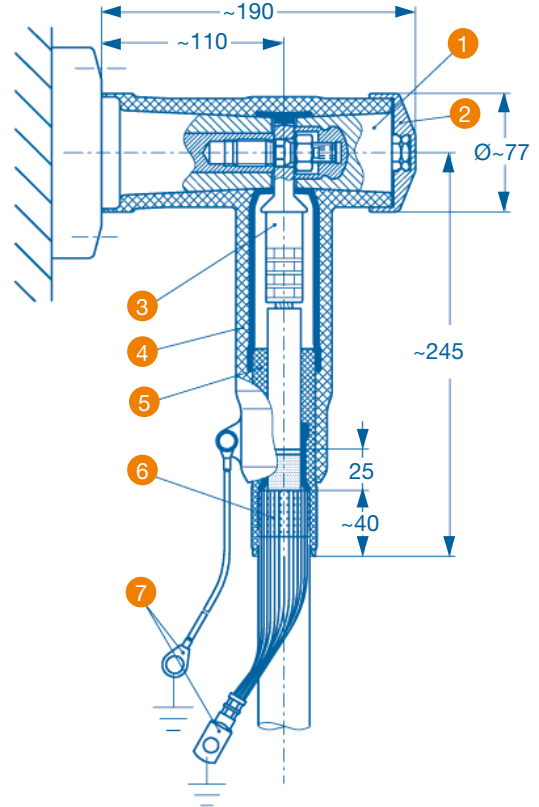
CB 12-630 is a screened cable connector made of silicone rubber for cable connection to switchgear and transformers up to 12 kV with bushings type C (630 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ only 2 versions cover 25 up to 300 mm²
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ cable sheath testing without dismantling of connector
- ✓ capacitive measuring point
- ✓ weight of the CB 12-630 basic set ~ 4.4 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 insulating plug
- 2 covering cap
- 3 cable lug
- 4 connector body
- 5 stress cone
- 6 sealing tape
- 7 earthing cable lug

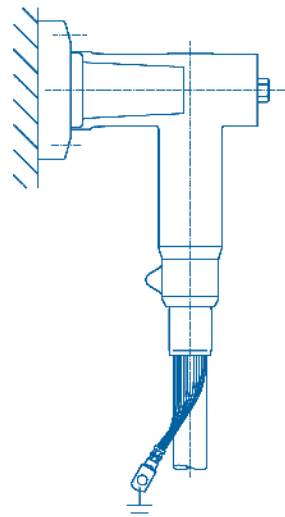


CB 12-630 (screened)

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
25	type 02	12.7 - 25.0	26 323 92	26 323 51	26 323 01
35				26 323 52	26 323 02
50				26 323 53	26 323 03
70				26 323 54	26 323 04
95				26 323 65	26 323 15
120				26 323 66	26 323 16
150	type 03	21.2 - 34.6	26 323 93	26 323 67	26 323 17
185				26 323 58	26 323 08
240				26 323 59	26 323 09
300				26 323 60	26 323 10
95	Typ 23	17.0 - 32.6	26 323 97	26 321 35	26 321 75
120				26 321 36	26 321 76
150				26 321 37	26 321 77
185				26 321 38	26 321 78
240				26 321 39	26 321 79
300				26 321 40	26 321 80

Cable adapter for 630 A

AB 12-630 without outer conductive layer



Coupling connector 630 A for 6/10 (12) kV

CC 12-630

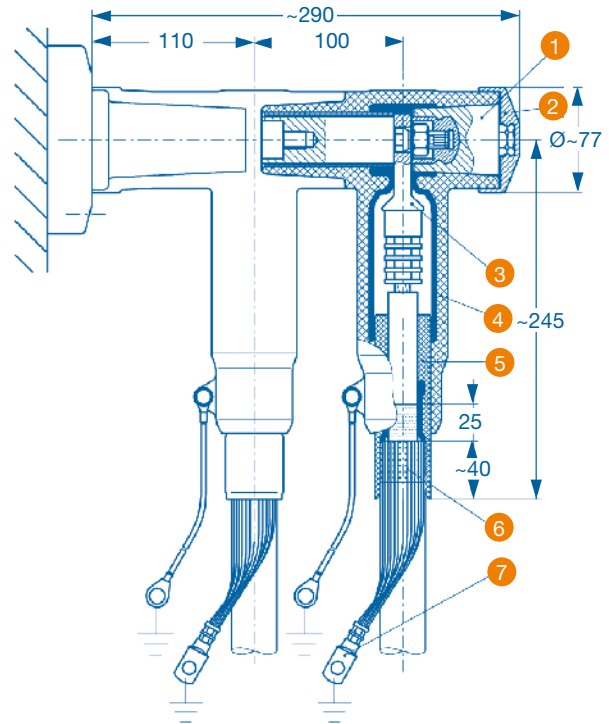
CC 12-630 is a screened coupling connector made of silicone rubber for double cable connection. It is linked directly to cable connector CB 12-630.

- ✓ only ~290 mm installation depth
- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ only 2 versions cover 25 up to 300 mm²
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ cable sheath testing without dismantling of connector
- ✓ capacitive measuring point
- ✓ weight of the CC 12-630 basic set ~ 4.9 kg

Scope of delivery

- ✓ 3 coupling connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 insulating plug
- 2 covering cap
- 3 cable lug
- 4 connector body
- 5 stress cone
- 6 sealing tape
- 7 earthing cable lug

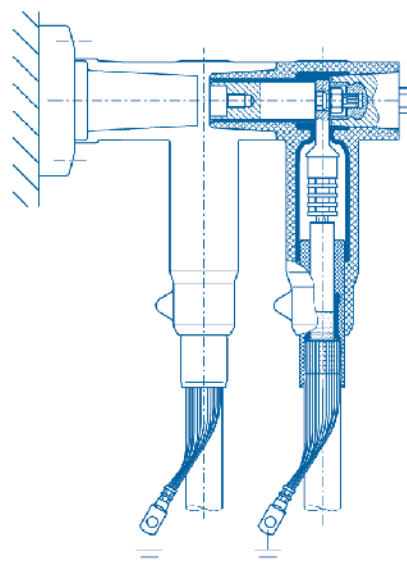


CC 12-630 (screened) for connection with CB 12-630

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
25	type 02	12.7 - 25.0	26 353 92	26 353 51	26 353 01
35				26 353 52	26 353 02
50				26 353 53	26 353 03
70				26 353 54	26 353 04
95				26 353 65	26 353 15
120				26 353 66	26 353 16
150	type 03	21.2 - 34.6	26 353 93	26 353 67	26 353 17
185				26 353 58	26 353 08
240				26 353 59	26 353 09
300				26 353 60	26 353 10
95	Typ 23	17,0 - 32,6	26 353 97	26 351 35	26 351 75
120				26 351 36	26 351 76
150				26 351 37	26 351 77
185				26 351 38	26 351 78
240				26 351 39	26 351 79
300				26 351 40	26 351 80

Additional solutions

AB 12-630 with AC 12-630, both without outer conductive layer



Surge arrester for 6/10 (12) kV

CSA 12

CSA 12 is a metal oxide surge arrester with silicone rubber connector housing. It protects medium voltage networks, e. g. transformers, switchgears and cables. Incoming overvoltage waves and voltage increase by reflection are limited. Minimum total length is achieved by direct link of the surge arrester to cable connector CB 12-630 or to coupling connector CC 12-630.

- ✓ only ~290 mm installation depth
- ✓ quick and easy assembly
- ✓ integrated stress control system
- ✓ capacitive measuring point
- ✓ weight of the CSA 12-5 ~ 5.7 kg

Scope of delivery

- ✓ 3 surge arresters
- ✓ 3 threaded bolts
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instruction
- ✓ accessories

- 1 threaded bolt
- 2 insulating plug
- 3 covering cap
- 4 surge arrester
- 5 earthing cable lug

	CSA 12-5	CSA 12-10
	ASA 12-5	ASA 12-10
continuous operating voltage U_c	12 kV	12 kV
rated voltage U_r	15 kV	15 kV
nominal discharge current I_n	5 kA	10 kA
partial discharge at 12 kV	< 5 pC	< 5 pC
residual voltage at:		
- steep current impulse 5/10 kA, 1/20 μ s	42.4 kV	42.8 kV
- long duration current impulse 125 A, 30/75 μ s	30.2 kV	30.1 kV
- lightning current impulse 5/10 kA, 8/20 μ s	40.0 kV	40.0 kV

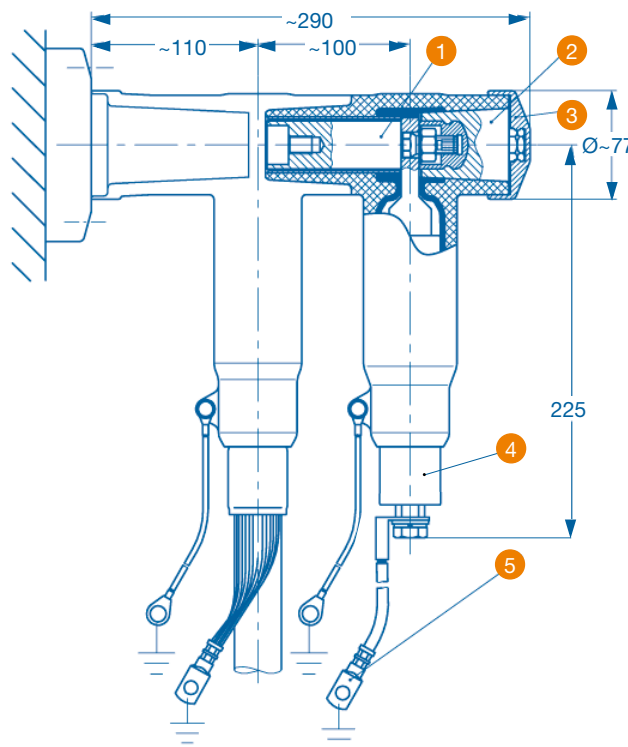
CSA 12 (screened)

Type	Reference no.
CSA 12-5	26 357 04
CSA 12-10	26 357 54

ASA 12 (unscreened)

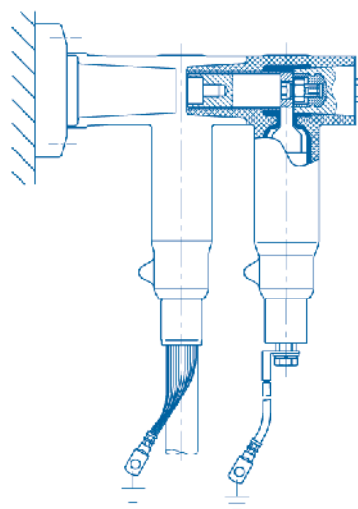
Type	Reference no.
ASA 12-5	26 359 04
ASA 12-10	26 359 54

Further alternatives concerning continuous operating voltage U_c and nominal discharge current I_n upon request.



Surge arrester

ASA 12 is the unscreened alternative for direct link to cable adapter AB 12-630 or to coupling adapter AC 12-630.



Trifurcating set for 6/10 (12) kV

ATS

ATS facilitates a single core breakout of a 3-core cable and seals the cable end. Insulating tubes protect the cores and semi-conductive stops provide a perfect match with terminations and cable connectors.

Scope of delivery

- ✓ 3 outer sleeves
- ✓ 1 trifurcating cap
- ✓ 1 assembly instructions
- ✓ accessories

- ① outer sleeve (3 x 1 m)
- ② trifurcating cap
- ③ copper wire
- ④ sealing tape
- ⑤ earthing strand

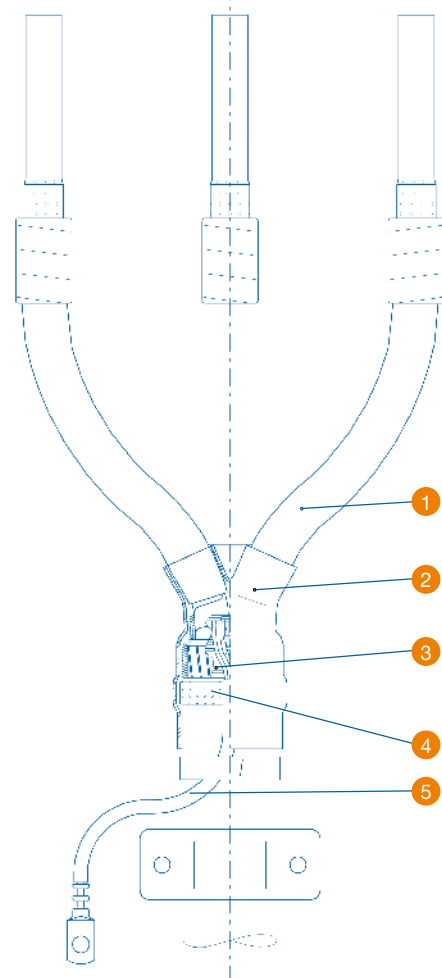
ATS for tape screened cables

Conductor cross section (mm ²)	Reference no.
25 - 70	21 231 12
95 - 150	21 231 13
185 - 300	21 231 14

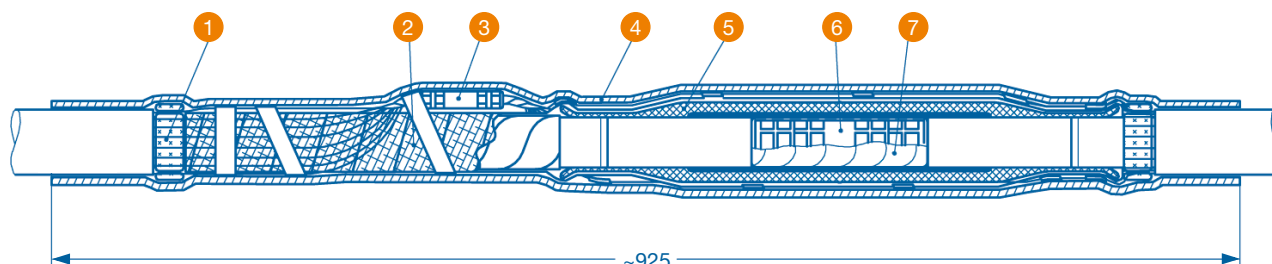
ATS for wire screened cables

Conductor cross section (mm ²)	Reference no.
25 - 70	21 229 01
95 - 150	21 229 02
185 - 300	21 229 03

ATS for special cable or contact spring versions upon request.



Straight joint for 6/10 (12) kV



JS 24-E for 6/10 (12) kV

JS 24-E for 6/10 (12) kV is a straight joint with joint body made of silicone rubber for plastic insulated cables up to 12 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ premoulded joint body with integrated stress control system
- ✓ use of various conductor connector types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 3-core versions available with or without armouring
- ✓ weight of the JS 24-E basic set ~ 1.6 kg

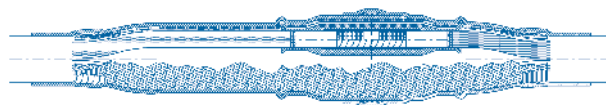
Scope of delivery

- ✓ 1 joint body
- ✓ 1 conductor connector (optional)
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

- 1 sealing tape
- 2 copper braid tape
- 3 screening wire connector
- 4 outer sleeve
- 5 joint body
- 6 conductor connector
- 7 self amalgamating conductive tape

3-core straight joint

JS 24-3E for armoured and non-armoured 3-core cables



JS 24-E for 6/10 (12) kV (for single-core cable)

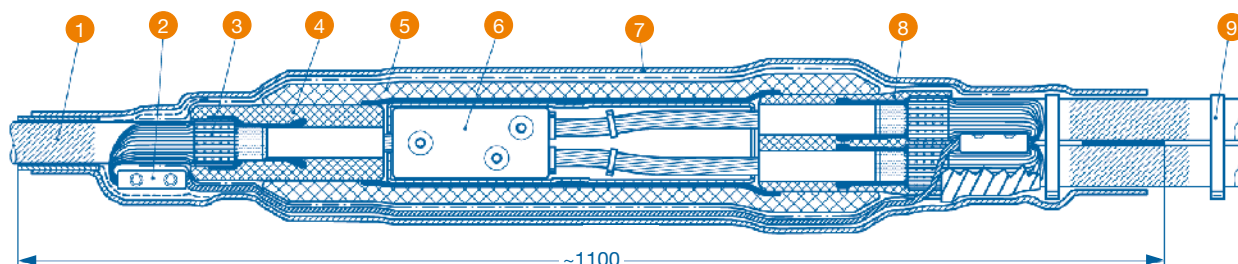
Conductor cross section (mm²)	Size	Stretch range over insulation (mm)	Basic set without conductor connector	Reference no. with conductor connector	
				Al-conductor	Cu-conductor
70	14	15,0 - 24,3	26 393 90	26 393 74	26 393 01
95				26 393 75	26 393 02
120				26 393 76	26 393 03
150				26 393 77	26 393 04
185	20	21.3 - 32.6	26 393 91	26 393 68	26 393 18
240				26 393 69	26 393 19
300				-	26 393 20
400	27	28.9 - 37.8	26 393 92	26 393 61	26 393 11
500*	30	32.4 - 42.8	26 503 92	26 503 62	26 503 12
600*				-	26 503 13

* JS 36-E for 12 kV

JS 24-3E for 6/10 (12) kV (for 3-core cables)

Conductor cross section (mm²)	Size/Stretch range over insulation (mm)	Reference no. without conductor connector		
		tape screened cables with armouring	tape screened cables without armouring	wire screened cables
70	14 / 15,0 - 24,3	26 347 85	26 347 88	26 347 81
95				
120				
150				
185	20 / 21.3 - 32.6	26 347 86	26 347 89	26 347 82
240				
300				

Joint branch for 6/10 (12) kV



JB 24 for 6/10 (12) kV

The JB 24 for 6/10 (12) kV is a branch joint with joint body made of silicone rubber for plastic insulated cables up to 12 kV.

