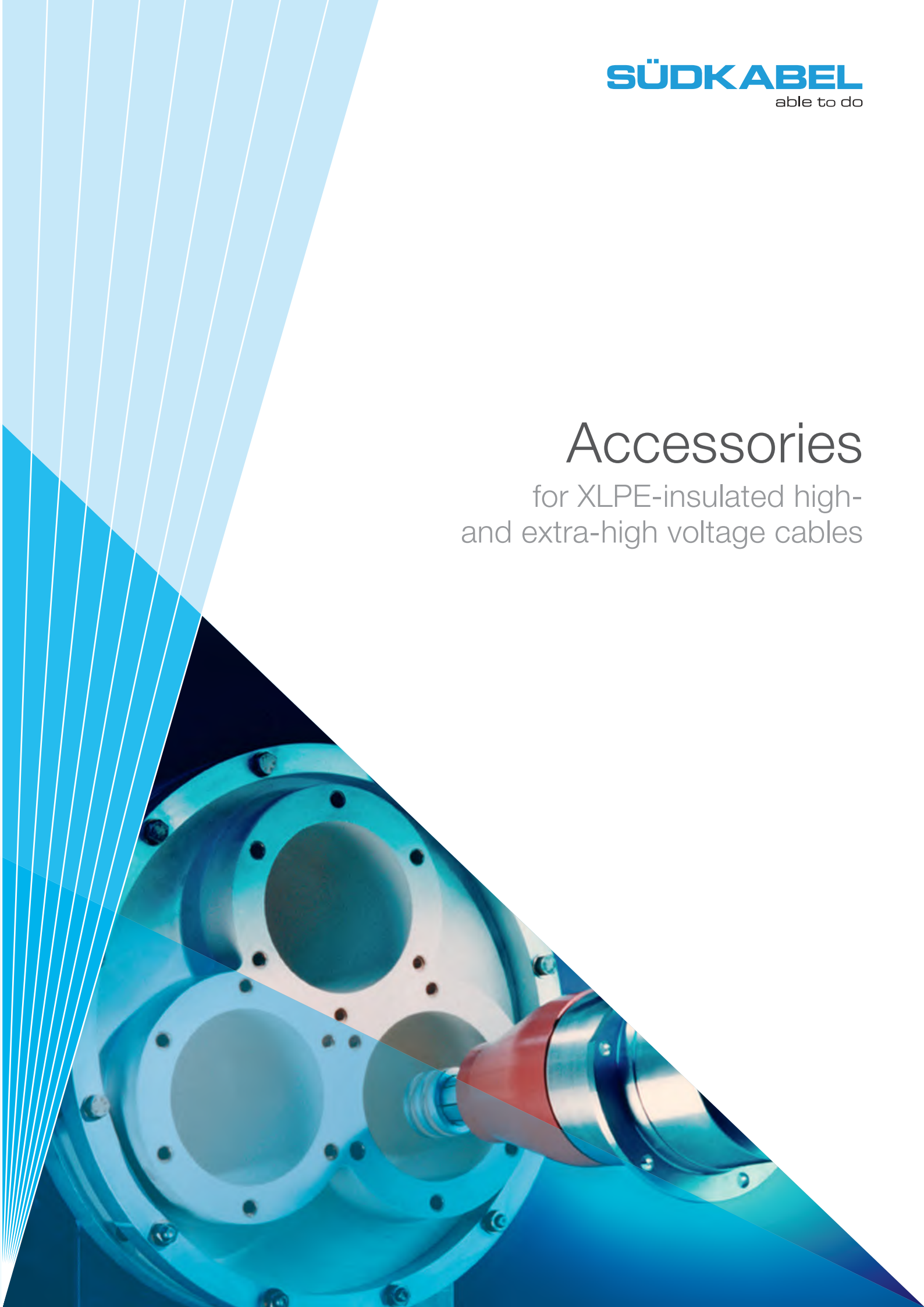
