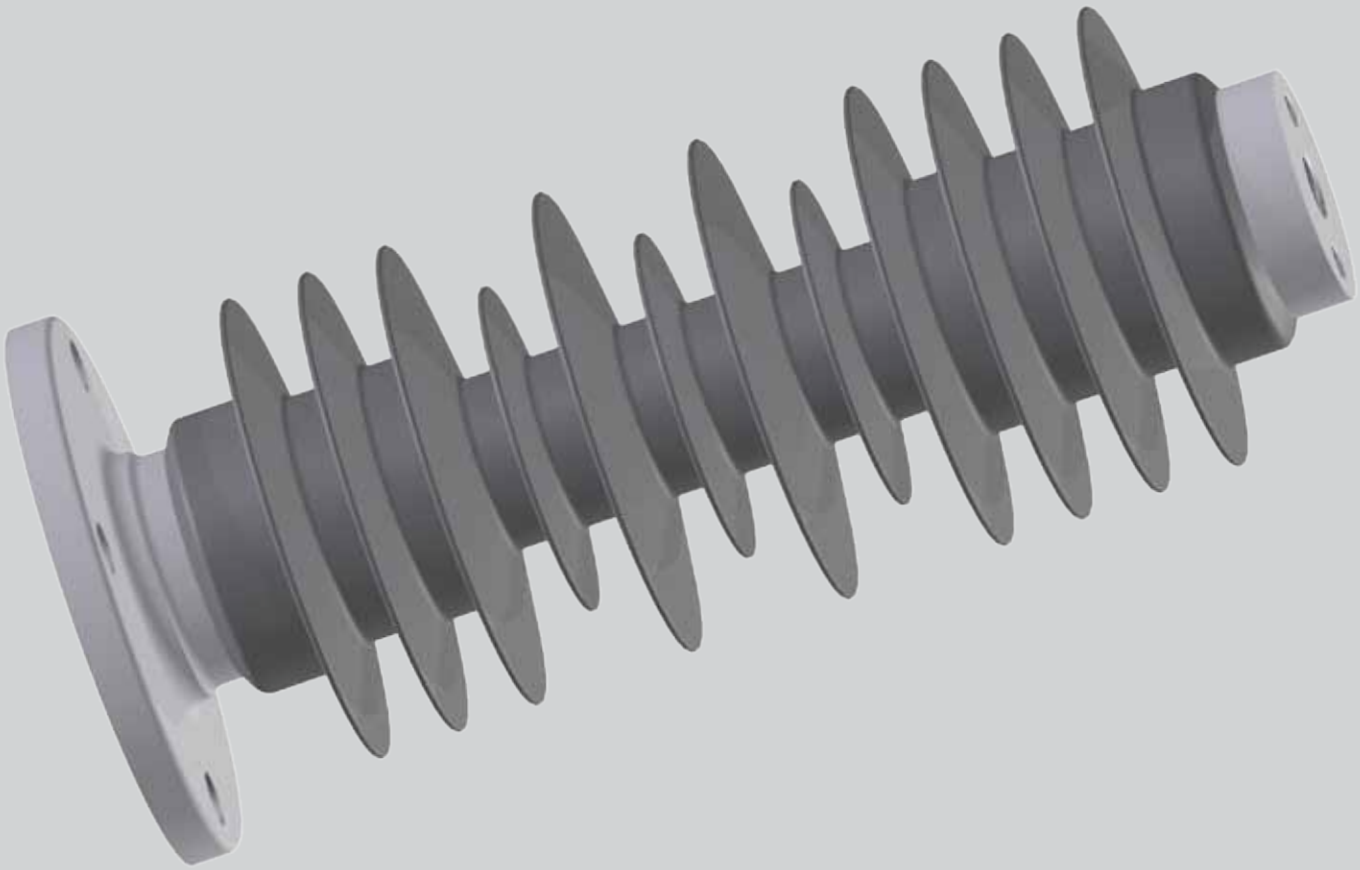


TRACTION

Silicone post insulator

ALPHA-ET

Current and voltage – our passion

General description

General

The ALPHA silicone rubber post insulators are used for a wide range of high voltage applications. They support the cable terminations, busbars and other equipment of the HV-cabling on trains. Standard post insulators are available in different variations, and for special use they can be adapted to match the customers' requirements.

Special characteristics

The combination of an inner part which is an E-CR glass fibre rod and the outer body made out of silicone rubber creates an ideal combination of the requested rigidity, good dielectric properties and a high protection against environmental impacts. The use of these polymeric materials also results in a lightweight product which makes it ideal for railway application.

To meet the customers' specification, the upper and lower flange can be individually designed.

The use of silicone rubber insulators in railway stock is proven by many applications. They are widely installed on high speed trains, locomotives and EMUs.