- ✓ premoulded joint tube with outer conductive layer
- ✓ integrated stress control
- ✓ multi range technology for applications with cross section transition
- ✓ mechanical (screw type) conductor connector in multi range technology
- ✓ weight of the JB 24 incl. conductor connector ~ 6.4 kg

Scope of delivery

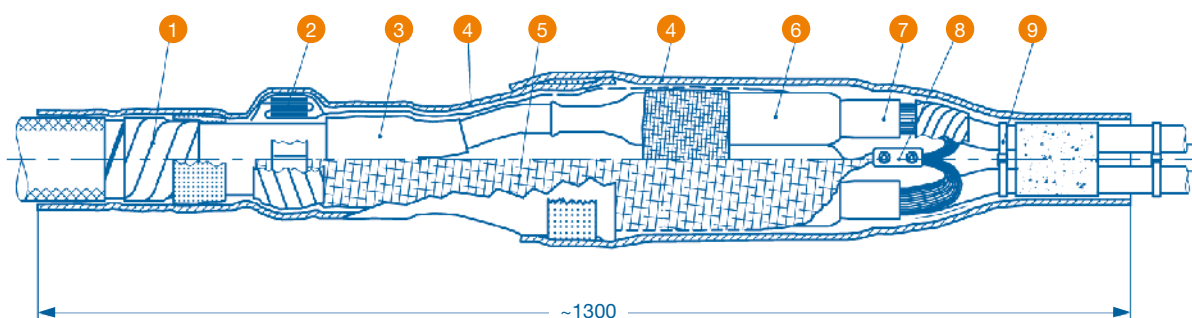
- ✓ 1 joint tube
- ✓ 1 stress cone
- ✓ 1 twin stress cone
- ✓ 1 conductor connector
- ✓ 2 contact shells
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

JB 24 for 6/10 (12) kV

Conductor cross section (mm ²)	Stress cone straight Size	Stretch range over insulation (mm)	Stress cone branch Size/Stretch range over insulation (mm)	Reference no.
120	53	18.4 - 28.5	2 / 18.2 - 25.9	26 320 10
150			19 / 19.7 - 28.5	26 320 11
185				
240				

- 1 cable sheath
- 2 screening wire connector
- 3 sealing tape
- 4 stress cone
- 5 joint tube
- 6 conductor connector
- 7 outer sleeve
- 8 twin stress cone
- 9 cable tie

Transition joint for 6/10 (12) kV



JT 12-B

JT 12-B is a transition joint in dry technology with main components made from silicone rubber for transition from PILC to XLPE insulated cables up to 12 and 24 kV.

- ✓ joint body with outer screening comprising two components
- ✓ integrated stress control system
- ✓ only two sizes for the entire application range from 25 mm² up to 240 mm²
- ✓ short joint construction
- ✓ system technology, i. e. same main components for paper-insulated belted cable, H-cable, 3-SL-cable and pure XLPE connections

Scope of delivery

- ✓ 3 joint bodies
- ✓ 3 stress cones
- ✓ 1 trifurcating cap
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

- 1 self bonding tape
- 2 contact spring
- 3 trifurcating cap
- 4 outer sleeve
- 5 copper braid tape
- 6 joint body
- 7 stress cone
- 8 screening connector
- 9 cable tie

Connector Branch up to 17,5 kV

CB 17,5-630

CB 17,5-630 is a screened cable connector made of silicone rubber for cable connection to switchgear (RMU) and transformers up to 17.5 kV with bushings type C (630 A) according to EN 50180, EN 50181. Type tests according to IEC 60502-4:2005-02 and Chinese Standard GB/T 12706.4 have been successfully passed.

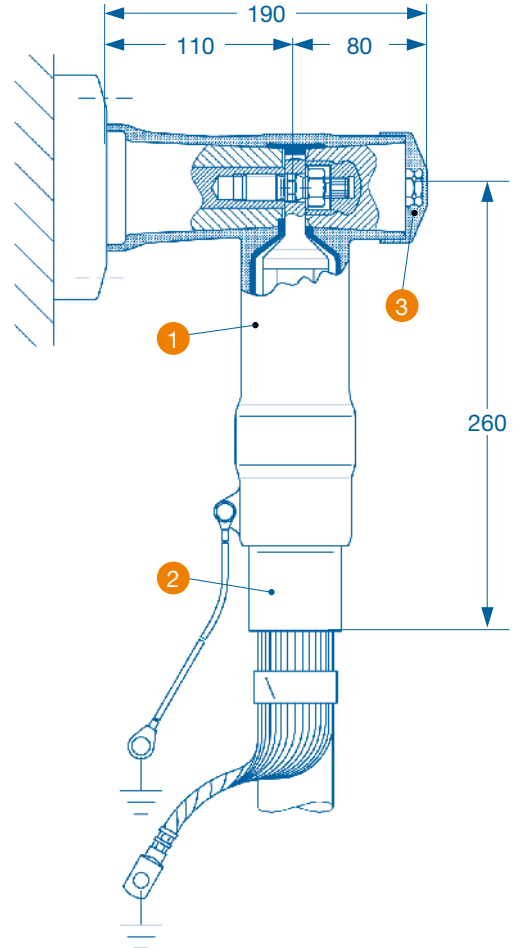
- ✓ suitable for 12 and 17.5 kV XLPE cables
- ✓ quick and easy assembly
- ✓ fits to all switchgears
- ✓ compact design
- ✓ maintenance free
- ✓ fully screened by a bonded outer conductive layer of silicone
- ✓ integrated stress control system
- ✓ unique connector casing for 25 up to 500 mm²
- ✓ 4 sizes of stress cones for multirange cable connection
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ cable sheath testing without dismantling of connector
- ✓ insulating plug with capacitive measuring point
- ✓ design with coupling capability/ double cable connection
- ✓ a lots of accessories available

- ① screened connector casing
(with a bonded outer conductive layer)
- ② stress cone
- ③ conductive covering cap

Technical Data:

maximum system voltage	17.5 kV
continuous nominal current	up to 630 A
partial discharge at 2 U ₀	< 5pC
AC withstand voltage, 5 min.	39 kV / 42 kV
DC withstand voltage, 15 min.	52 kV
impulse withstand voltage	95 kV
diameter over core insulation	12.7 - 40.0 mm
cross section (multirange)	25 - 500 mm ²

Size of stress cone	Stretch range Ø over core insulation (mm)	Cross section 6 / 10 (12) kV	Cross section 8.7 / 15 (17.5) kV
5002	12.7 - 19.2	25 - 70	25 - 50
5003	17.0 - 24.3	95 - 150	70 - 95
5005	21.2 - 33.6	185 - 300	120 - 240
5027	28.9 - 40.0	400 - 500	300 - 500



Coupling connector up to 17,5 kV

CC 17,5-630

CC 17,5-630 is a screened coupling connector made of silicone rubber for double cable connection. It is linked directly to cable connector CB 17,5-630. Type tests according to IEC 60502-4:2005-02 and Chinese Standard GB/T 12706.4 have been successfully passed.

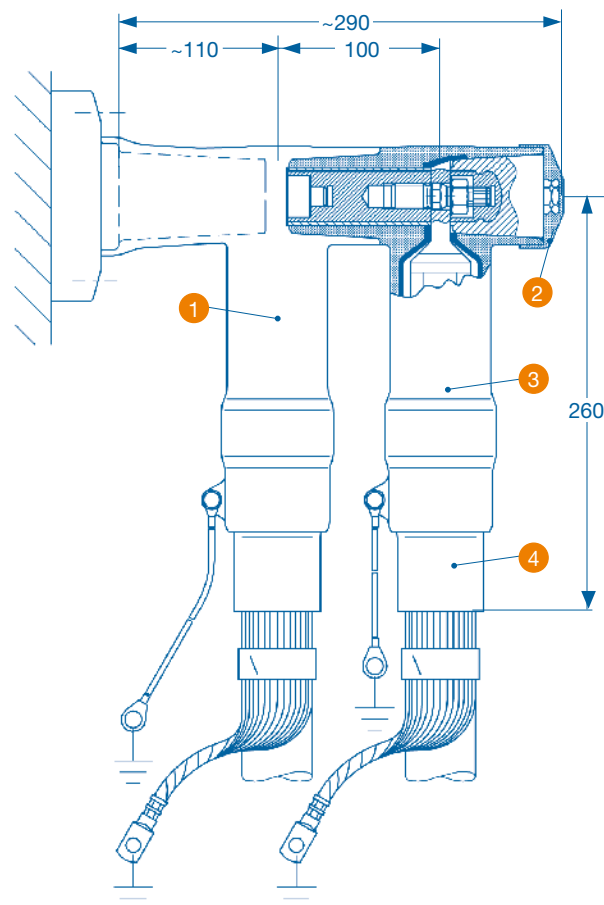
- ✓ suitable for 12 and 17.5 kV XLPE cables
- ✓ only ~290 mm installation depth
- ✓ quick and easy assembly
- ✓ compact design
- ✓ maintenance free
- ✓ fully screened by a bonded outer conductive layer of silicone
- ✓ integrated stress control system
- ✓ unique connector casing for 25 up to 500 mm²
- ✓ 4 sizes of stress cones for multirange cable connection
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ insulating plug with capacitive measuring point
- ✓ cable sheath testing without dismantling of connector
- ✓ a lots of accessories available

- 1 connector type CB
- 2 conductive covering cap
- 3 connector type CC
- 4 stress cone

Technical Data:

maximum system voltage	17.5 kV
continuous nominal current	up to 630 A
partial discharge at 2 U ₀	< 5pC
AC withstand voltage, 5 min.	39 kV / 42 kV
DC withstand voltage, 15 min.	52 kV
impulse withstand voltage	95 kV
diameter over core insulation	12.7 - 40.0 mm
cross section (multirange)	25 - 500 mm ²

Size of stress cone	Stretch range Ø over core insulation (mm)	Cross section 6 / 10 (12) kV	Cross section 8.7 / 15 (17.5) kV
5002	12.7 - 19.2	25 - 70	25 - 50
5003	17.0 - 24.3	95 - 150	70 - 95
5005	21.2 - 33.6	185 - 300	120 - 240
5027	28.9 - 40.0	400 - 500	300 - 500





ACCORDING TO CENELEC HD 629.1 S1 + A1 AND VDE 0278-PART 629-1

Test	Test voltage	Specified voltage U_0/U (U_m) kV		
		12/20(24)	12.7/22(24)	Requirements
Humidity and salt fog	1.25 U_0	15 kV	16 kV	No breakdown, no flashover. Less than 3 ignitions. No visual damages.
Partial discharge	2 U_0	24 kV	25.4 kV	Partial discharge: max. 10 pC: XLPE max. 20 pC: PVC
Thermal cycling and AC 15 min and 500 h	2.5 U_0	30 kV	32 kV	No breakdown, no flashover.
AC 5 min	4.5 U_0	54 kV	57 kV	No breakdown, no flashover.
DC 15 min	6 U_0	72 kV	76 kV	No breakdown, no flashover.
Impulse withstand voltage ± 10 x		125 kV	125 kV	No breakdown, no flashover.

Indoor termination for 12/20 (24) kV

TI 24

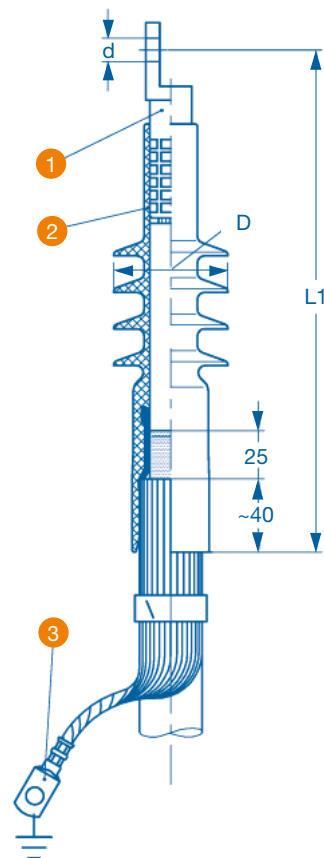
TI 24 is an indoor termination made of silicone rubber for connection to air insulated switchgear and transformers up to 24 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed. For conductor cross sections from 150 up to 630 mm² the indoor termination type TI 24 CA and/or TI 36 CA applies.

- ✓ quick and easy assembly
- ✓ one-piece design with integrated capacitive stress control system
- ✓ extremely short body
- ✓ long creepage distance by optimized shed arrangement
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 2 sizes cover the range of conductor cross sections up to 240 mm²
- ✓ weight of the TI 24 basic set ~ 0.7 kg

Scope of delivery

- ✓ 3 terminations
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 1 assembly instructions
- ✓ accessories

- 1 cable lug
- 2 termination
- 3 earthing cable lug



TI 24

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.		
			d (mm)	D (mm)	L1 (mm)	Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
25	3	17.0 - 25.0	12.5	55	max. 270	26 302 91	26 302 51	26 302 01
35							26 302 52	26 302 02
50							26 302 53	26 302 03
70							26 302 54	26 302 04
95	5	21.2 - 34.6	17	60	max. 270	26 285 92	26 302 55	26 302 05
120							26 302 56	26 302 06
150							26 302 57	26 302 07
185							26 302 58	26 302 08
240							-	26 302 09

TI 24 CA

Conductor cross section (mm²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no. with cable lug		
			d (mm)	D (mm)	L1 (mm)	Al-conductor	Cu-conductor	
150	5	21.2 - 34.6	12.5	60	max. 340	26 399 77	26 399 27	
185			26 399 78			26 399 28		
240			17			26 399 79	26 399 29	
300						26 399 80	26 399 30	

TI 36 CA for 12/20 (24) kV

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.	
			d (mm)	D (mm)	L1 (mm)	with cable lug Al-conductor	Cu-conductor
300	27	28.9 - 43.0	17	90	max. 485	26 447 60	26 447 10
400						26 447 61	26 447 11
500			17 (Al) 21 (Cu)			26 447 62	26 447 12

For conductor cross sections from 300 mm² the TI 36 CA apply.

Illustration see page 36

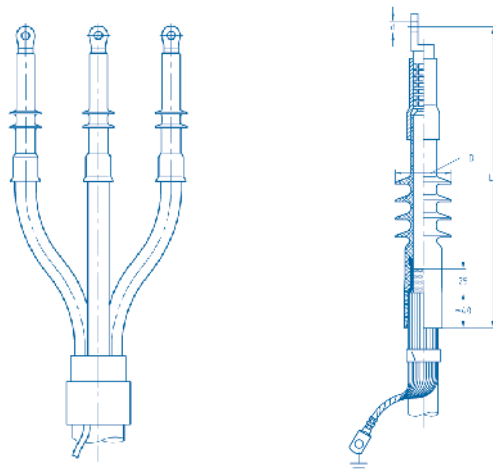
Additional solutions

All terminations can be used on 3-core XPLE cables with a corresponding trifurcating set

trifurcating set

TI 24 CA

details see page 30



Outdoor termination for 12/20 (24) kV

TO 24

TO 24 is an outdoor termination made of silicone rubber for overhead link and other outdoor applications up to 24 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed. For conductor cross sections from 150 up to 630 mm² the outdoor termination type TO 24 CA and/or TO 36 CA applies.

- ✓ quick and easy assembly
- ✓ one-piece design with integrated capacitive stress control system
- ✓ extremely short body
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 2 sizes cover the range of conductor cross sections up to 240 mm²
- ✓ weight of the TO 24 basic set ~ 1.0 kg

Scope of delivery

- ✓ 3 terminations
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 1 assembly instructions
- ✓ accessories

- 1 cable lug
- 2 termination
- 3 sealing tape
- 4 earthing cable lug

TO 24

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Basic set without cable lug	Reference no. with cable lug	
			d (mm)	D (mm)	L1 (mm)		Al-conductor	Cu-conductor
25	3	17.0 - 25.0	12.5	90	max. 340	26 303 91	26 303 51	26 303 01
35							26 303 52	26 303 02
50							26 303 53	26 303 03
70							26 303 54	26 303 04
95							26 303 55	26 303 05
120	5	21.2 - 33.5	17	90	max. 340	26 303 92	26 303 56	26 303 06
150							26 303 57	26 303 07
185							26 303 58	26 303 08
240							-	26 303 09

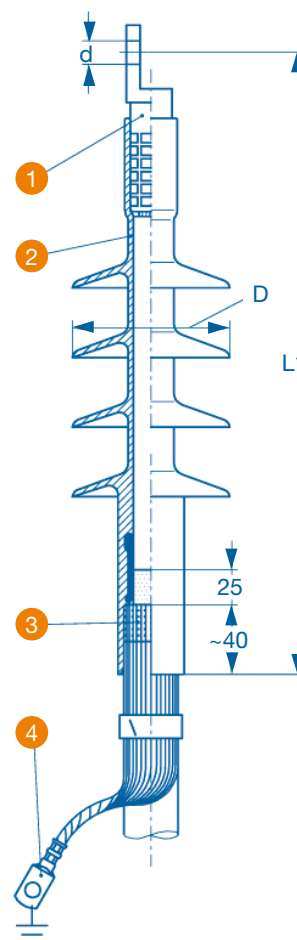
TO 24 CA

Conductor cross section (mm²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no. with cable lug	
			d (mm)	D (mm)	L1 (mm)	Al-conductor	Cu-conductor
150	5	21.2 - 34.6	12.5	90	max. 400	26 303 77	26 303 27
185			26 303 78			26 303 28	
240			26 303 79			26 303 29	
300			26 303 80			26 303 30	

TO 36 CA for 12/20 (24) kV

Conductor cross section (mm²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no. with cable lug	
			d (mm)	D (mm)	L1 (mm)	Al-conductor	Cu-conductor
300	27	28.9 - 43.0	17	156	max. 485	26 445 60	26 445 10
400						26 445 61	26 445 11
500			17 (Al) 21(Cu)			26 445 62	26 445 12

Illustration see page 37

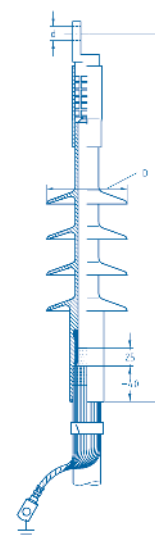
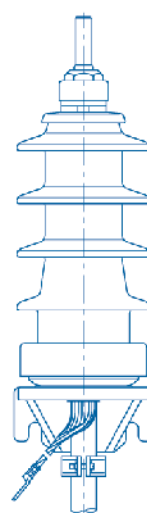


Additional solutions

Details upon request

FP 20 K with porcelain insulator and integrated push-on element made of silicone rubber

TO 24 CA



Elbow connector 250 A for 12/20 (24) kV

CE 24-250

CE24-250 is a screened elbow cable connector made of silicone rubber for cable connection to switchgear and transformers up to 24 kV with bushings type A (250 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to VDE 0278 have been successfully passed.