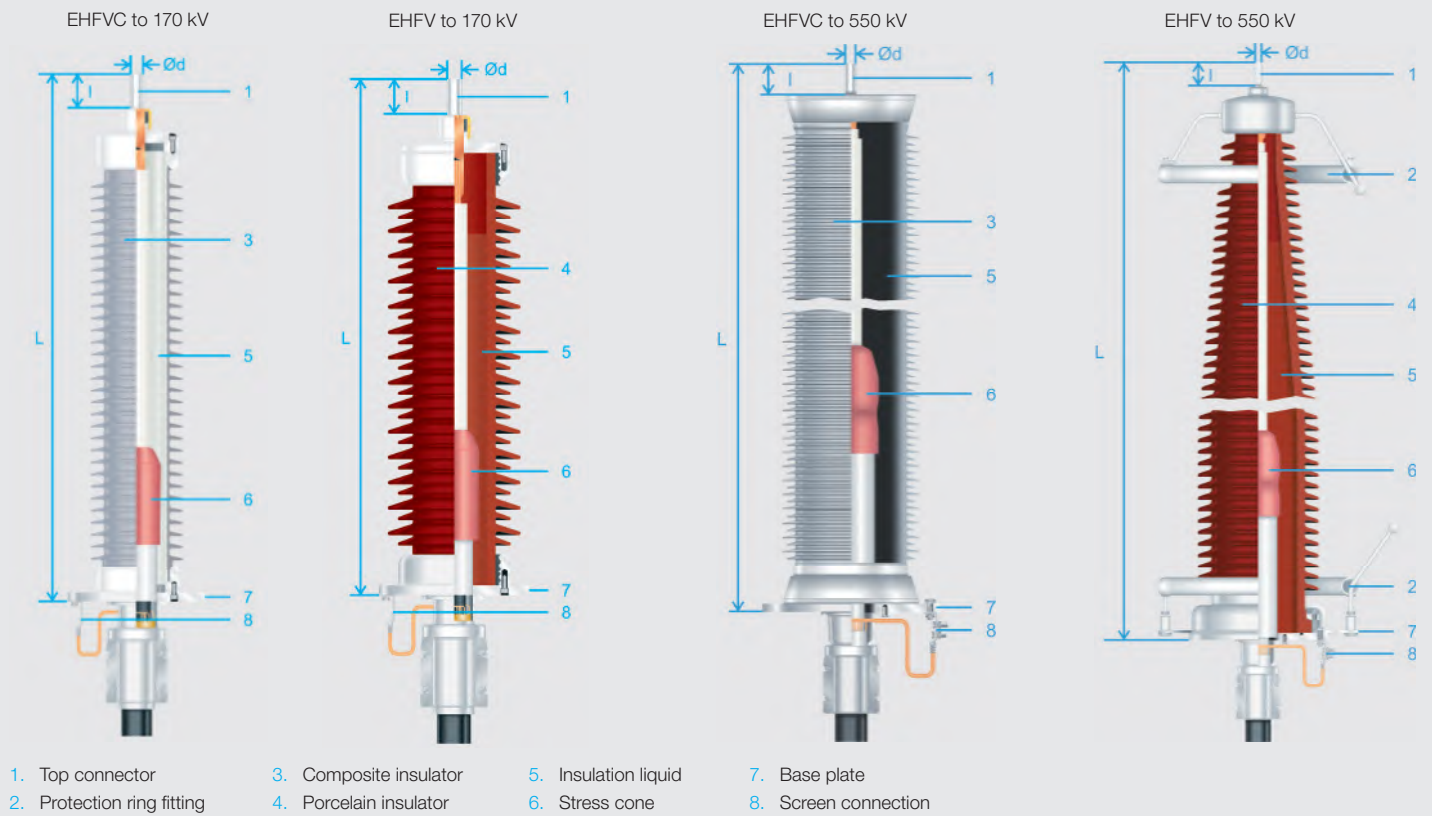