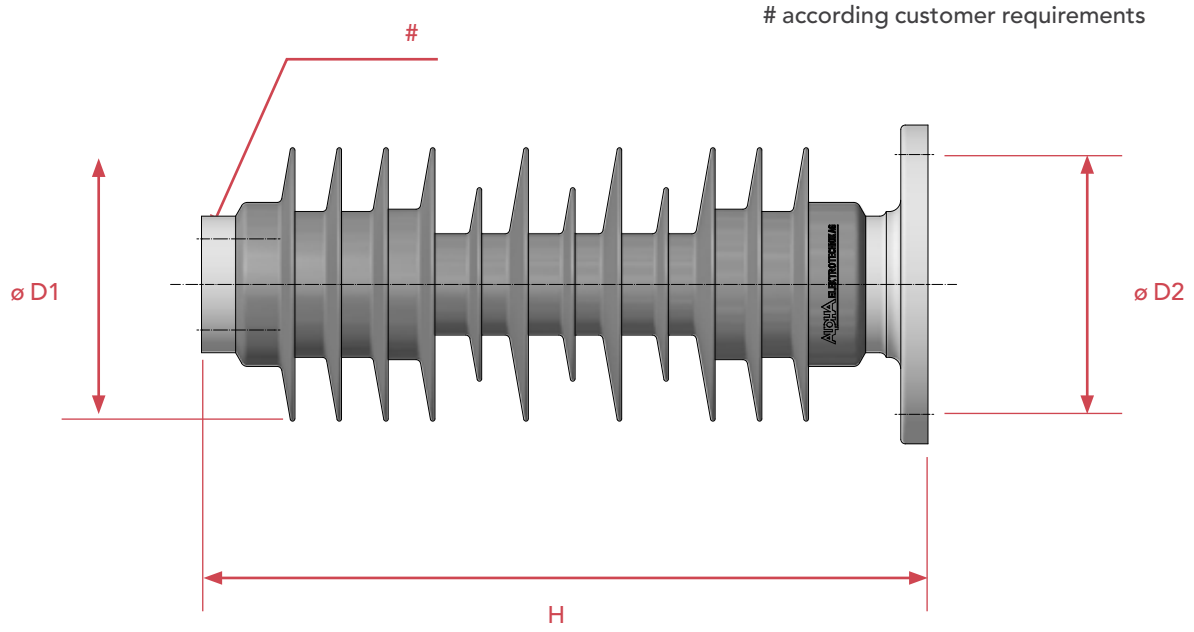
Contamination class

In addition to its outstanding mechanical and electrical characteristics, silicone rubber is distinguished by its ideal properties against atmospheric pollution. For example, the insulation strength is retained in the presence of severe pollution and thaw conditions. A large number of tests have demonstrated the superiority of silicone rubber insulated insulators over other materials such as porcelain and EPDM. Silicone rubber post insulators have been used successfully throughout the world for decades under the most-severe climatic conditions.

Benefits Post Insulators

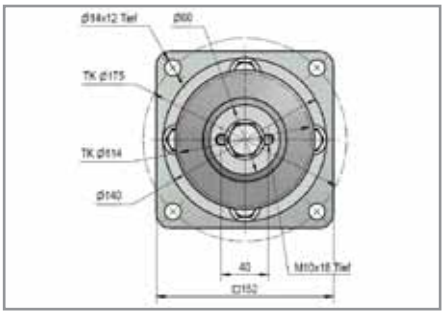
- All silicone post insulators satisfy the requirements of the fire protection standard EN 45545-2:2013.
- The use of silicone rubber guarantees a lightweight and maintenance free product with excellent dielectrical properties.
- Highly customizable regarding to system voltage, high, creepage distance and flange design.
- All silicone post insulators are maintenance free.

Technical data



Type		10608	10509	10687	10779	10503	10850
System voltage	kV	3.6	25	36	36	36	36
One minute power frequency withstand voltage, 50 Hz, wet	kV	35	85	85	95	95	90
Lightning impulse withstand voltage, 1,2/50	kV	70	175	175	195	195	190
Creepage distance	mm	293	902	1030	1050	1050	1150
Arcing distance	mm	125	303	310	344	344	335
Specified cantilever load (SCL)	kN	8	3	3	3	3	3
Maximum design cantilever load (MDCL)	kN		1.5	1.5	1.5	1.5	1.5
Specified tension load (STL)	kN	15	45		45	45	45
Weight (approx.)	kg	1.4	2.7	3	2.8	2.8	4.3
H	mm	120	319	332	360	360	360
D1	mm	138	120	150	120	120	155
D2	mm	114	114	114	114	114	114
Insulator		E-CR glass fibre rod with HTV silicone rubber housing					
End fittings		Aluminium alloy					

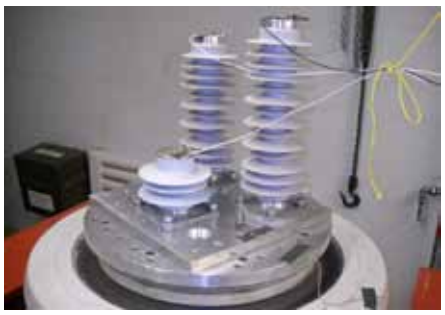
Highlights



Various options available

The flanges of our standard range of products which considers 3 kV and 25 kV supporting insulators can be adapted according to customers' requirement.

On customers' wishes the design of the insulating silicone rubber part can be changed in consultation to project manager. This allows us to satisfy nearly all technical requirements.



Type tests performed by ALPHA Elektrotechnik

There have been performed several type tests on the supporting insulators:

- Lightning impulse voltage tests acc. to IEC 62231
- Wet power-frequency voltage tests
- Fire protection test according to EN 45545-2
- Mech. shock-and vibration test acc. to IEC 61373
- Environmental tests acc. to IEC 60068-2-

References

- Alstom Transportation: KZ4A, KZ8A, Coradia, TGV Maroc
- Hitachi Rail: IEP, WOE
- Bombardier: Talent

ALPHA-ET

Current and voltage – our passion

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This document has been drawn up with the utmost care. We cannot, however, guarantee that it is entirely complete, correct or up-to-date.

TRACTION

DISCONNECTORS