- ✓ quick and easy assembly
- ✓ integrated capacitive stress control system
- ✓ screening by outer conductive layer
- ✓ cable sheath testing without dismantling of connector
- ✓ metal housing or capacitive measuring point (optional)
- ✓ only one connector body covers 25-95 mm²
- ✓ weight of the CE 24-250 ~ 2.2 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 conductor cable lugs
- ✓ 3 contact pins
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 bushing
- 2 contact pin
- 3 cable lug
- 4 connector body
- 5 sealing tape
- 6 earthing cable lug

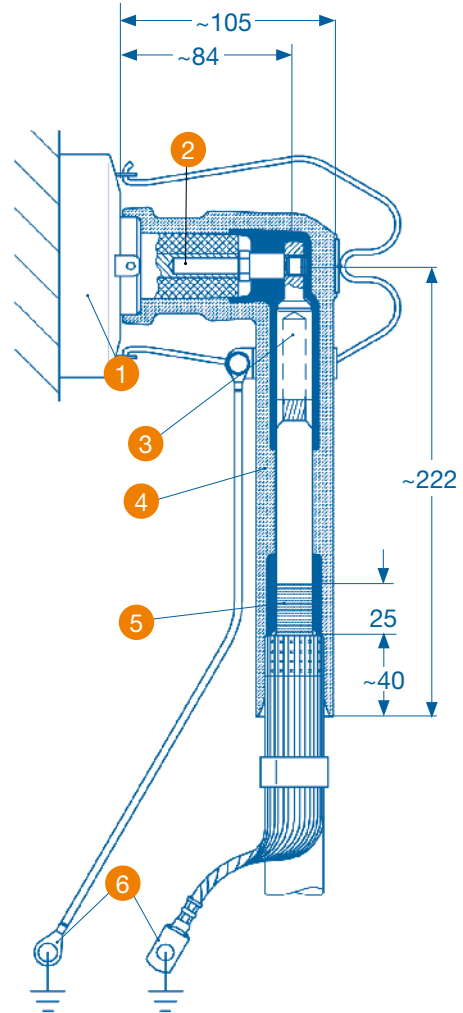
CE 24-250 with bail restraint fixing

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point		with measuring point	
			Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
25	16	16.9 - 25.0	26 364 51	26 364 01	26 366 51	26 366 01
35			26 364 52	26 364 02	26 366 52	26 366 02
50			26 364 53	26 364 03	26 366 53	26 366 03
70			26 364 54	26 364 04	26 366 54	26 366 04
95			26 364 55	26 364 05	26 366 55	26 366 05

CE 24-250 with metal flange/housing

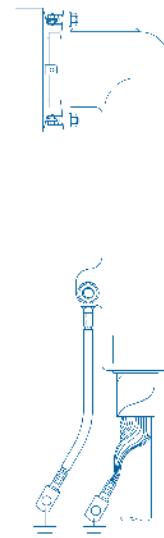
Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point without metal housing		without measuring point with metal housing	
			Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
25	16	16.9 - 25.0	26 402 51	26 402 01	26 401 51	26 401 01
35			26 402 52	26 402 02	26 401 52	26 401 02
50			26 402 53	26 402 03	26 401 53	26 401 03
70			26 402 54	26 402 04	26 401 54	26 401 04
95			26 402 55	26 402 05	26 401 55	26 401 05

EASW with screw type cable lug upon request



Additional solutions

CE 24-250 with metal housing



Straight connector 250 A for 12/20 (24) kV

EASG 20/250

EASG 20/250 is a screened straight cable connector made of silicone rubber for cable connection to switchgear and transformers up to 24 kV with bushings type A (250 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ integrated capacitive stress control system
- ✓ screening by outer conductive layer
- ✓ cable sheath testing without dismantling of connector
- ✓ only one connector body covers 25-95 mm²
- ✓ capacitive measuring point (optional)
- ✓ weight of the EASG 20/250 ~ 2.2 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 contact pins
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 bushing
- 2 contact pin
- 3 bail restraint
- 4 connector body
- 5 sealing tape
- 6 earthing cable lug

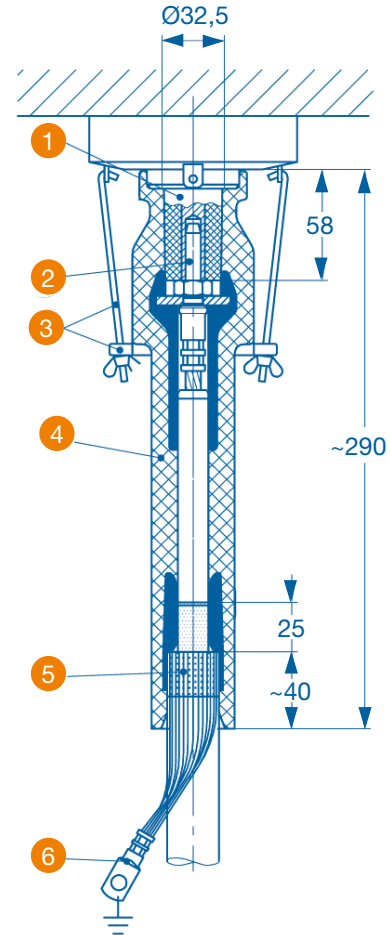
EASG 20/250 with bail restraint fixing

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point		with measuring point	
			Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
25	3	17.0 - 25.0	26 261 51	26 261 01	26 263 51	26 263 01
35			26 261 52	26 261 02	26 263 52	26 263 02
50			26 261 53	26 261 03	26 263 53	26 263 03
70			26 261 54	26 261 04	26 263 54	26 263 04
95			26 261 55	26 261 05	26 263 55	26 263 05

EASG 20/250 with metal flange

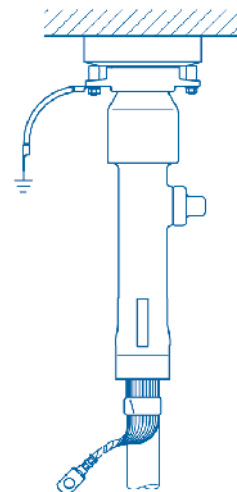
Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Reference no. with cable lug			
			without measuring point		with measuring point	
			Al-Conductor	Cu-Conductor	Al-Conductor	Cu-Conductor
25	3	17.0 - 25.0	26 261 61	26 261 11	26 263 61	26 263 11
35			26 261 62	26 261 12	26 263 62	26 263 12
50			26 261 63	26 261 13	26 263 63	26 263 13
70			26 261 64	26 261 14	26 263 64	26 263 14
95			26 261 65	26 261 15	26 263 65	26 263 15

EASG with screw type cable lug upon request



Additional solutions

EASG 20/250 with metal flange fixing, capacitive measuring point (optional)



Cable connector 630 A for 12/20 (24) kV

CB 24-630

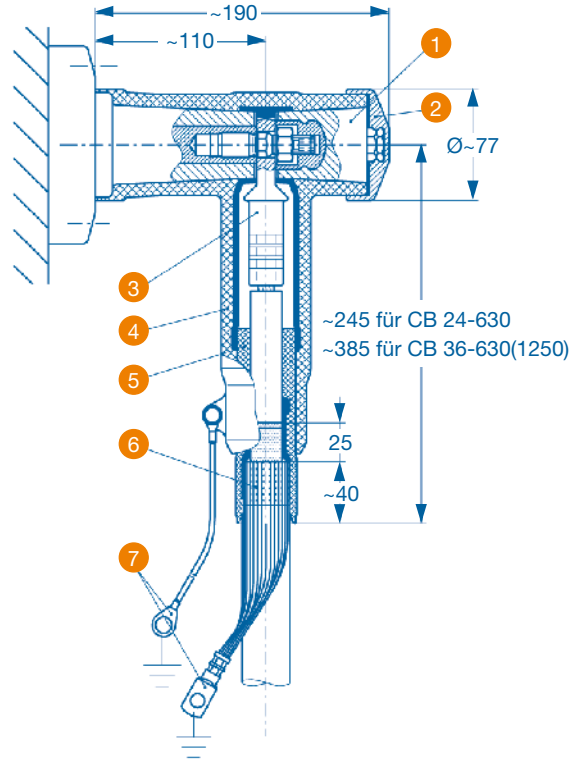
CB 24-630 is a screened cable connector made of silicone rubber for cable connection to switchgear and transformers up to 24 kV with bushings type C (630 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed. For conductor cross sections from 400 up to 630 mm² the cable connector type CB 36-630(1250) applies.

- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ only 2 versions cover 25 up to 300 mm²
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ cable sheath testing without dismantling of connector
- ✓ capacitive measuring point
- ✓ weight of the CB 24-630 basic set ~ 4.4 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 insulating plug
- 2 covering cap
- 3 cable lug
- 4 connector body
- 5 stress cone
- 6 sealing tape
- 7 earthing cable lug



CB 24-630 (screened)

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
25	type 02	12.7 - 25.0	26 323 92	26 323 51	26 323 01
35				26 323 52	26 323 02
50				26 323 53	26 323 03
70				26 323 54	26 323 04
95	type 03	21.2 - 34.6	26 323 93	26 323 55	26 323 05
120				26 323 56	26 323 06
150				26 323 57	26 323 07
185				26 323 58	26 323 08
240				26 323 59	26 323 09
300				26 323 60	26 323 10
400*	type 31	34.0 - 45.6	26 381 96	26 381 61	26 381 11
500*				26 381 62	26 381 12
630*				26 381 63	26 381 13
800	type 37	39.1 - 51.0	26 381 97	---	26 381 14

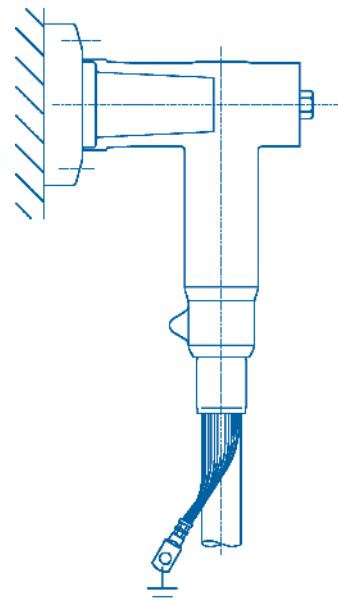
* CB 36-630(1250) for 24 kV

AB 24-630 (unscreened)

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
25	type 02	12.7 - 25.0	26 326 92	26 326 51	26 326 01
35				26 326 52	26 326 02
50				26 326 53	26 326 03
70				26 326 54	26 326 04
95	type 03	21.2 - 34.6	26 326 93	26 326 55	26 326 05
120				26 326 56	26 326 06
150				26 326 57	26 326 07
185				26 326 58	26 326 08
240				26 326 59	26 326 09
300				26 326 60	26 326 10

Cable adapter for 630 A

AB 24-630 without outer conductive layer



Coupling connector 630 A for 12/20 (24) kV

CC 24-630

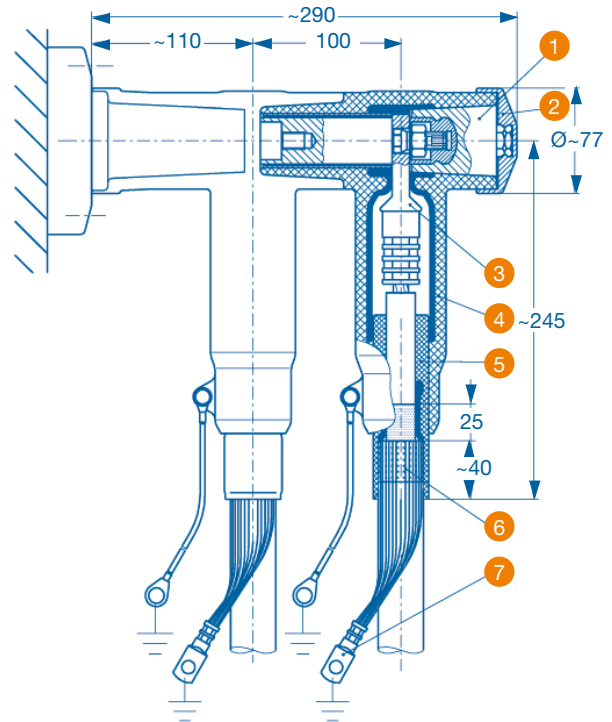
CC 24-630 is a screened coupling connector made of silicone rubber for double cable connection. It is linked directly to cable connector CB 24-630. For conductor cross sections from 400 up to 630 mm² the coupling connector type CC 36-630(1250) applies.

- ✓ only ~290 mm installation depth
- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ only 2 versions cover 25 up to 300 mm²
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ cable sheath testing without dismantling of connector
- ✓ capacitive measuring point
- ✓ weight of the CC 24-630 basic set ~ 4.9 kg

Scope of delivery

- ✓ 3 coupling connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 insulating plug
- 2 covering cap
- 3 cable lug
- 4 connector body
- 5 stress cone
- 6 sealing tape
- 7 earthing cable lug



24 kV

CC 24-630 (screened) for connection with CB 24-630

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
25	type 02	12.7 - 25.0	26 353 92	26 353 51	26 353 01
35				26 353 52	26 353 02
50				26 353 53	26 353 03
70				26 353 54	26 353 04
95	type 03	21.2 - 34.6	26 353 93	26 353 55	26 353 05
120				26 353 56	26 353 06
150				26 353 57	26 353 07
185				26 353 58	26 353 08
240				26 353 59	26 353 09
300				26 353 60	26 353 10
400*	type 31	34.0 - 45.6	26 384 96	26 384 61	26 384 11
500*				26 384 62	26 384 12
630*				26 384 63	26 384 13

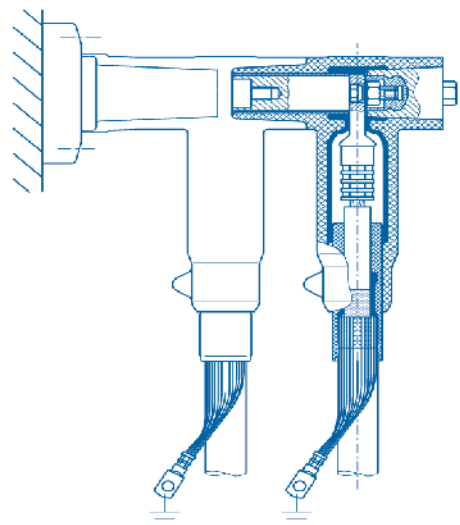
* CC 36-630(1250) for 24 kV for coupling with CB 36-630(1250)

AC 24-630 (unscreened) for connection with AB 24-630

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
25	type 02	12.7 - 25.0	26 356 92	26 356 51	26 356 01
35				26 356 52	26 356 02
50				26 356 53	26 356 03
70				26 356 54	26 356 04
95	type 03	21.2 - 34.6	26 356 93	26 356 55	26 356 05
120				26 356 56	26 356 06
150				26 356 57	26 356 07
185				26 356 58	26 356 08
240				26 356 59	26 356 09
300				26 356 60	26 356 10

Coupling connection

AB 24-630 with AC 24-630, both without outer conductive layer



Elbow connector 400 A for 12/20 (24) kV

CE 24-400

CE 24-400 is a screened cable connector made of silicone rubber for cable connection to switchgear and transformers up to 24 kV with bushings type B (400 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ only 2 versions cover 25 up to 300 mm²
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ capacitive measuring point
- ✓ weight of the CE 24-400 basic set ~ 3.5 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 contact pin
- 2 cable lug
- 3 connector body
- 4 stress cone
- 5 sealing tape
- 6 earthing cable lug

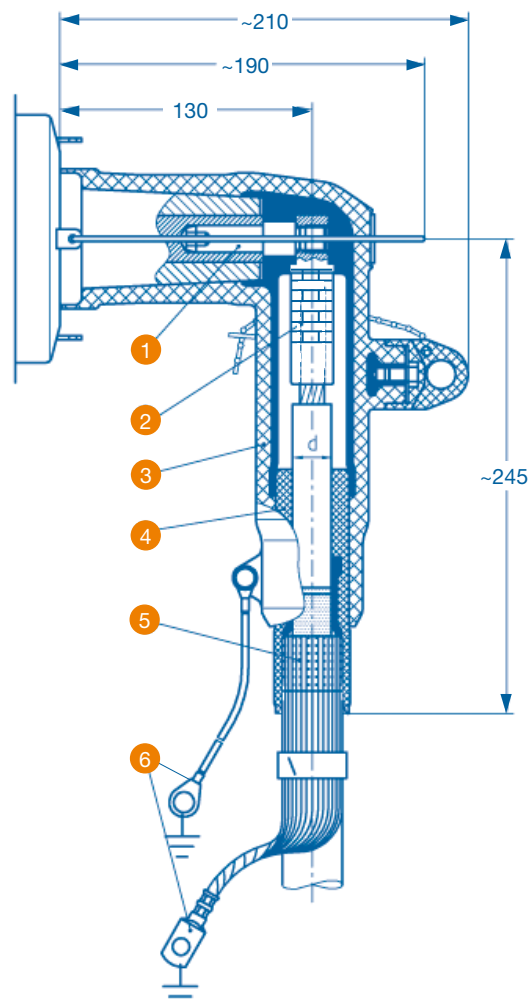
CE 24-400 capacitive measuring point

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no. with cable lug	
				Al-conductor	Cu-conductor
25	type 02	12.7 - 25.0	26 416 92	26 416 51	26 416 01
35				26 416 52	26 416 02
50				26 416 53	26 416 03
70				26 416 54	26 416 04
95	type 03	21.2 - 34.6	26 416 93	26 416 55	26 416 05
120				26 416 56	26 416 06
150				26 416 57	26 416 07
185				26 416 58	26 416 08
240				26 416 59	26 416 09
300				26 416 60	26 416 10

CB 36-400 for 12/20 (24) kV

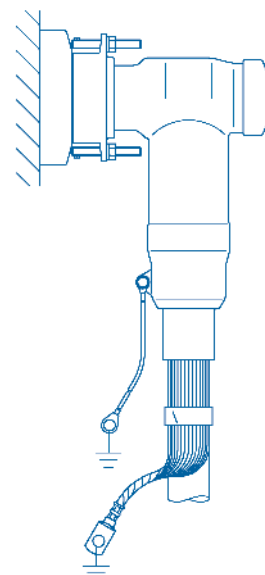
Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Reference no. Basic set without cable lug
25	5003	17.0 - 24.3	26 456 91
35			
50			
70			
95	5005	21.2 - 33.5	26 456 92
120			
150			
185			
240	5027	28.9 - 40.0	26 456 93
300			

See also on page 40



Additional solutions

CB 36-400



Surge arrester for 12/20 (24) kV

CSA 24

CSA 24 is a metal oxide surge arrester with silicone rubber connector housing. It protects medium voltage networks, e. g. transformers, switchgears and cables. Incoming overvoltage waves and voltage increase by reflection are limited. Minimum total length is achieved by direct link of the surge arrester to cable connector CB 24-630 or to coupling connector CC 24-630.