Accessories

for XLPE-insulated high-
and extra-high voltage cables





Outdoor terminations

Liquid insulation

Variants EHFVC (with composite insulator) and EHFV (with porcelain insulator)

- Primary component: composite insulator made of fibreglass-reinforced
- plastic support tubing with integrally cast sheds of high-grade silicone rubber, or with porcelain insulator
- Field control by means of a push-on stress cone made of silicone rubber that also seals the base of the termination
- Filled with a synthetic insulating liquid (polyisobutylene)
- Optional equipment: flashover protective fittings (arcing horns)
- Also available: insulated installation with special cast-resin post insulators

- Meets the requirements of relevant test specifications (e.g. IEC 60840, IEC 62067, IEC 60815)
- Insulators with extended creepage paths for use in highly polluted areas are available
- Cantilever load at conductor bolt dependent on type and length of insulator
- Possible modification of external insulation to correct for atmospheric conditions (for installations at altitudes > 1000 m) by increasing the arcing distance with longer insulators or by using accessories with a higher voltage level
- Short overall height insulator up to a maximum of 30° inclination

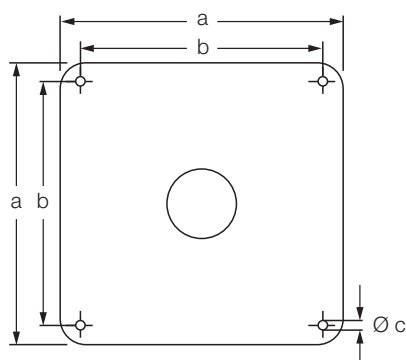
Highest voltage U_m	kV	72.5	123	145	170	245	300	362	420	550
Variant with composite insulator	–	EHFVC	EHFVC	EHFVC	EHFVC	EHFVC	EHFVC	EHFVC	EHFVC	EHFVC
Variant with porcelain insulator	–	EHFV	EHFV	EHFV	EHFV	EHFV	EHFV	EHFV	EHFV	EHFV
Impulse lightning voltage	kV	350	550	650	750	1050	1050	1175	1425	1550
Switching impulse voltage	kV	–	–	–	–	–	850	950	1050	1175
Normative document	IEC	60840 60815	60840 60815	60840 60815	60840 60815	62067 60815	62067 60815	62067 60815	62067 60815	62067 60815
Cu/Al conductor (min.)	mm ²	95	150	240	240	400	400	500	630	800
Cu/Al conductor (max.)	mm ²	3200	3200	3200	3200	3200	3200	3200	3200	3200
Rated current (max.) *	A	3150	3150	3150	3150	3150	3150	3150	3150	3150
Rated peak current *	kA	170	170	170	170	170	170	170	170	170
Rated short-time withstand current *	kA/s	63/3	63/3	63/3	63/3	63/3	63/3	63/3	63/3	63/3
Standard pollution class	–	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy
Length with class d/III (approx.) EHFVC/EHFV [L]	mm	1350/ 1020	1710/ 1490	1980/ 1700	2290/ 1950	2590/ 2540	3070/ 3040	3580/ –	4100/ –	5020/ 5130
Weight with class d/III (approx.) EHFVC/EHFV **	kg	80/ –	90/ 175	95/ 195	105/ 235	370/ 470	390/ 570	780/ –	960/ –	1100/ 1400
Base plate dimensions [a]	mm	420	420	420	420	600	600	700	700	700
Hole distance [b]	mm	345	345	345	345	500	500	600	600	600
Hole diameter [Ø c]	mm	18	18	18	18	23	23	23	23	23
Bolt diameter [Ø d] (≤1000 mm ² / $>$ 1000 mm ²)	mm	30/50	30/50	30/50	30/50	30/50	30/50	30/50	30/50	30/50
Bolt length [l]	mm	100	100	100	100	100	100	100	100	100

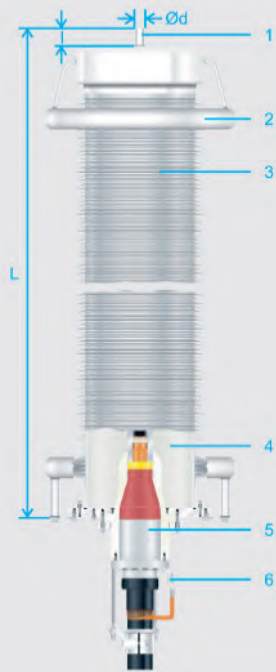
Table 3 Data sheet for outdoor terminations filled with insulating liquid

* Depending on cable conductor cross-section;

** Without cable

Base plate dimensions





- | | | |
|----------------------------|------------------------|------------------------|
| 1. Top connector | 3. Composite insulator | 5. Compact termination |
| 2. Protection ring fitting | 4. Insulating gas | 6. Screen connection |



Outdoor terminations

Gas insulation

Advantages

- Considerably shorter on-site assembly time compared with terminations filled with liquid insulation
- Very short cable length to work with
- Can be installed at any position depending on shed alignment
- Plug-in system allows for insulated assembly

Properties

- Composite insulation of fibreglass-reinforced plastic support tubing with integrally cast sheds of high-grade silicone rubber
- Integrated compact termination as a component of the electric field control
- The socket-type epoxy-resin insulator is fastened to the base plate of the termination

- Permanent elastic field control made of silicone rubber connected to the insulator via spring assemblies
- Filled with high-grade insulating gas
- Optional equipment: flashover protective fittings (arcing horns)
- Meets the requirements of relevant test specifications (e.g. IEC 60840, IEC 62067, IEC 60815)
- Insulators with extended creepage paths for use in highly polluted areas
- Cantilever load at conductor bolt dependent on type and length of insulator being used
- Possible modification of external insulation to correct for atmospheric conditions (for installations at altitudes > 1000 m) by increasing the arcing distance with longer insulators or by using higher-voltage accessories
- Also available with optional heating system for use in very low temperature environments

Highest voltage U_m	kV	123	145	170	245	300	362	420	550
Variant with composite insulator	–	EHFVCS	EHFVCS	EHFVCS	EHFVCS	EHFVCS	EHFVCS	EHFVCS	EHFVCS
Impulse lightning voltage	kV	550	650	750	1050	1050	1175	1425	1675
Switching impulse voltage	kV	-	-	-	-	850	950	1050	1240
Normative document	IEC	60840 60815	60840 60815	60840 60815	62067 60815	62067 60815	62067 60815	62067 60815	62067 60815
Cu/Al conductor (min.)	mm ²	150	240	240	400	400	500	630	800
Cu/Al conductor (max.)	mm ²	2500	2500	2500	2500	2500	3200	3200	3200
Rated current (max.) *	A	3150	3150	3150	3150	3150	3150	3150	3150
Rated peak current *	kA	170	170	170	170	170	170	170	170
Rated short-time withstand current *	kA/s	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1
Standard pollution class	–	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy
Length with class d/III (approx.) [L]	mm	1925	2192	2192	3120	3120	3650	5240	5240
Weight with class d/III (approx.) **	kg	180	200	200	350	350	650	800	800
Max. longitudinal force effect	kN	2	2	2	2	2	2	2	2
Base plate dimensions [a]	mm	420	420	420	600	600	800	800	800
Hole distance [b]	mm	345	345	345	500	500	700	700	700
Hole diameter [Ø c]	mm	18	18	18	23	23	23	23	23
Bolt diameter [Ø d]	mm	50/60***	50/60***	50/60***	60	60	60	60	60
Bolt length [l]	mm	100	100	100	100	100	100	100	100

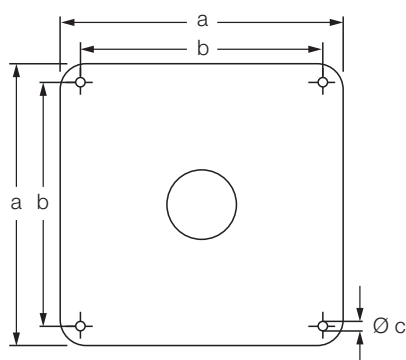
Table 4 Data sheet for gas-filled outdoor terminations