- ✓ extremely short installation depth
- ✓ quick and easy assembly
- ✓ integrated stress control system
- ✓ capacitive measuring point
- ✓ weight of the CSA 24-5 ~ 9.8 kg

Scope of delivery

- ✓ 3 surge arresters
- ✓ 3 threaded bolts
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instruction
- ✓ accessories

- 1 threaded bolt
- 2 insulating plug
- 3 covering cap
- 4 surge arrester
- 5 earthing cable lug

	CSA 24-5	CSA 24-10
	ASA 24-5	ASA 24-10
continuous operating voltage U_c	24 kV	24 kV
rated voltage U_r	30 kV	30 kV
nominal discharge current I_n	5 kA	10 kA
partial discharge at 24 kV	< 5 pC	< 5 pC
residual voltage at:		
- steep current impulse 5/10 kA, 1/20 μ s	88.6 kV	85.6 kV
- long duration current impulse 100 A, 30/60 μ s	63.7 kV	60.2 kV
- lightning current impulse 5/10 kA, 8/20 μ s	80.0 kV	80.0 kV
dimension L	390 mm	320 mm

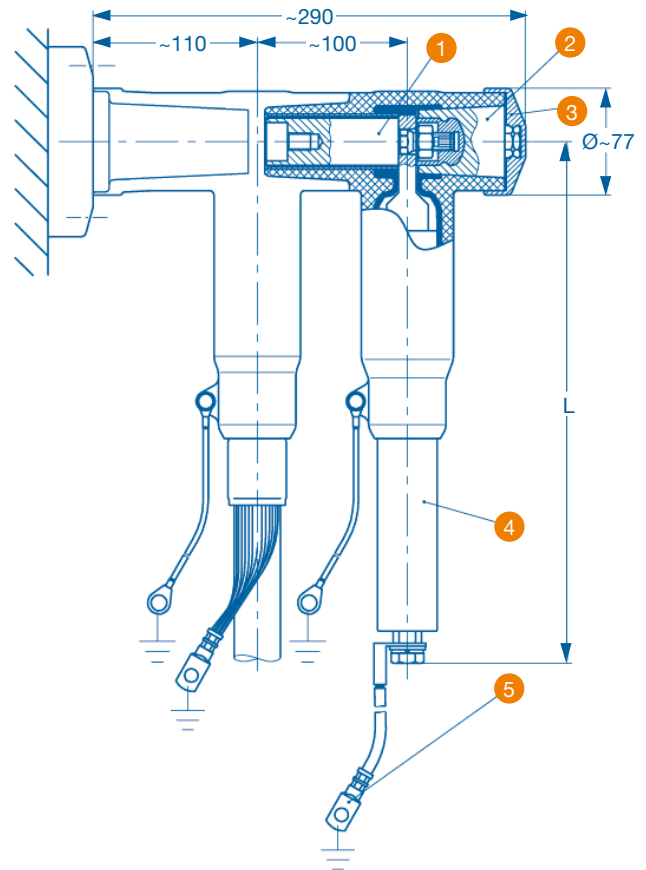
CSA 24 (screened)

Type	Reference no.
CSA 24-5	26 357 08
CSA 24-10	26 357 58

ASA 24 (unscreened)

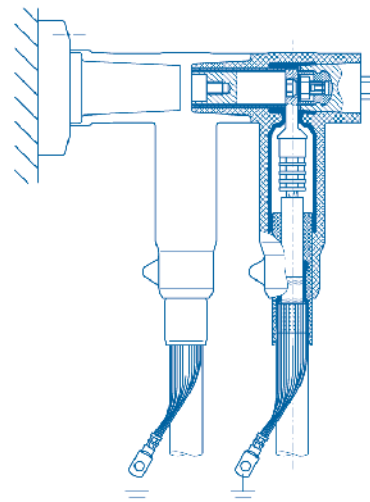
Type	Reference no.
ASA 24-5	26 359 08
ASA 24-10	26 359 58

Further alternatives concerning continuous operating voltage U_c and nominal discharge current I_n upon request.



Surge arrester

ASA 24 is the unscreened alternative for direct link to cable adapter AB 24-630 or to coupling adapter AC 24-630.



Trifurcating set for 12/20 (24) kV

ATS

ATS facilitates a single core breakout of a 3-core cable and seals the cable end. Insulating tubes protect the cores and semi-conductive stops provide a perfect match with terminations and cable connectors.

Scope of delivery

- ✓ 3 outer sleeves
 - ✓ 1 trifurcating cap
 - ✓ 1 assembly instructions
 - ✓ accessories
- ① outer sleeve (3 x 1 m)
 - ② trifurcating cap
 - ③ copper wire
 - ④ sealing tape
 - ⑤ earthing strand

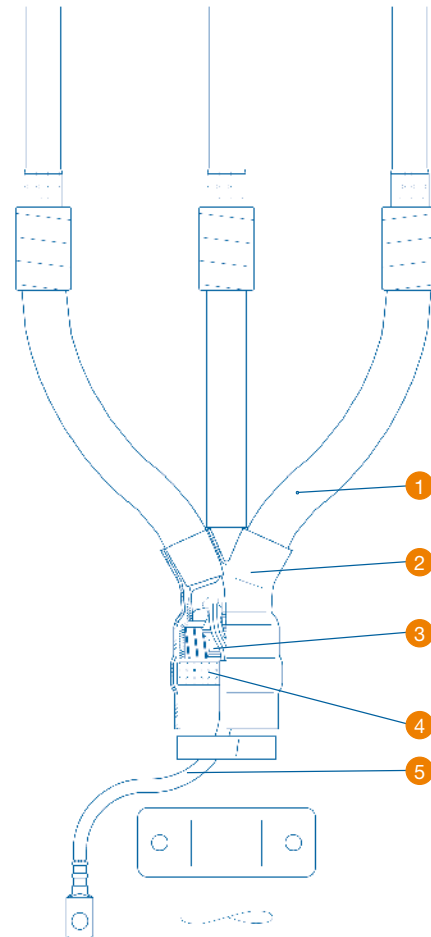
ATS for tape screened cables

Conductor cross section (mm ²)	Reference no.
25	21 231 12
35 - 95	21 231 13
120 - 300	21 231 14

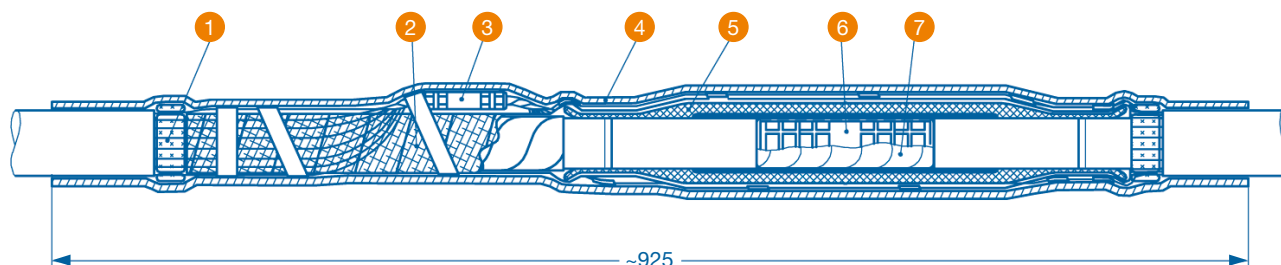
ATS for wire screened cables

Conductor cross section (mm ²)	Reference no.
25	21 229 01
35 - 95	21 229 02
120 - 300	21 229 03

ATS for special cable or contact spring versions upon request.



Straight joint for 12/20 (24) kV



JS 24-E

JS 24-E is a straight joint with joint body made of silicone rubber for plastic insulated cables up to 24 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed.

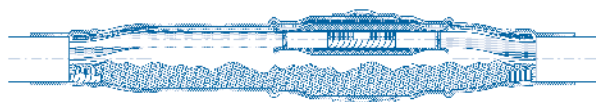
- ✓ quick and easy assembly
- ✓ premoulded joint body with integrated stress control system
- ✓ use of various conductor connector types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 3-core versions available with or without armouring
- ✓ weight of the JS 24-E basic set ~ 1.6 kg

Scope of delivery

- ✓ 1 joint body
- ✓ 1 conductor connector (optional)
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

3-core straight joint

JS 24-3E for armoured and non-armoured 3-core cables



AM 20



- 1 sealing tape
- 2 copper braid tape
- 3 screening wire connector
- 4 outer sleeve
- 5 joint body
- 6 conductor connector
- 7 self amalgamating conductive tape

JS 24-E (for single-core cable)

Conductor cross section (mm²)	Size	Stretch range over insulation (mm)	Basic set without conductor connector	Reference no. with conductor connector	
				Al-conductor	Cu-conductor
25	14	15,0 - 24,3	26 393 90	26 393 51	26 393 01
35				26 393 52	26 393 02
50				26 393 53	26 393 03
70				26 393 54	26 393 04
95	20	21.3 - 32.6	26 393 91	26 393 55	26 393 05
120				26 393 56	26 393 06
150				26 393 57	26 393 07
185				26 393 58	26 393 08
240	27	28.9 - 37.8	26 393 92	26 393 59	26 393 09
300				26 393 60	26 393 10
400*				26 503 61	26 503 11
500*	30	32,4 - 42,8	26 503 92	26 503 61	26 503 12

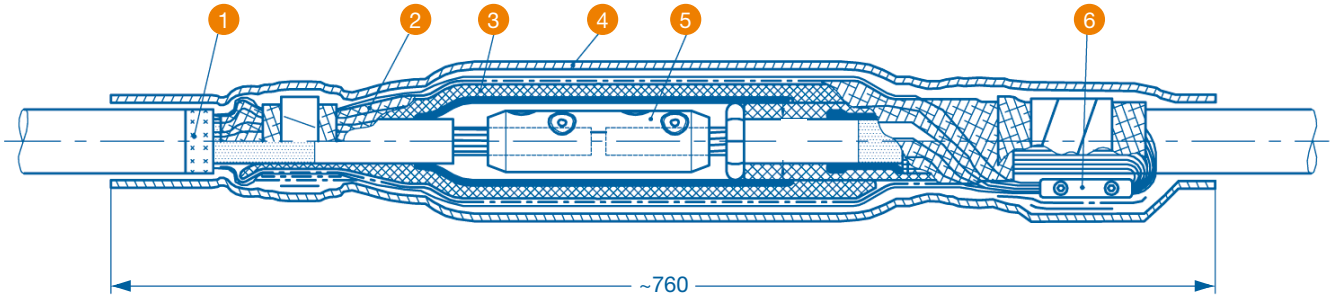
* JS 36 E for 24 kV

JS 24-3E (for 3-core cables)

Conductor cross section (mm²)	Size/Stretch range over insulation (mm)	Reference no. without conductor connector		
		tape screened cables with armouring	tape screened cables without armouring	wire screened cables
25	14 / 15,0 - 24,3	26 347 85	26 347 88	26 347 81
35				
50				
70				
95	20 / 21.3 - 32.6	26 347 86	26 347 89	26 347 82
120				
150				
185				
240	27 / 28.9 - 37.8	26 347 87	26 347 90	26 347 83
300				
400*				

* with nkt cables special conductor connector only.

Straight joint for 12/20 (24) kV



JS 24-C

JS 24-C is a straight joint with joint body made of silicone rubber for plastic-insulated cables up to 24 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ parking position over outer sheath without pre-expansion of the joint body
- ✓ short design
- ✓ integrated stress control system
- ✓ outer protection tube, heat shrink or cold applicable
- ✓ use of various conductor connector types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ same basic components also for transition technique to PILC
- ✓ weight of the JS 24-C basic set ~ 1.6 kg

- ① sealing tape
- ② copper braid tape
- ③ joint body
- ④ outer sleeve
- ⑤ conductor connector
- ⑥ screening wire connector

Scope of delivery

- ✓ 1 joint body
- ✓ 1 stress cone
- ✓ 1 conductor connector (optional)
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

JS 24-C

Conductor cross section (mm²)	Size	Stretch range over insulation (mm)	Basic set without conductor connector	Reference no.	
				with conductor connector	
25	2	17.0 - 25.0	26 350 82	Al-conductor	Cu-conductor
35				26 350 51	26 350 01
50				26 350 52	26 350 02
70				26 350 53	26 350 03
95	3	21.2 - 32.6	26 350 83	26 350 54	26 350 04
120				26 350 55	26 350 05
150				26 350 56	26 350 06
185				26 350 57	26 350 07
240				26 350 58	26 350 08
				26 350 59	26 350 09

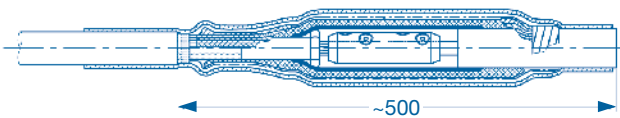
AM 20 R

Conductor cross section (mm²)	Size of stress cone	Stretch range over insulation (mm)	Reference no.	
			with conductor connector	
25	5003	17.0 - 24.3	Al-conductor	Cu-conductor
35			31 270 31	31 270 71
50			31 270 32	31 270 72
70			31 270 33	31 270 73
95	5005	21.2 - 33.5	31 270 34	31 270 74
120			31 270 35	31 270 75
150			31 270 36	31 270 76
185			31 270 37	31 270 77
240			31 270 38	31 270 78
			31 270 39	31 270 79

Additional solutions

End joint JF 24

Reference no. 26415 65 (95-240 mm²)



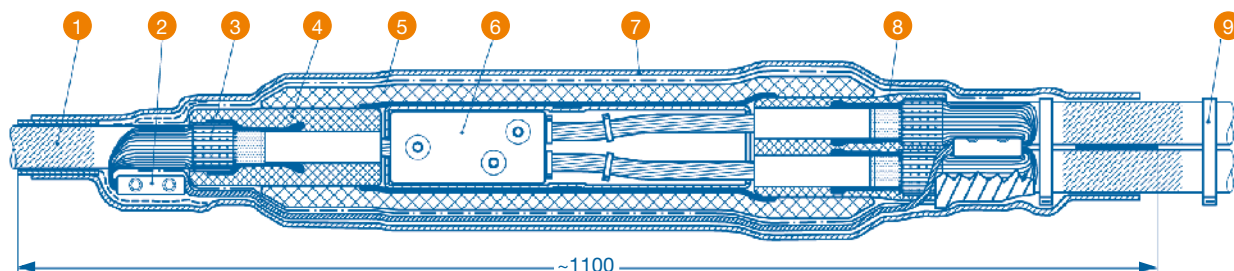
AM 20 R



AM 20 R is a repair joint with joint body made of silicone rubber for plastic-insulated cables up to 24 kV. It is used for repair after cable fault and bridges a failure area of 160 mm. On request for the AM 20 R screw type conductor connectors are available.

Weight of the AM 20 R ~ 2,6 kg

Branch joint for 12/20 (24) kV



JB 24

The JB 24 is a branch joint with joint body made of silicone rubber for plastic insulated cables up to 24 kV.

- ✓ premoulded joint tube with outer conductive layer
- ✓ integrated stress control tube
- ✓ multi range technology for applications with cross section transition
- ✓ mechanical (screw type) conductor connector in multi range technology
- ✓ weight of the JB 24 incl. conductor connector ~ 6.4 kg

- 1 cable sheath
- 2 screening wire connector
- 3 sealing tape
- 4 stress cone
- 5 joint tube
- 6 conductor connector
- 7 outer sleeve
- 8 twin stress cone
- 9 cable tie

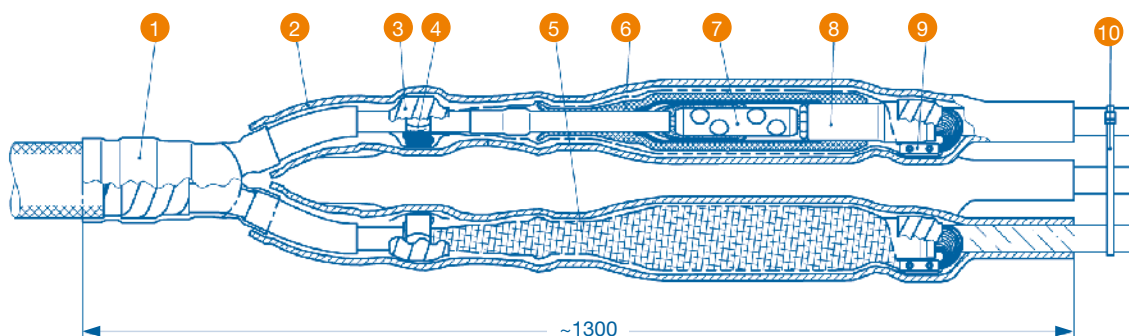
JB 24

Conductor cross section (mm²)	Stress cone straight Size	Stretch range over insulation (mm)	Stress cone branch Size/ Stretch range over insulation (mm)	Reference no.
95	56	21.2 - 32.6	19 /	26 320 12
120			19.7 - 28.5	
150			22 /	26 320 13
185			23.3 - 32.6	
240				

Scope of delivery

- ✓ 1 joint tube
- ✓ 1 stress cone
- ✓ 1 twin stress cone
- ✓ 1 conductor connector
- ✓ 2 contact shells
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

Transition joint for 12/20 (24) kV



JT 24

JT 24 is a transition joint in dry technology with main components made from silicone rubber for transition from PILC to XLPE insulated cables up to 24 kV.

- ✓ joint body with outer screening comprising two components
- ✓ integrated stress control system
- ✓ only two sizes for the entire application range from 25 mm² up to 240 mm²
- ✓ short joint construction
- ✓ system technology, i. e. same main components for paper insulated belted cable, H-cable, 3-SL-cable and pure XLPE connections

Scope of delivery

- ✓ 3 joint bodies
- ✓ 3 stress cones
- ✓ 1 trifurcating cap
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

- 1 trifurcating cap
- 2 outer sleeve
- 3 self bonding tape, conductive
- 4 contact spring
- 5 copper gauze sleeve
- 6 joint body
- 7 conductor connector
- 8 stress cone
- 9 screening connector
- 10 cable tie



Part No. 749508-000040
Pos. No. 27
Merge Quantity 1
L3

Part No. 749508-000040
Pos. No. 27
Merge Quantity 1
L2

Part No. 749508-000040
Pos. No. 27
Merge Quantity 1
L1

36 kV

ACCORDING TO CENELEC HD 629.1 S1 + A1 AND VDE 0278-PART 629-1

Test	Test voltage	Specified voltage U_0/U (U_m) kV		
		18/30(36)	20.8/36 (42)	Requirements
Humidity and salt fog	1.25 U_0	22,5 kV	26 kV	No breakdown, no flashover. Less than 3 ignitions. No visual damages.
Partial discharge	2 U_0	36 kV	42 kV	Partial discharge: max. 10 pC: XLPE max. 20 pC: PVC
Thermal cycling and AC 15 min and 500 h	2.5 U_0	45 kV	52 kV	No breakdown, no flashover.
AC 5 min	4.5 U_0	81 kV	94 kV	No breakdown, no flashover.
DC 15 min	6 U_0	108 kV	125 kV	No breakdown, no flashover.
Impulse withstand voltage ± 10 x		170 kV	200 kV	No breakdown, no flashover.