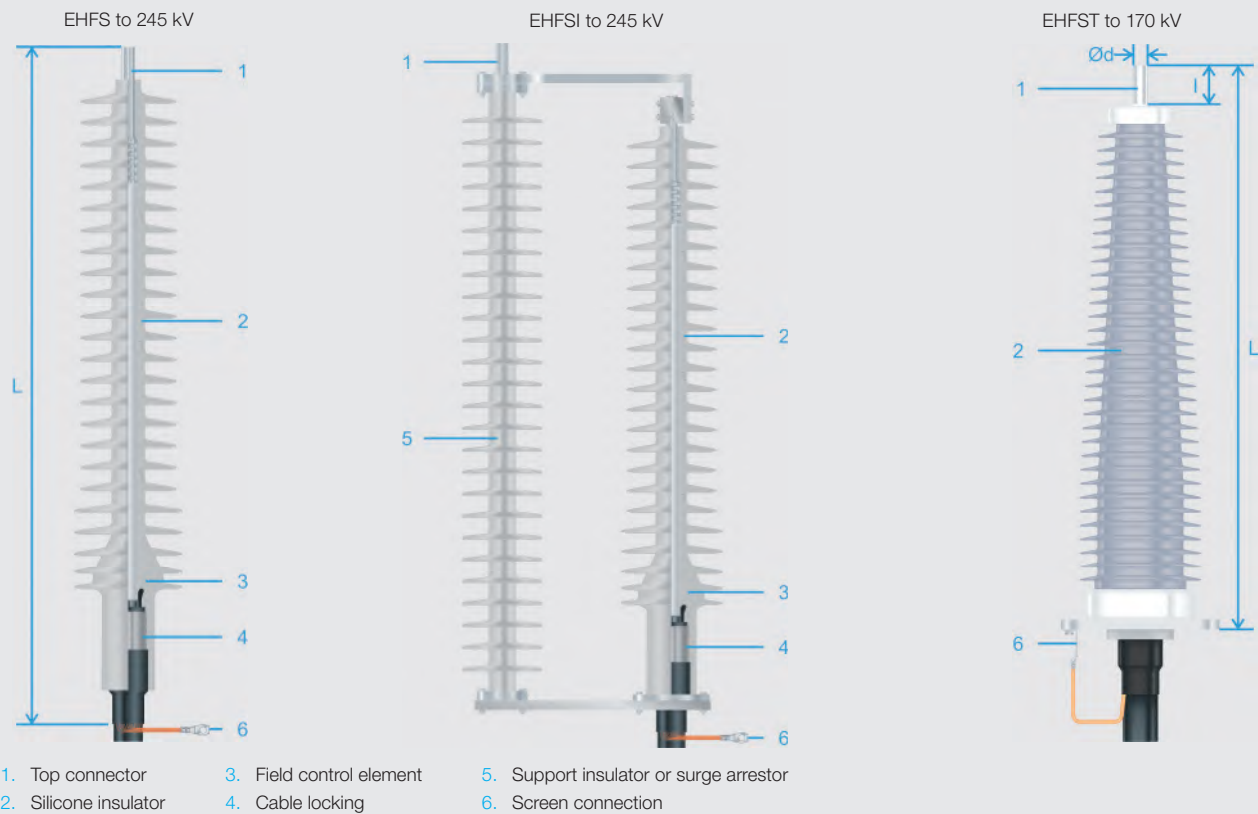
* Depending on cable conductor cross-section;