NOTES

Indoor termination for 18/30 (36) kV

TI 36

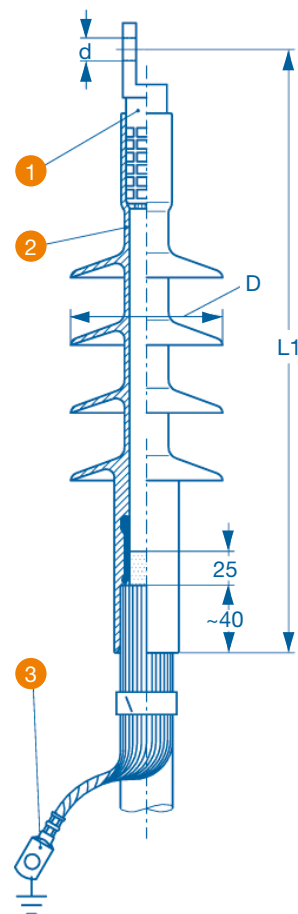
TI 36 is an indoor termination made of silicone rubber for connection to air insulated switchgear and transformers up to 36 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed. For conductor cross sections from 300 up to 400 mm² the indoor termination type TI 36 CA applies.

- ✓ quick and easy assembly
- ✓ one-piece design with integrated capacitive stress control system
- ✓ short body
- ✓ long creepage distance by optimized shed arrangement
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 2 sizes cover the range of conductor cross sections up to 240 mm²
- ✓ weight of the TI 36 basic set ~ 1.1 kg

Scope of delivery

- ✓ 3 terminations
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 1 assembly instructions
- ✓ accessories

- 1 cable lug
- 2 termination
- 3 earthing cable lug



TI 36

Conductor cross section (mm ²)	Stretch range over insulation (mm)	Dimensions d (mm)	D (mm)	L1 (mm)	Reference no.		
					Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
95	5	21.2 - 34.6	12.5	max. 330	26 392 92	26 392 55	26 392 05
120						26 392 56	26 392 06
150						26 392 67	26 392 17
185	27	28.9 - 43.0	17	max. 375	26 392 93	26 392 68	26 392 18
240						26 392 69	26 392 19

50-70 mm² upon request

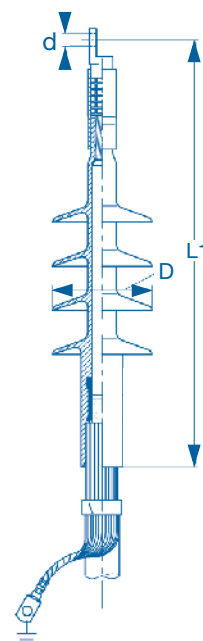
TI 36 CA

Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.	
			d (mm)	D (mm)	L1 (mm)	with cable lug Al-conductor	Cu-conductor
240	27	28.9 - 43.0	17	90	max. 485	26 447 59	26 447 09
300						26 447 60	26 447 10
400						26 447 61	26 447 11
500*	13	41.4 - 48.2	17 (Al) 21 (Cu)			31 808 62 +31 341 11	31 808 12 +31 341 11

* (= AV 30 E + covering cap)

Additional solutions

TI 36 CA



Outdoor termination for 18/30 (36) kV

TO 36

TO 36 is an outdoor termination made of silicone rubber for overhead link and other outdoor applications up to 42 kV. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed. For conductor cross sections from 300 up to 500 mm² the outdoor termination type TO 36 CA applies.

- ✓ quick and easy assembly
- ✓ one-piece design with integrated capacitive stress control system
- ✓ short body
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ 2 sizes cover the range of conductor cross sections up to 240 mm²
- ✓ weight of the TO 36 basic set ~ 2.9 kg

Scope of delivery

- ✓ 3 terminations
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 1 assembly instructions
- ✓ accessories

- 1 cable lug
- 2 termination
- 3 sealing tape
- 4 earthing cable lug

TO 36

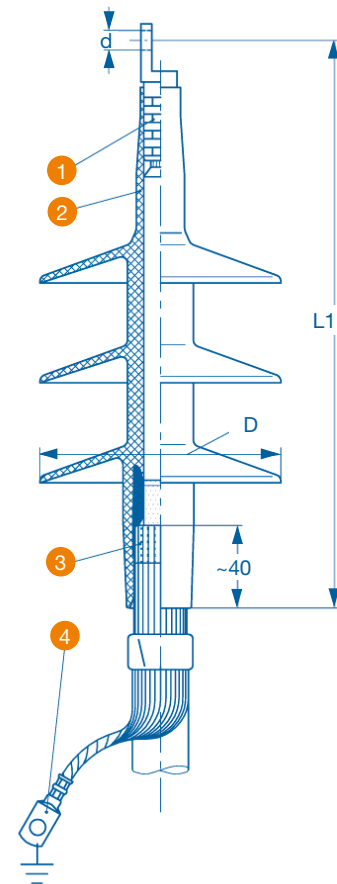
Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.		
			d	D	L1	Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
50	20	21.2 - 34.6	12,5	156		26 446 92	26 446 53	26 446 03
70							26 446 54	26 446 04
95							26 446 55	26 446 05
120							26 446 56	26 446 06
150	27	28.9 - 43.0	17			26 446 93	26 446 57	26 446 07
185							26 446 58	26 446 08
240							26 446 59	26 446 09

*CA-version

TO 36 CA

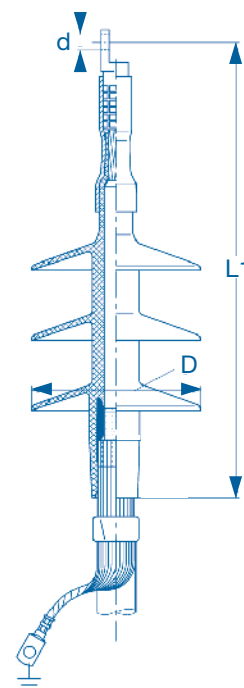
Conductor cross section (mm ²)	Size	Stretch range over insulation (mm)	Dimensions			Reference no.	
			d (mm)	D (mm)	L1 (mm)	with cable lug Al-conductor	Cu-conductor
240	27	28.9 - 43.0	17		max. 485	26 445 59	26 445 09
300						26 445 60	26 445 10
400						26 445 61	26 445 11
500*	13	41.4 - 48.2	17 (Al) 21(Cu)			31 669 62	31 669 12

*(AVF 30 SEA size 13)



Additional solutions

TO 36 CA



Cable connector 630 A for 18/30 (36) kV

CB 36-630

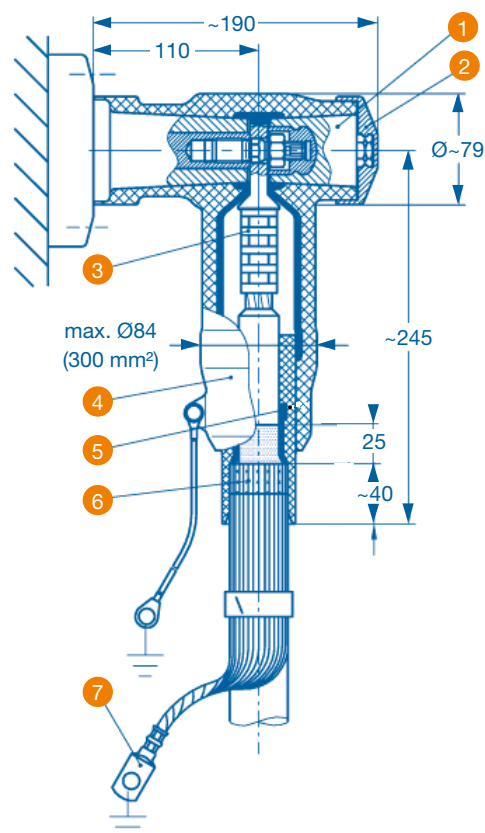
CB 36-630 is a screened cable connector made of silicone rubber for cable connection to switchgear and transformers up to 42 kV with bushings type C (630 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ cable sheath testing without dismantling of connector
- ✓ capacitive measuring point
- ✓ weight of the CB 36-630 basic set ~ 5.3 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- ① insulating plug
- ② covering cap
- ③ cable lug
- ④ connector body
- ⑤ stress cone
- ⑥ sealing tape
- ⑦ earthing cable lug



CB 36-630

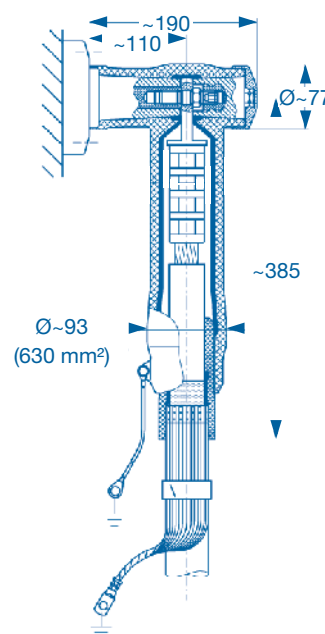
Conductor cross section (mm²)	Size of stress cone	Stretch range over insulation (mm)	Reference no.		
			Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
25	type 5003	17.0 - 24.3	26 331 91	26 331 51	26 331 01
35				26 331 52	26 331 02
50				26 331 53	26 331 03
70	type 5005	21.2 - 33.5	26 331 92	26 331 54	26 331 04
95				26 331 55	26 331 05
120				26 331 56	26 331 06
150	type 5027	28.9 - 40.0	26 331 93	26 331 57	26 331 07
185				26 331 58	26 331 08
240				26 331 59	26 331 09
300				26 331 60	26 331 10

CB 36-630 (1250)

Conductor cross section (mm²)	Size of stress cone	Stretch range over insulation (mm)	Reference no.		
			Basic set without cable lug	with cable lug Al-conductor	Cu-conductor
400	31	34.0 - 45.6	26 381 96	26 381 61	26 381 11
500				26 381 62	26 381 12
630	37	39.0 - 51.0	26 381 97	26 382 63	26 382 13

Additional solutions

CB 36-630 (1250)



Coupling connector 630 A for 18/30 (36) kV

CC 36-630

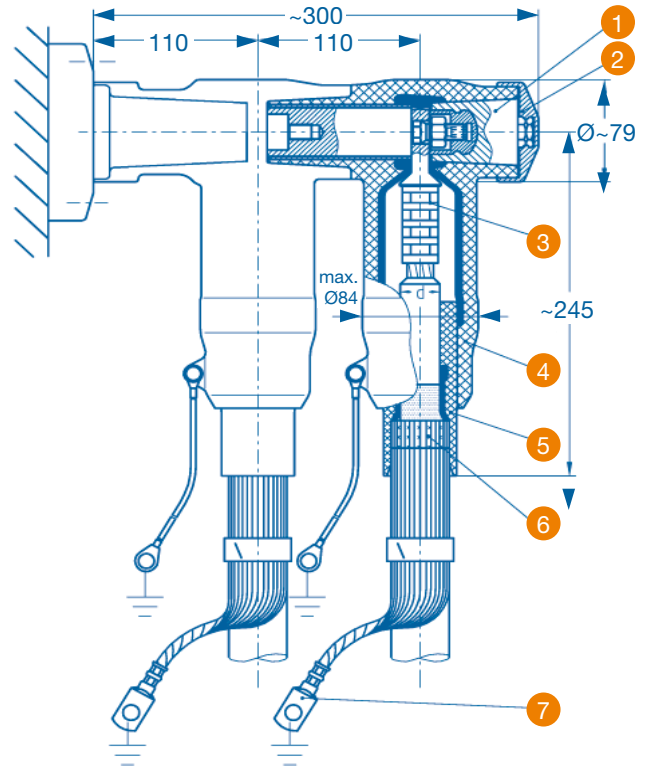
CC 36-630 is a screened coupling connector made of silicone rubber for double cable connection. It is linked directly to cable connector CB 36-630.

- ✓ only ~300 mm installation depth
- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ cable sheath testing without dismantling of connector
- ✓ capacitive measuring point
- ✓ weight of the CC 24-630 basic set ~ 6.0 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 insulating plug
- 2 covering cap
- 3 cable lug
- 4 connector body
- 5 stress cone
- 6 sealing tape
- 7 earthing cable lug



CC 36-630 for connection with CB 36-630

Conductor cross section (mm²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
25	type 5003	17.0 - 24.3	26 332 91	26 332 51	26 332 01
35				26 332 52	26 332 02
50				26 332 53	26 332 03
70				26 332 54	26 332 04
95	type 5005	21.2 - 33.5	26 332 92	26 332 55	26 332 05
120				26 332 56	26 332 06
150				26 332 57	26 332 07
185				26 332 58	26 332 08
240	type 5027	28.9 - 40.0	26 332 93	26 332 59	26 332 09
300				26 332 60	26 332 10

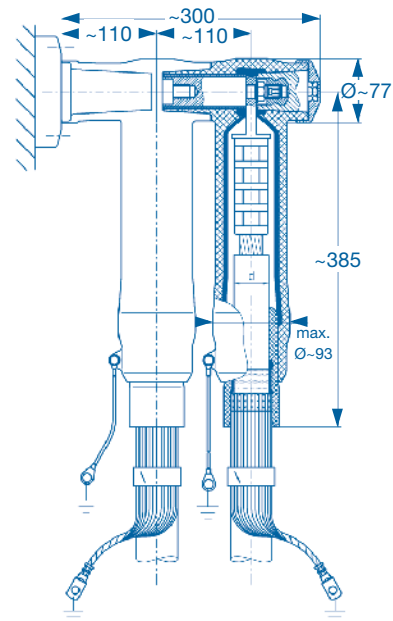
CC 36-630 (1250) for connection with CB 36-630(1250)

Conductor cross section (mm²)	Size of stress cone	Stretch range over insulation (mm)	Basic set without cable lug	Reference no.	
				with cable lug Al-conductor	Cu-conductor
400	31	34.0 - 45.6	26 384 96	26 384 61	26 384 11
500				26 384 62	26 384 12
630	37	39.0 - 51.0	26 384 97	26 385 63	26 385 13

CC 36-630 for connection with CB 36-630(1250) upon request.

Additional solutions

CC 36-630 (1250)



Elbow connector 400 A for 18/30 (36) kV

CB 36-400

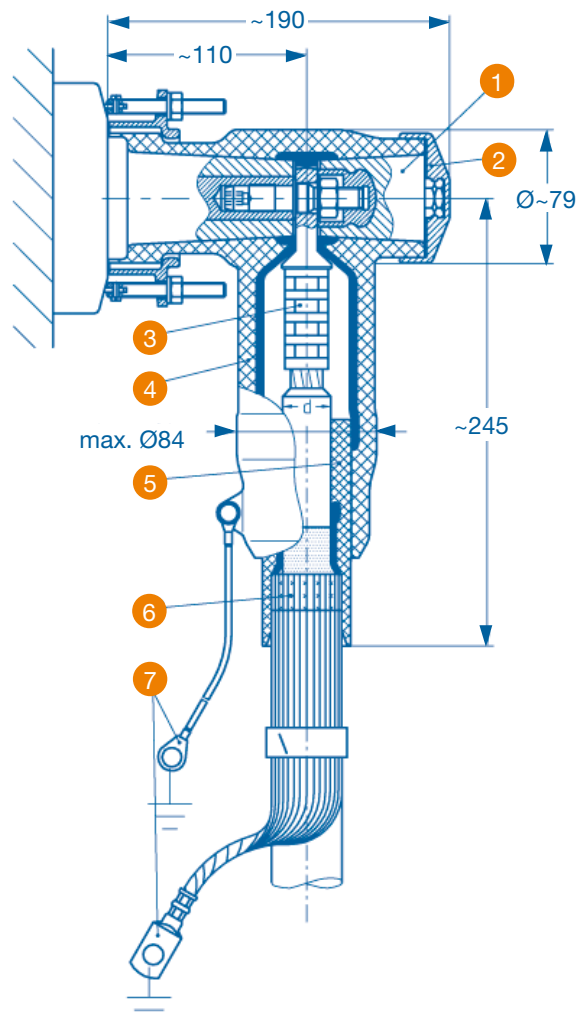
CB 36-400 is a screened cable connector made of silicone rubber for cable connection to switchgear and transformers up to 42 kV with bushings type B (400 A) according to EN 50180, EN 50181 and DIN 47636. Type tests according to CENELEC HD 629.1 and VDE 0278 part 629-1 have been successfully passed.

- ✓ quick and easy assembly
- ✓ screening by outer conductive layer
- ✓ integrated stress control system
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ capacitive measuring point
- ✓ weight of the CB 36-400 basic set ~ 5.5 kg

Scope of delivery

- ✓ 3 cable connectors
- ✓ 3 stress cones
- ✓ 3 conductor cable lugs (optional)
- ✓ 3 earthing cable lugs
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instructions
- ✓ accessories

- 1 insulating plug
- 2 covering cap
- 3 cable lug
- 4 connector body
- 5 stress cone
- 6 sealing tape
- 7 earthing cable lug



CB 36-400

Conductor cross section (mm²)	Size of stress cone	Stretch range over insulation (mm)	Reference no. Basic set without cable lug
25	5003	17.0 - 24.3	26 456 91
35			
50			
70	5005	21.2 - 33.5	26 456 92
95			
120			
150	5027	28.9 - 40.0	26 456 93
185			
240			
300			

Cable lugs see on page 46

Surge arrester for 18/30 (36) kV

CSA 36

CSA 36 is a metal oxide surge arrester with silicone rubber connector housing. It protects medium voltage networks, e. g. transformers, switchgears and cables. Incoming overvoltage waves and voltage increase by reflection are limited. Minimum total length is achieved by direct link of the surge arrester to cable connector CB 36-630 or to coupling connector CC 36-630.

- ✓ extremely short installation depth
- ✓ quick and easy assembly
- ✓ integrated stress control system
- ✓ capacitive measuring point

Scope of delivery

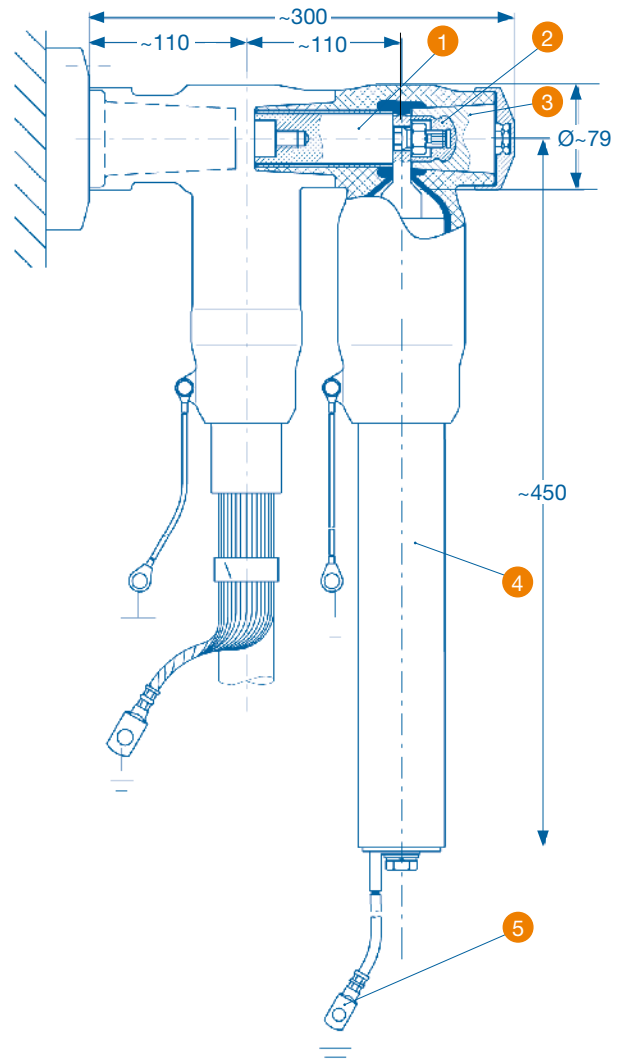
- ✓ 3 surge arresters
- ✓ 3 threaded bolts
- ✓ 3 earthing strands (preassembled)
- ✓ 1 assembly instruction
- ✓ accessories

- 1 threaded bolt
- 2 insulating plug
- 3 covering cap
- 4 surge arrester
- 5 earthing cable lug

	CSA 36-10
continuous operating voltage U_c	36 kV
rated voltage U_r	45 kV
nominal discharge current I_n	10 kA
partial discharge at $1.05 \times U_c$	< 5 pC
residual voltage at:	100 kA
- steep current impulse 10 kA, $1/2 \mu s$	
- long duration current impulse 125 A, 30/60 μs	128 kV
- lightning current impulse 10 kA, 8/20 μs	85,2 kV
dimension L	120 kV

Type	Reference no.
CSA 36-10	26 569 54

Further alternatives concerning continuous operating voltage U_c and nominal discharge current I_n upon request.



Trifurcating set for 18/30 (36) kV

ATS

ATS facilitates a single core breakout of a 3-core cable and seals the cable end. Insulating tubes protect the cores and semi-conductive stops provide a perfect match with terminations and cable connectors.

Scope of delivery

- ✓ 3 outer sleeves
 - ✓ 1 trifurcating cap
 - ✓ 1 assembly instructions
 - ✓ accessories
- ① outer sleeve (3 x 1 m)
 - ② trifurcating cap
 - ③ copper wire
 - ④ sealing tape
 - ⑤ earthing strand

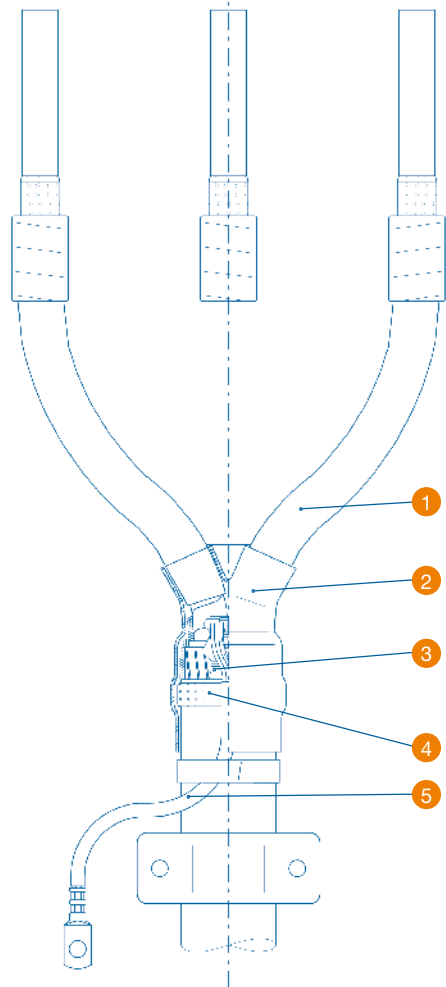
ATS for tape screened cables

Conductor cross section (mm²)	Reference no.
25 - 35	21 231 13
50 - 300	21 231 14

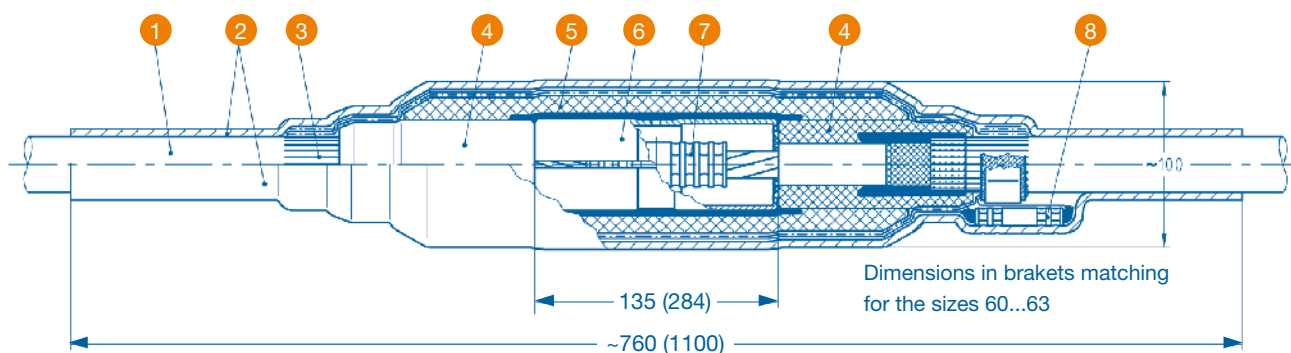
ATS for wire screened cables

Conductor cross section (mm²)	Reference no.
25 - 35	21 229 02
50 - 300	21 229 03

ATS for special cable or contact spring versions upon request.



Straight joint for 18/30 (36) kV



AM 30

AM 30 is a straight joint with a joint body made of silicone rubber for plastic-insulated cables up to 36 kV. It is used for large conductor cross sections up to 630 mm².

- ✓ quick and easy assembly
- ✓ short design
- ✓ integrated stress control system
- ✓ use of various cable lug types:
 - mechanical (screw type)
 - hexagonal pressing
 - deep indent pressing
- ✓ weight of the AM 30 ~ 2.8 kg

- ① cable sheath
- ② outer sleeve
- ③ screening wires
- ④ stress cone
- ⑤ joint body
- ⑥ contact shell
- ⑦ conductor connector
- ⑧ screening wire connector

Scope of delivery

- ✓ 1 joint body
- ✓ 2 stress cones
- ✓ 2 contact shells
- ✓ 1 conductor connector (optional)
- ✓ 1 outer sleeve
- ✓ 1 assembly instructions
- ✓ accessories

AM 30

Conductor cross section (mm ²)	Size of stress cone	Stretch range over insulation (mm)	Reference no. with conductor connector	
			Al-conductor	Cu-conductor
50	5005	21.2 - 33.6	31 454 63	31 454 83
70			31 454 64	31 454 84
95			31 454 65	31 454 85
120			31 454 66	31 454 86
150			31 454 67	31 454 87
185	60	30.9 - 37.8	31 021 38	31 021 88
240	61	33.9 - 39.6	31 021 39	31 021 89
300	62	35.9 - 42.8	31 021 40	31 021 90
400			31 021 41	31 021 91
500			31 021 42	31 021 92

630 mm² on request



NOTES

Connector Plug In up to 42 kV

CPI 2

CPI 2 is a screened inner cone cable connector made of silicone rubber for cable connection to switchgear (RMU) and transformers up to 42 kV with bushings size 2 according to EN 50180/50181.

- ✓ unique connector casing for 25 up to 300 mm²
- ✓ assembling without specially tools
- ✓ quick and easy assembly
- ✓ compact design
- ✓ maintenance free
- ✓ connector made from special designed silicone-rubber
 - very high elasticity
 - weather and ageing resistance
 - non-flammable, halogen free
- ✓ fully screened by a bonded outer conductive layer of silicone
- ✓ integrated stress control system
- ✓ max. 4 sizes of stress cones for multirange cable connection
- ✓ multirange screw cable lug with contact lamella
- ✓ cable sheath testing without dismantling of connector

- 1 Bushing
- 2 Connector casing
- 3 Stress cone

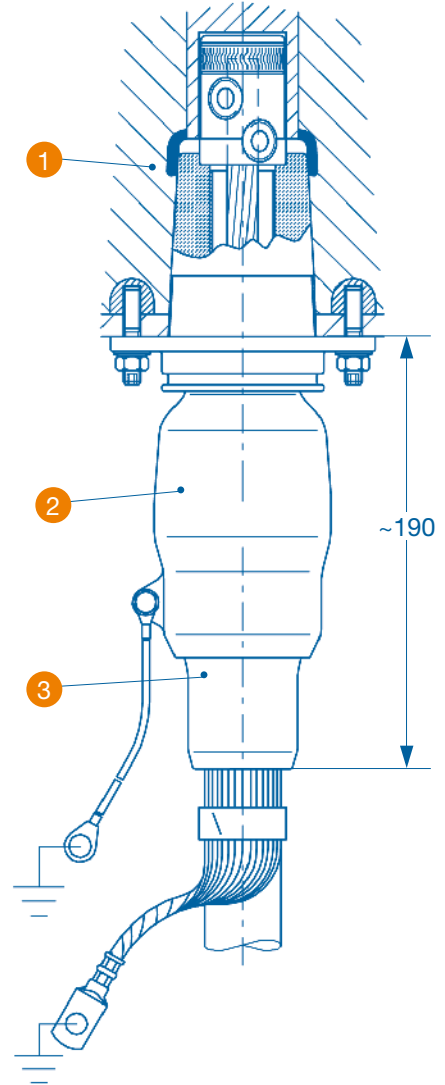
Technical Data:

Maximum system voltage	42 kV
Continuous nominal current	800 A
Partial discharge at 2 U ₀	< 5pC
AC withstand voltage, 5 min.	117 kV
DC withstand voltage, 15 min.	125 kV
Impulse withstand voltage	200 kV
Diameter over core insulation	12.7 - 40,0/44.0* mm
Cross section	25 - 300 mm ²
Thermal short circuit	1 sec. 33 kA, 185 mm ² Cu 3 sec. 40 kA, 300 mm ² Cu
Dynamic short circuit	100 kA, 300 mm ² Cu

*3-core cables only

Size of stress cone	Stretch range Ø over core insulation (mm)	Cross section 6 / 10 (12) kV	Cross section 8.7/15 (17.5) kV	Cross section 12 / 20 (24) kV	Cross section 18 / 30 (36) kV
5002	12.7 - 19.2	25 - 70	25 - 50	-	-
5003	17.0 - 24.3	95 - 150	70 - 95	25 - 70	25 - 35
5005	21.2 - 33.6	185 - 300	120 - 240	95 - 240	50 - 120
5027	28.9 - 40,0/44.0*	-	300	300	150 - 300

*3-core cables only



Connector Plug In up to 42 kV

CPI 3

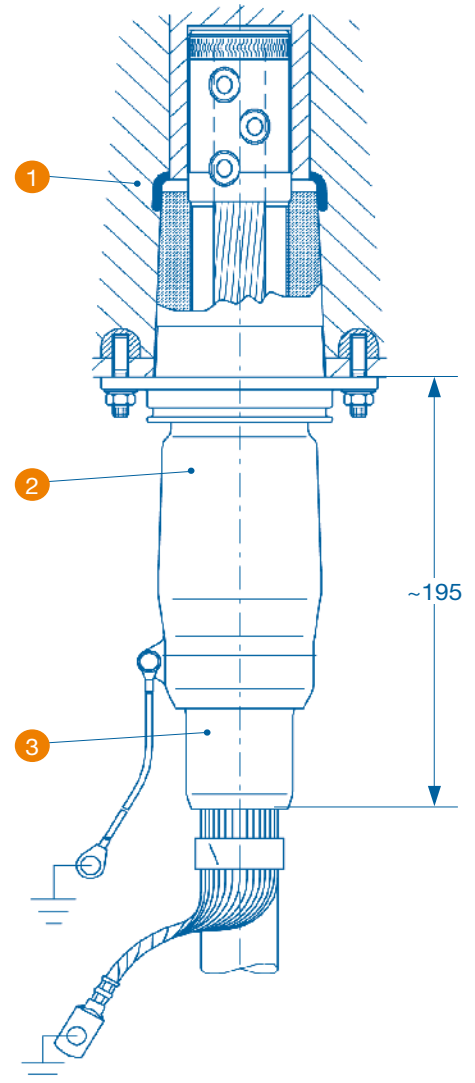
CPI 3 is a screened inner cone cable connector made of silicone rubber for cable connection to switchgear (RMU) and transformers up to 42 kV with bushings size 3 according to EN 50180/50181.

- ✓ unique connector casing for 50 up to 630 mm²
- ✓ assembling without specially tools
- ✓ quick and easy assembly
- ✓ compact design
- ✓ maintenance free
- ✓ connector made from special designed silicone-rubber
 - very high elasticity
 - weather and ageing resistance
 - non-flammable, halogen free
- ✓ fully screened by a bonded outer conductive layer of silicone
- ✓ integrated stress control system
- ✓ 4 sizes of stress cones for multirange cable connection
- ✓ multirange screw cable lug with contact lamella
- ✓ cable sheath testing without dismantling of connector

- ❶ Bushing
- ❷ Connector casing
- ❸ Stress cone

Technical Data:

Maximum system voltage	42 kV
Continuous nominal current	up to 1250 A
Partial discharge at 2 U ₀	< 5 pC
AC withstand voltage, 5 min.	117 kV
DC withstand voltage, 15 min.	125 kV
Impulse withstand voltage	200 kV
Diameter over core insulation	21.2 - 51.0 mm
Cross section	50 - 630 mm ²



Size of stress cone	Stretch range Ø over core insulation (mm)	Cross section 6 / 10 (12) kV	Cross section 8.7/15 (17.5) kV	Cross section 12 / 20 (24) kV	Cross section 18 / 30 (36) kV
20	21.2 - 33.6	185 - 400	120 - 300	95 - 240	50 - 150
27	28.9 - 36.4/37.8*	400 - 500	300 - 500	300 - 400	150 - 240
31	34.0 - 45.6	630	500 - 630	500 - 630	300 - 500
37	39.1 - 51.0	-	-	-	630

*3-core cables only

Surge arrester

SPI

SPI is a screened metal oxide surge arrester with silicone rubber connector for connection to plug in type bushings acc. EN 50180/50181. Surge arrester protecting medium voltage networks, e. g. transformers, switchgears and cables. Incoming overvoltage waves and voltage increase by reflection are limited. For surge arrester type tests according to IEC 60099-4 are valid.

- ✓ compact design
- ✓ quick and easy assembly
- ✓ assembly without special tools
- ✓ fully screened by a bonded outer conductive layer of silicone
- ✓ connector made from special designed silicone-rubber
 - very high elasticity
 - weather and ageing resistance
 - non-flammable, halogen free

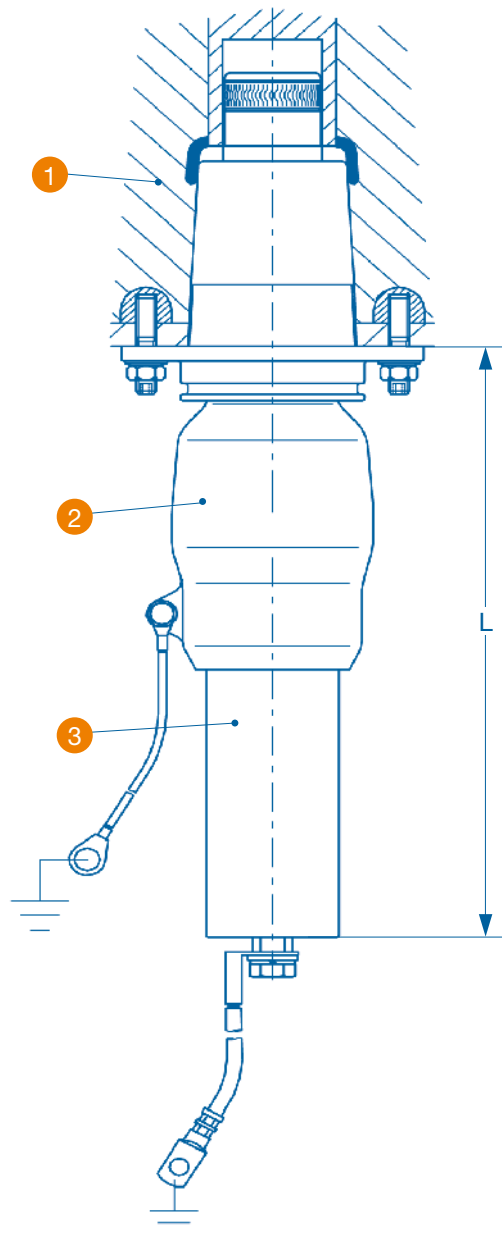
- 1 Bushing
- 2 Connector casing
- 3 Surge arrester

Arrester housing

	$U_c = 24 \text{ kV}$	$U_c = 42 \text{ kV}$
	$U_r = 30 \text{ kV}$	$U_r = 52.5 \text{ kV}$
Impulse voltage 1,2/50 μ s	125 kV	200 kV
Power frequency voltage	60 kV	95 kV
Dimension L	340 mm	460 mm

Technical Data:

	SPI 2 24-5	SPI 3 42-10
continuous operating voltage U_c	24 kV	42 kV
rated voltage U_r	30 kV	52,5 kV
nominal discharge current I_n	5 kA	10 kA
partial discharge at $1.05 \times U_c$	< 5 pC	< 5 pC
residual voltage at:		
- long duration current impulse 125 A, 30/60 μ s	60,6 kV	99,4 kV
- lightning current impulse 5/10 kA, 8/20 μ s	79,7 kV	140 kV
long duration current impulse	150 A	325 A
High current impulse	65 kA	100 kA



Final plug up to 52 kV

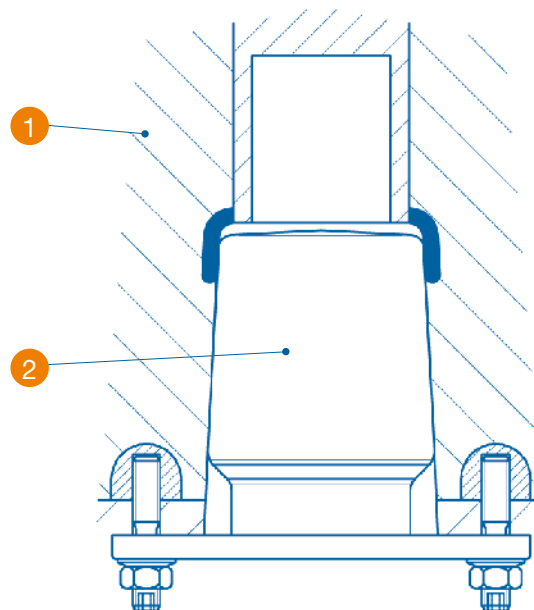
FPI

FPI is a ist Final Plug for bushings according to EN 50180/50181.