** Without cable

*** ≤1600 mm²/ $>$ 1600 mm²

Base plate dimensions





Outdoor terminations

Dry and solid insulation

Advantages

- Insulator of high grade silicone rubber
- Field control of silicone rubber already integrated
- Significant shorter installation times on site compared to outdoor terminations filled with compound
- Horizontal assembly possible; lifting tools for integration of termination into console available
- Arbitrary installation position depending on shed alignment
- Free of any insulating fluids or gases
- Non-flammable

EHFS (option flexible) and

EHFSI (option flexible/supported)

- Suitable for pre-assembled deployment, e.g. in temporary site cables
- Support insulator or surge arrester as supporting element
- Parallel support can be installed independently from cable termination

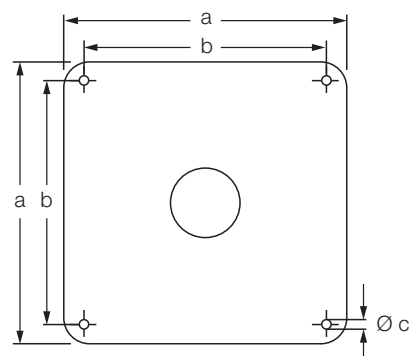
EHFST (option self-supporting)

- Integrated supporting elements of reinforced plastic
- No additional filling of insulating medium required
- Insulated installation with special cast-resin post insulators if required
- Baseplate rotatable

Properties

- Insulator and field control element pre-tested before shipment
- Meets requirements of relevant test specifications like IEC 60840, IEC 62067, IEC 60815)
- Insulating body with extended creepage path for use in highly polluted areas is available
- Cantilever load at conductor bolt dependent on type and length of insulator
- Possible modification of external insulation to correct for atmospheric conditions (for installations at altitudes > 1000 m) by increasing the arcing distance with longer insulator or using accessory with a higher voltage level

Base plate dimensions EHFST



Highest voltage U_m	kV	72.5	123	145	170	245
Option flexible	–	EHFS	EHFS	EHFS	EHFS	EHFS
Option flexible/supported	–	EHFSI	EHFSI	EHFSI	EHFSI	EHFSI
Impulse lightning voltage	kV	350	550	650	750	750
Normative document	IEC	60840 60815	60840 60815	60840 60815	60840 60815	62067 60815
Cu/Al conductor (min.)	mm ²	95	150	240	240	400
Cu/Al conductor (max.) ***	mm ²	1200	1200	1600	1400	1200
Rated current (max.) **	A	3150	3150	3150	3150	3150
Rated peak current **	kA	170	170	170	170	170
Rated short-time withstand current **	kA/s	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1
Standard pollution class	–	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy
Length with class d/III (approx.) [L]	mm	1100	1620	2640	2640	2640
Weight with class d/III (approx.) ****	kg	10	18	40	40	40

Highest voltage U_m	kV	72.5	123	145	170
Option self-supporting	–	EHFST	EHFST	EHFST	EHFST
Impulse lightning voltage	kV	350	550	650	750
Normative document	IEC	60840 60815	60840 60815	60840 60815	60840 60815
Cu/Al conductor (min.)	mm ²	95	150	240	240
Cu/Al conductor (max.)	mm ²	2500	2500	2500	1200
Rated current (max.) **	A	3150	3150	3150	3150
Rated peak current **	kA	170	170	170	170
Rated short-time withstand current **	kA/s	50/3 63/1	50/3 63/1	50/3 63/1	50/3 63/1
Standard pollution class	–	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy	≥ d/III heavy
Length with class d/III (approx.) [L]	mm	1700	1700	1700	1700
Weight with class d/III (approx.) ****	kg	120	120	120	120
Base plate dimensions [a] *	mm	420	420	420	420
Hole distance [b] *	mm	345	345	345	345
Hole diameter [Ø c] *	mm	18	18	18	18
Bolt diameter [Ø d]	mm	30/50	30/50	30/50	30/50
Bolt length [l]	mm	100	100	100	100

Table 5 Data sheet for dry outdoor terminations

* Only for option self-supporting

** Depending on cable conductor cross-section

*** Other cross sections on request

**** Without cable