- ✓ Final Plug complete with metal ring
- ✓ assembly without special tools
- ✓ Integrated stress control system
- ✓ quick and easy assembly

Technical Data FPI 2

Bushing	Size 2	Size 3
Maximum system voltage FPI 2	42 kV	52 kV
AC withstand voltage, 5 min.	117 kV	124 kV
DC withstand voltage, 15 min.	125 kV	-----
Impulse withstand voltage	200 kV	250 kV





AUXILIARY INFORMATION

- ✓ Accessories for cable connector and adapter
- ✓ Assembling material
- ✓ Cable lugs and conductor connector
- ✓ Tools
- ✓ Pre-assembled connection cables
- ✓ Connection variants

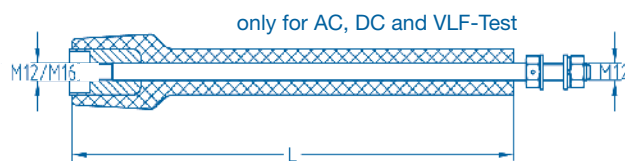
NOTES

Test adapter
for CB+CC 12+24+36-630
and AB+AC 12+24-630

for CB+CC 36-630(1250)

Type PAK 630 M12 (L = 310 mm)
Reference no. 31 050 12
(1 set = 3 pieces)

Type PAK 630 M16 (L = 460 mm)
Reference no. 31 050 39
(1 set = 3 pieces)

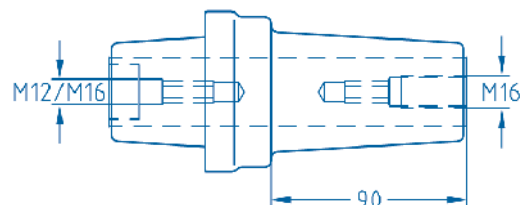


Coupling piece
for CB and AB

CP 630-C for CB 24+36-630
Reference no. 31 700 70 (M12)
(1 set = 3 pieces)

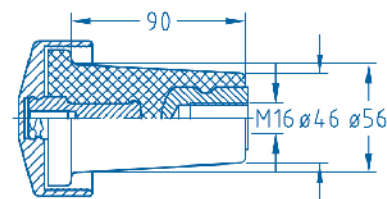
CP 630-A for AB 24-630
Reference no. 31 700 90 (M12)
(1 set = 3 pieces)

CP 630-M16 for CB 36-630(1250)
Reference no. 31 700 50 (M16)
(1 set = 3 pieces)



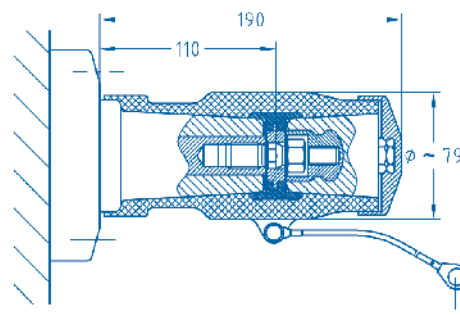
End plug
for CB und AB

EAS 630
Reference no. 31 700 42
(1 set = 3 pieces)



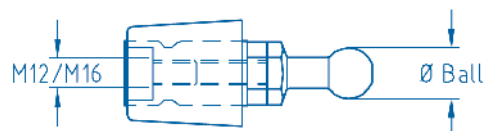
End cover for
bushings type C up to 42 kV

CBC 40,5-630
Reference no.: 31 800 08
(1 set = 3 pieces)



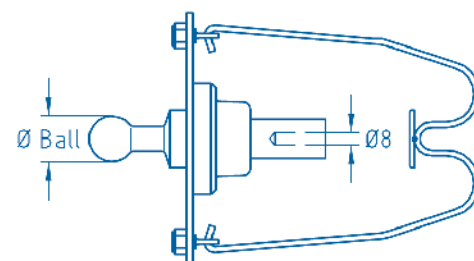
Earthing adapter
for CB+CC 12+24+36-630
and AB+AC 12+24-630

E 20
Ball Ø20 reference no: 31 050 13
Ball Ø25 reference no: 31 050 10
(1 set = 3 pieces)



Earthing adapter
for EASW 10/250

E 250
Ball Ø20 reference no: 31 050 44
Ball Ø25 reference no: 31 050 45
(1 set = 3 pieces)



for CE 20-250

Ball Ø20 reference no: 31 050 55
Ball Ø25 reference no: 31 050 56
(1 set = 3 pieces)

Further accessories
upon request

Assembling material

Name	Dimension	Quantity	Unit	Ref. no.	Remarks
Al special solder	-	250 g bar	kg	10 066 04	
Binding twine	18/2 fold	10 m roll	piece	17 370 01	
Sealing tape, green	15 x 2 mm	0.5 m roll	piece	22 025 01	
EFGElit tape	20 x 0.2 mm	7.5 m roll	piece	21 475 01	
EFGElit tape	40 x 0.2 mm	7.5 m roll	piece	21 475 02	
Iron wire	1 mm Ø	20 m roll	piece	21 442 03	
Emery paper, brown	40 mm wide, 80 grit	3 m roll	piece	10 136 09	contains no conductive particles
Emery paper, brown	40 mm wide, 180 grit	3 m roll	piece	10 136 06	contains no conductive particles
Emery paper, brown	40 mm wide, 400 grit	3 m roll	piece	10 136 07	contains no conductive particles
Earthing cable lug	16 mm ² Cu M10	1	piece	21 595 72	
Earthing cable lug	25 mm ² Cu M10	1	piece	21 595 73	
Earthing cable lug	35 mm ² Cu M10	1	piece	21 595 74	
Earthing cable lug	16 + 25 mm ² Cu M10	3+3 pieces	set	21 740 54	each 3 pieces 16 + 25 mm ² in a bag
Field control tape	600 x 20 x 3 mm	1 strip	piece	21 475 03	
Field control tape, slim	200 x 20 x 1 mm	1 strip	piece	21 475 11	
Copper gauze sleeve	16 mm ² , tin plated	160 g/m	kg	10 180 10	
Copper gauze sleeve	25 mm ² , tin plated	220 g/m	kg	10 180 11	
Copper gauze sleeve	35 mm ² , tin plated	312 g/m	kg	10 180 09	
Insulating tape (textile)	15 mm wide	5 m roll	piece	10 043 50	
Self-bonding tape	19 x 0.75 mm	9 m roll	piece	21 418 01	
Self-bonding tape	19 x 0.75 mm	4.5 m roll	piece	21 418 03	
Cable tie, small	4.8 x 204 mm	1	piece	21 459 01	
Cable tie, large	12 x 510 mm	1	piece	10 135 22	
Contact plate			piece	26 018 01	for earthing of Al-screening
Copper wire, tin plated	Ø 1.5 mm	15 m roll	piece	17 339 24	
Copper braid tape	25 mm wide	10 m roll	piece	31 250 12	
Copper braid tape	25 mm wide	15 m roll	piece	31 250 18	
Copper braid tape, tin plated	25 mm wide	3 x 2.5 m roll	piece	21 798 03	
Copper braid tape, tin plated	25 mm wide	3 x 5 m roll	piece	21 798 08	
Copper braid tape, tin plated	25 mm wide	3 x 7 m roll	roll	21 798 12	
Copper braid tape, tin plated	45 mm wide	3 m roll	roll	21 798 20	
Self bonding tape, conductive	18 x 0.75 mm	4.5 m roll	piece	21 419 03	
Self bonding tape, conductive	18 x 0.75 mm	0.5 m roll	piece	21 419 02	
Semi-conductive tape	15 x 0.2mm	8 m roll	piece	21 419 01	
Semi-conductive varnish		10 ml bottle	piece	10 015 05	
Tin-lead-solder	35/65	bars	kg	10 066 01	
Tin-lead-solder	60/40	bars	kg	10 066 02	
Mastic		5 g	piece	26 066 01	for screw type connector/cable lugs
Assembling paste	Tube, black lettering	40 g	piece	21 527 21	for connectors and terminations
Assembling paste	Tube, black lettering	60 g	piece	21 527 23	for connectors and terminations
Assembling paste	Tube, green lettering	40 g	piece	21 527 30	for joints
Adhesive tape	20 x 0.15 mm	10 m roll	piece	10 078 11	
Contact spring	inner Ø = 44 mm, width = 20 mm		piece	10 186 23	application range 55-92 mm
Contact spring	inner Ø = 30 mm, width = 25 mm		piece	10 186 04	application range 35-72 mm
Contact spring	inner Ø = 23 mm, width = 16 mm		piece	10 099 89	application range 25-45 mm
Contact spring	inner Ø = 16 mm, width = 16 mm		piece	10 099 88	application range 20-30 mm
Protection bag	160 x 70 mm	1	piece	21 521 10	push-on device for terminations
Protection bag	90 x 70 mm	1	piece	21 521 11	push-on device for connectors
Protection sleeve	400 mm long	1	piece	21 521 12	push-on device for joint type JS 24-C
Silver cord, dry	2 mm Ø	200 g roll	piece	10 044 27	to remove the core insulation
Silver cord, dry	2 mm Ø	2 m	piece	31 091 01	

Cable lugs for termination type TI + TO

Longitudinally sealed **aluminium** cable lugs, uncoated, for **indoor terminations**.

Conductor cross section (mm²)			Dimension (mm)							Ref. no.
mm	sm*	se*	Die code no.	Drilling depth	l	a	d1	d2		
25	25	35	12	30	50	25	13	6.8	21 596 01	
35	35	50	14	42	62			8	21 596 02	
50	50	70	16	42	62			9.8	21 596 03	
70	70	95	18	52	72			11.2	21 596 04	
95	95	120	22	56	75			13.2	21 596 05	
120	120	150	22	56	80	30	17	14.7	21 596 06	
120	120	-	22	56	80			14.7	21 596 07	
150	150	185	25	60	90			16.3	21 596 08	
185	185	240	28	60	91			18.3	21 596 09	
240	240	300	32	70	103			21	21 596 10	
300	300	-	34	70	103	38	17	23.3	21 596 11	
400	400	-	38	73	116			26	21 596 12	
500	500	-	44	79	122			29	21 596 13	
630	-	-	52	91	135			32	21 596 14	

* Sector shaped conductors must be rounded

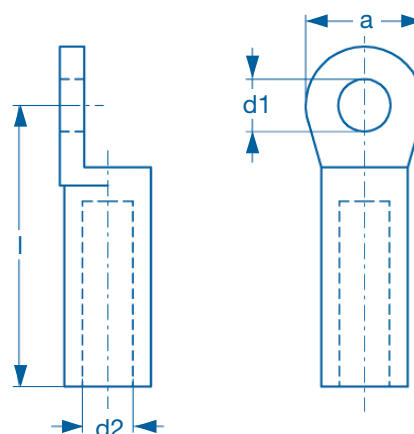
Longitudinally sealed **copper** cable lugs, tin plated, for indoor and **outdoor terminations**.

Conductor cross section (mm²)	Dimension (mm)						Ref. no.
	Die code no.	Drilling depth	l	a	d1	d2	
mm							
25	10	20	38	24	13	7.0	31 557 02
35	12	20	40			8.2	31 557 03
50	14	28	45			10.0	31 557 04
70	16	28	48			11.5	31 557 05
95	18	35	57	26	30	13.5	31 557 06
120	20	35	58	15.5		31 557 07	
150	22	35	59	17.0		31 557 08	
185	25	40	68	38		19.0	31 557 09
240	28	40	68		17	21.5	31 557 10
300	32	50	83			24.5	31 557 11
400	38	70	96			44	27.5
500	42	70	114	21			31.0
630	44	80	125		33.1		56 104 03

Longitudinally sealed **aluminium** cable lugs, tin plated, for **outdoor terminations**.

Conductor cross section (mm²)			Dimension (mm)							Ref. no.
mm	sm*	se*	Die code no.	Drilling depth	l	a	d1	d2		
25	25	35	12	30	50	25	13	6.8	31 779 01	
35	35	50	14	42	62			8	31 779 02	
50	50	70	16	42	62			9.8	31 779 03	
70	70	95	18	52	72			11.2	31 779 04	
95	95	120	22	56	75			13.2	31 779 05	
120	120	150	22	56	80	30	13	14.7	31 779 06	
120	120	-	22	56	80			17	14.7	31 779 07
150	150	185	25	60	90			13	16.3	31 779 08
185	185	240	28	60	91			18.3	31 779 09	
240	240	300	32	70	103			21	31 779 10	
300	300	-	34	70	103	38	17	23.3	31 779 11	
400	400	-	38	73	116			26	31 779 12	
500	500	-	44	79	122			29	31 779 13	
630	-	-	52	91	135			32	31 779 14	

* Sector shaped conductors must be rounded



Conductor connector for joints type JS 24-E, JS 24-C and AM

Conductor connector, non tension,
for **aluminium**-conductor

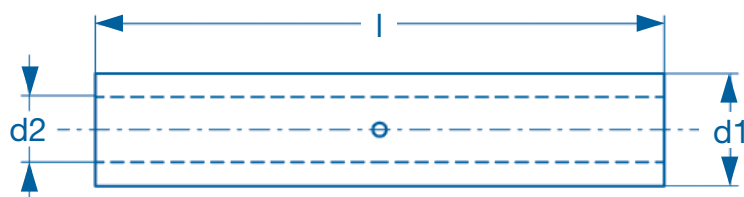
Conductor cross section mm ²	Dimension (mm)				Ref. no.
	Die code no.	l	d1	d2	
25	12	70	12	6.8	17 332 21
35	14	85	14	8	17 332 22
50	16	85	16	9.8	17 332 53
70	18	79	18	11.0	31 320 04
95	22	79	22	12.5	31 320 05
120	22	79	22	14.0	31 320 06
150	25	79	25	15.5	31 320 07
185	28	98	28	17.5	31 320 08
240	32	98	32	20.0	31 320 09
300	34	98	34	22.0	31 320 10
400*	38	210	38.5	26	17 332 61
500*	44	210	44	29	17 332 62

* only for joint type type AM

Conductor connector, non tension,
for **copper**-conductor

Conductor cross section mm ²	Dimension (mm)				Ref. no.
	Die code no.	l	d1	d2	
16	8	50	8.5	5.5	21 401 03
25	10	50	10.0	7.0	21 401 04
35	12	50	12.5	8.2	21 401 05
50	14	56	14.5	10.0	21 401 06
70	16	56	16.5	11.5	21 401 07
95	18	70	19.0	13.5	21 401 08
120	20	70	21.0	15.5	21 401 09
150	22	80	23.5	17.0	21 401 10
185	25	85	25.5	19.0	21 401 11
240	28	90	29.0	21.5	21 401 12
300	32	100	32.0	24.5	21 401 13
400*	38	150	38.5	27.5	21 401 14
500*	42	160	42.0	31.0	21 401 15
630*	44	160	44.0	34.5	21 401 16

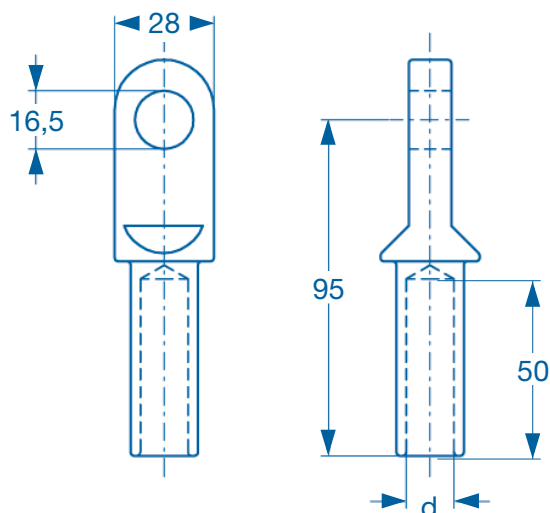
* only for joint type type AM



Cable lugs for connector + adapter type CB+CC 12+24+36-630, AB 12+24-630 and CB 36-400

Longitudinally sealed **copper** cable lugs

Conductor cross section mm ²	Dimension (mm)		Ref. no.
	Die code no.	d	
25	10	7.0	31 503 21
35	12	8.2	31 503 22
50	14	10.0	31 503 23
70	16	11.5	31 503 24
95	18	13.5	31 503 25
120	20	15.5	31 503 26
150	22	17.0	31 503 27
185	25	19.0	31 503 28
240	28	21.5	31 503 29
300	32	24.5	31 503 30



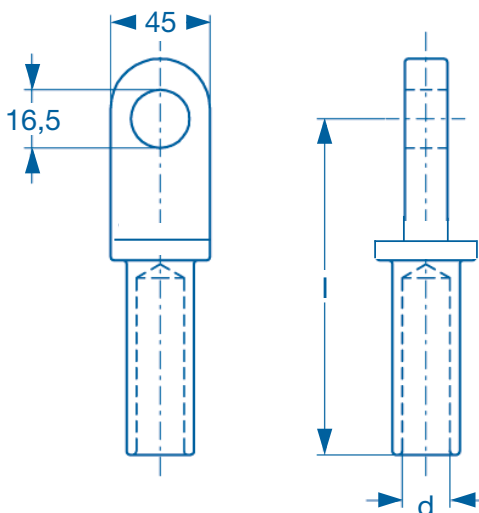
Longitudinally sealed **aluminium** cable lugs, tin plated

Conductor cross section mm ²	Dimension (mm)		Ref. no.
	Die code no.	d	
25	12	6.8	26 014 21
35	14	8.0	26 014 22
50	16	9.0	26 014 23
70	18	11.0	26 014 24
95	22	12.5	26 014 25
120	22	14.0	26 014 26
150	25	15.5	26 014 27
185	28	17.5	26 014 28
240	32	20.0	26 014 29
300	34	22.0	26 014 30

Cable lugs for connector type CB+CC 36-630 (1250)

Longitudinally sealed **copper** cable lugs

Conductor cross section mm ²	Dimension (mm)				Ref. no.
	Die code no.	Drilling depth	l	d	
300	32	52	121	24.5	26 336 10
400	38	74	143	27.5	26 336 11
500	42	74	143	31.0	26 336 12
630	44	80	149	34.5	26 336 13



Longitudinally sealed **aluminium** cable lugs, tin plated

Conductor cross section mm ²	Dimension (mm)				Ref. no.
	Die code no.	Drilling depth	l	d	
300	34	89	143	23.3	26 335 10
400	38	96	165	26.0	26 335 11
500	44	96	165	29.0	26 335 12
630	52	130	200	35.0	26 335 13

Screw type cable lug for connector type CB+CC 12+24+36-630, AB 12+24-630 and CB 36-400

Reference no.	Range of application:				
	Al - round compacted	Al - round stranded	Al - round solid	Cu - round compacted	Cu - round stranded
26 098 08	25 - 95	25 - 70	25 - 95	25 - 70	25 - 70
26 099 06	70 - 240	95 - 185	70 - 240	70 - 240	70 - 185
26 098 11	300	300	300	-	-
26 098 13	--	--	--	300	300

Screw type cable lug for CB+CC 36-630 (1250)

Reference no.	Range of application:				
	Al - round compacted	Al - round stranded	Al - round solid	Cu - round compacted	Cu - round stranded
26 098 14	400 - 630	400 - 630	400 - 630	400 - 630	400 - 500

Screw type cable lug for connector type CE 24-400

Reference no.	Range of application:				
	Al - round compacted	Al - round stranded	Al - round solid	Cu - round compacted	Cu - round stranded
26 099 49	16 - 95	16 - 70	16 - 95	10 - 70	10 - 70
26 099 45	70 - 240	70 - 185	70 - 240	70 - 240	70 - 185

Dielectric Screen Cutting Tool

The DSC dielectric screen cutting tool allows an easy removal of the solid extruded outer conductive layer on XLPE insulated cables. The DSC tool is designed for core diameters of 16 up to 40 mm. This allows its use for the following cable sizes:

- 35 up to 500 mm² for 6/10(12) kV cables
- up to 400 mm² for 12/20(24) kV cables
- up to 300 mm² for 18/30(36) kV cables

The DSC tool has a fixed cutting depth of 0.7 mm which means a simple operation and always homogeneous cutting, a knife with 1 mm cutting depth is also available. The set consists of the tool, a spare knife and a hexagon socket screw key in a tool box.



	Reference no.
DSC set, complete	56 103 82
spare knife 0.7 mm	56 104 21
spare knife 1.0 mm	26 299 02

Compression tool K 22

Compression tool K 22 for interchangeable dies, with crimphead, rotates through 360°, with telescopic handles for crimping cable lugs and crimp-on connectors. Length: infinitely adjustable from 560 to 860 mm. Weight: approx. 2.5 kg

	Bestell-Nr.
Compression tool K22 for crimping cable lugs and crimp-on connectors for copper and aluminium conductors up to 240 mm ² as well as circular pressing of sector conductors up to 300 mm ²	31 585 05
Sheet steel case MK 22 for storing 17 pairs of pressing dies as well as compression tool K22, with lock and carrying handle. Weight: approx. 3.5 kg	31 586 05



Dies for copper crimp cable lugs and connectors to DIN 64 235 hexagonal pressing, pressing width 5 mm

mm ²	6	10	16	25	35	50	70	95	120	150	185	240	300
Reference no.	31 584 01	31 584 02	31 584 03	31 584 04	31 584 05	31 584 06	31 584 07	31 584 08	31 584 09	31 584 10	31 584 11	31 584 12	31 584 13
Die code no.	5	6	8	10	12	14	16	18	20	22	25	28	32

Dies for aluminium compression cable lugs and connectors to DIN 64 239 hexagonal pressing, pressing width 7 mm up to 185 mm², 5 mm up to 240 mm²

mm ²	10	16-25	35	50	70	95-120	150	185	240	300
Reference no.	31 584 21	31 584 22	31 584 23	31 584 24	31 584 25	31 584 26	31 584 27	31 584 28	31 584 29	31 584 30
Die code no.	10	12	14	16	18	22	25	28	32	34

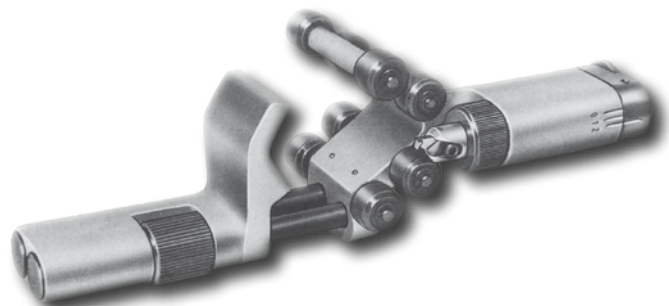
Dies for circular crimping of Al and Cu sector conductors (for 3 and 4 conductor sector cable). Circular crimping width = 19.5 mm.

se mm ²	-	-	35	50	70	95	120	150	185	240	300
sm mm ²	10	16	25	35	50	70	95	120	150	185	240
conductor Ø mm	4.1	5.1	6.3	7.5	9	10.5	1.5	14	15.8	17.5	20.3
Reference no.	31 584 41	31 584 42	31 584 43	31 584 44	31 584 45	31 584 46	31 584 47	31 584 48	31 584 49	31 584 50	31 584 51

Cable sheath cutter

Cable sheath cutter removes outer cable sheaths and is adjustable for sheath thickness up to 8 mm. Its knife is designed to lift the outer sheath at the cutting point in order to avoid damages of the screening. The knife has two preset positions for the progress of the spiral cut and one position to finish the cutting process. The cable sheath cutter can be used for single core cables from 35 mm² 10 kV up to 500 mm² 30 kV with an insulation diameter of 15 - 50 mm.

	Reference no.
Cable sheath cutter	56 108 46
Spare knife	56 108 48
Plastic insert to remove the core insulation from plastic insulated round cables	56 108 47



Insulation cutter

- To remove core insulation
- Longitudinal and axial cut with separate blades
- Cutting depth limiter
- Exchangeable blades
- Full metal body

	Reference no.
Insulation cutter	56 107 07



Holding tool for screw type connector and screw type cable lugs

- For safe and easy holding of the screw type connector during assembly
- Helps to avoid bending of the conductor during the connecting process.
- Usable for all size connectors
- Full metal body
- Length: approx. 40 cm

	Reference no.
Holding tool	53 649 87



Please ask for our tool list for further tools.

Pre-assembled connection cables

Pre-assembled connection cables simplify assembly and commissioning of medium voltage compact stations, switchgear, transformers, generators and motors.

Qualified specialists of **nkt cables GmbH Nordenham** pre-assemble connection cables for various applications.

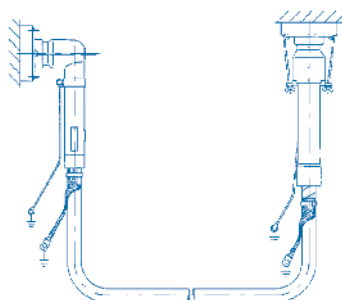
Depending on the specification, XLPE or flexible cables are used. The required terminations and connectors are installed on the cable according to customer specification.

All pre-assembled cables are electrically tested in nkt cables laboratory prior to despatch. This ensures reliable performance. Upon request the wide range of own power cable accessories can be completed with products from other manufacturers.

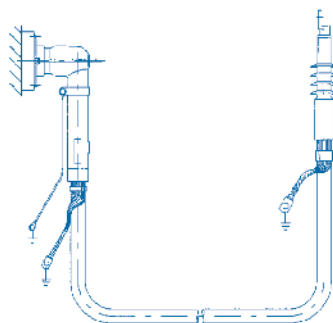
Requested customer specification:

- nominal voltage
- description of required cable type
- length of connection line
- position of screening wire connection and length
- equipment interfaces
- required types of cable accessories

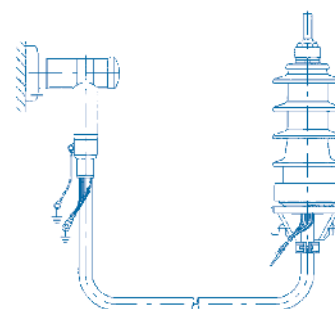
Connection between switchgear and transformer with 250A bushings:



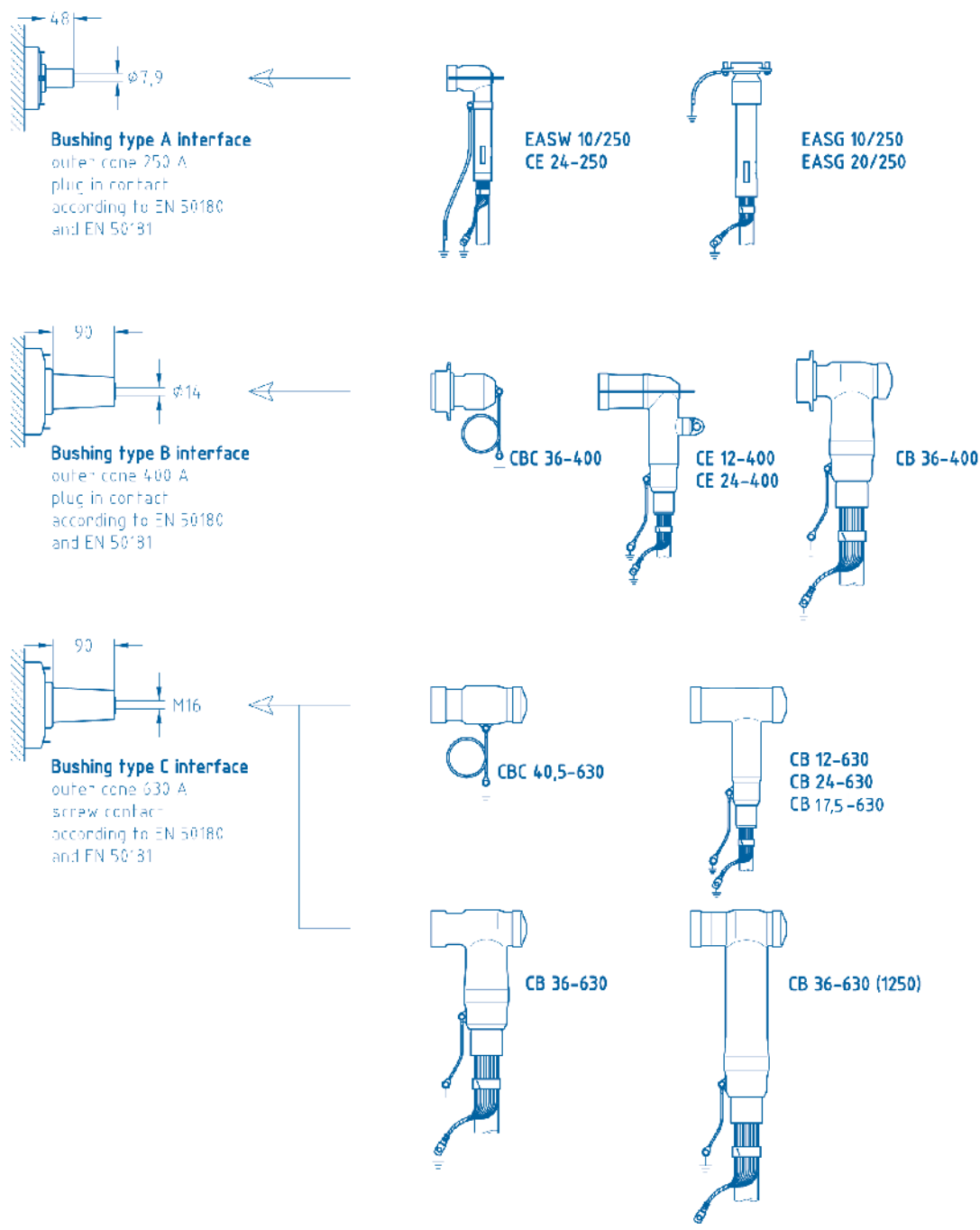
Connection between switchgear and transformer with insulators:



Connection between transformer and termination with support function
(e. g. installed in express trains of Deutsche Bahn AG):



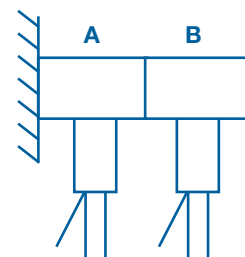
Connection types and coupling possibilities



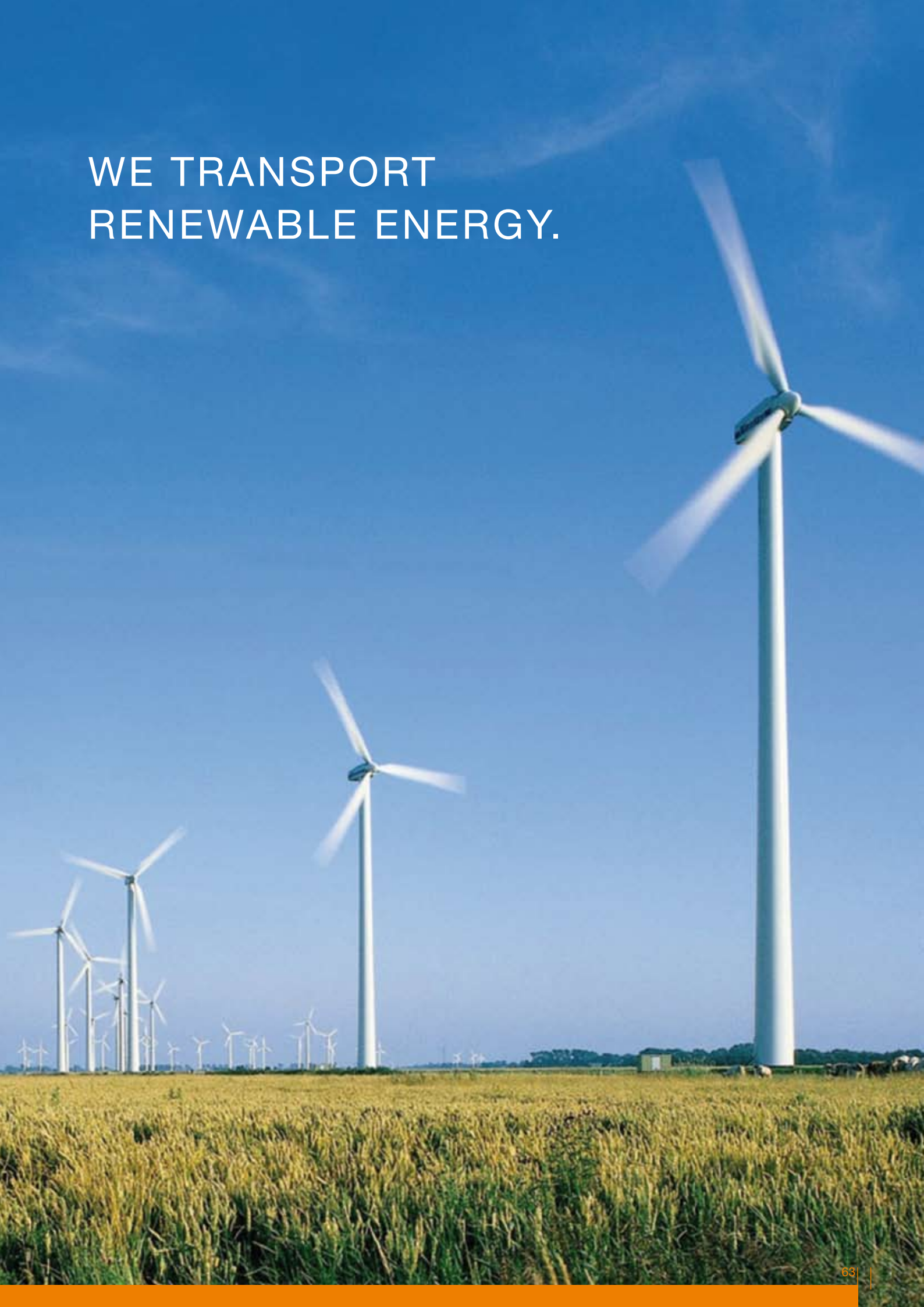
COUPLING COMBINATIONS:

B \ A	CB 12+24-630	CC 12+24-630	CB 36-630	CC 36-630	CB 36-630 (1250)	CC 36-630 (1250)	CSA 12 / CSA 24
CB 12+24-630	with CP 630-C	✓	with CP 630-C	-	with CP 630-C	-	✓
CC 12+24-630	with CP 630-C	✓	with CP 630-C	-	with CP 630-C	-	✓
CB 36-630	with CP 630-C	-	with CP 630-C	✓	with CP 630-C	-	✓
CB 36-630 (1250)	with CP 630-M16	-	with CP 630-M16	only as CC 36-630 M16	with CP 630-M16	✓	M16-version
CC 36-630 (1250)	with CP 630-M16	-	with CP 630-M16	only as CC 36-630 M16	with CP 630-M16	✓	M16-version

Please consider relevant $U / U_0 (U_m)$. For surge arresters please note U_c / U_r and I_n



WE TRANSPORT
RENEWABLE ENERGY.



CERTIFICATE **TÜV NORD**

Management system as per
DIN EN ISO 9001 : 2008
DIN EN ISO 14001 : 2005

In accordance with TÜV NORD CERT procedures, it is hereby certified that

nkt cables GmbH
Kabelgarnituren
Helgoländer Damm 75
26954 Nordenham
Germany

applies a management system in line with the above standards for the following scope

**Sales, development and production of high, low and medium voltage
cable accessories and cabinets at location Nordenham**

Certificate Registration No. 78 100 993990
Certificate Registration No. 78 104 993990
Audit Report No. 3503 9526 / 3503 9527

Valid until 2012-02-14
Initial certification 1999


Certification Body
at TÜV NORD CERT GmbH

Essen, 2009-03-27

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH

Langemarckstrasse 20

45141 Essen

www.tuev-nord-cert.com



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Completing the picture