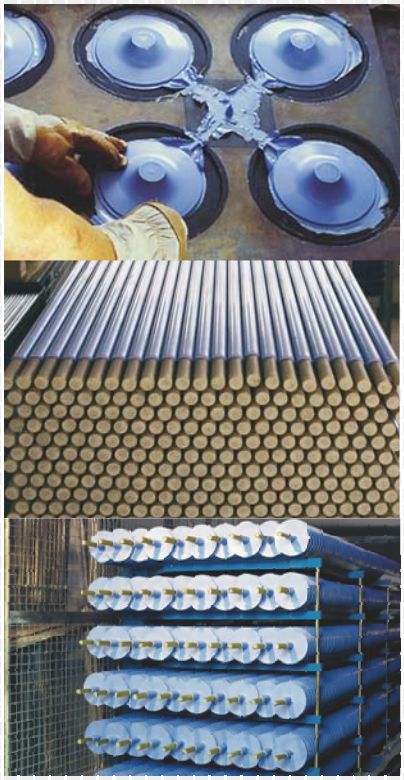
COMPOSITE INSULATORS

MANUFACTURING TECHNOLOGY

RODURFLEX®

Patented manufacturing expertise for RODURFLEX® composite insulators



The first manufacturing stage is the continuous pultrusion process yielding the FRP rod. The combination of a hydrolysis resistant epoxy resin with acid resistant glass fibers (ECR glass) is a safe assurance against brittle fracture. Rods are cut to length and visually inspected before being coated with a seamless sheath of high-temperature vulcanized (HTV) silicone rubber ensuring optimum adhesion. Prefabricated sheds are mounted on to the rod to complete the insulator.

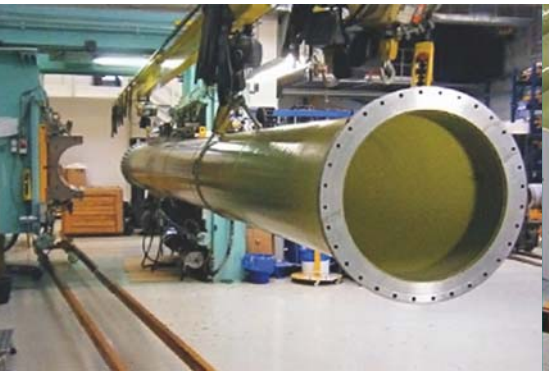
A subsequent vulcanizing stage creates a durable high-strength bond between the sheds and the rod sheath. The metal hardware is mounted by a cold-forming process and all insulators are subjected to mechanical inspection, after which the joints between the FRP rod and the metal components are sealed with a special silicone elastomer. This metastable compound creates a perfect seal which prevents the ingress of moisture for an unlimited period of time.

A modular system comprising FRP rods of different diameters and any desired length up to 6 meters, various shed configurations (shapes, numbers, spacings) and a wide range of assorted end fittings allows the longrod insulator to be optimized for any specific application.

SIMOTEC®

Optimized manufacturing expertise for SIMOTEC® composite insulators

Latest injection moulding technology is used for vulcanization of the silicone shed to the epoxy resin tube for insulators which can be up to 6 m long. Using a special primer on the tube permits chemical bonding with the shed, providing a durable connection under any condition. The point of connection between the tube and the metal end fitting is coated with silicone and is generally of a gas-tight design. The exact number of layers and wrapping angle for the tube is calculated to design the tubes for defined compression and bending loads. In this way LAPP INSULATORS can use tubes that are exposed to combined compressive and bending loads. As an option tubes with an inner liner made of polyester for protection against SF6-decay products can be provided.



LONGROD INSULATORS

The unique modular system of RODURFLEX® longrod Insulators is the key design feature to offer flexible connecting lengths, creepage distances, shed profiles and a wide range of end fittings matching exactly the customers requirements..

RODURFLEX®

DIMENSIONS

voltage class 1-1100 kV (>800 kV serial coupling of single pieces)
maximum connecting length 6 m as single design
max. core diameter 63 mm, up to 1500 kN SML
flexible creepage distances up to 55 mm / kV
end fittings according to IEC 60120, 60471

PRODUCTION METHOD

Modular assembly system
HTV silicone rubber, Generation III
ECR-FRP rod, brittle-fracture resistant
metastable silicone rubber sealing
optimized shed profiles for all pollution classes available
patented shallow underrib shed profile for enhanced creepage distances

SPECIFICATIONS

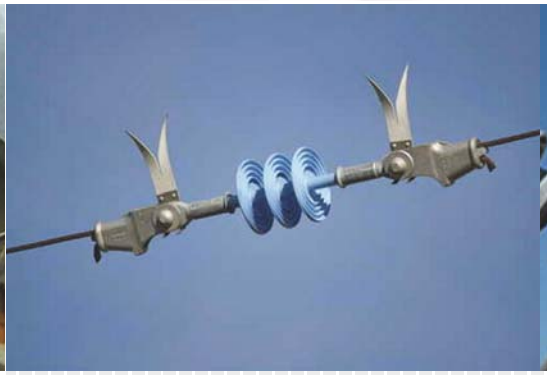
IEC 61109, ANSI C29.11, ANSI C29.12

FACTORIES

Wunsiedel

APPLICATION

suspension and tension towers in high voltage power lines and railway systems



COMPOSITE INSULATORS

LINE POST INSULATORS

The RODURFLEX product range features horizontal and vertical line post insulators with flexible top and bottom attachments meeting all application needs.

RODURFLEX®

DIMENSIONS

voltage class 1-550 kV
maximum core diameter 101,2 mm (4“), bis 50 kNm
flexible creepage distances up to 55 mm / kV
braced post design for increased mechanical stability available
complete assemblies including hardware fittings available

PRODUCTION METHOD

Modular assembly system
HTV silicone rubber, Generation III
ECR-FRP rod, brittle-fracture resistant
metastable silicone rubber sealing
optimized shed profiles for all pollution classes available
patented shallow underrib shed profile for enhanced creepage distances

SPECIFICATIONS

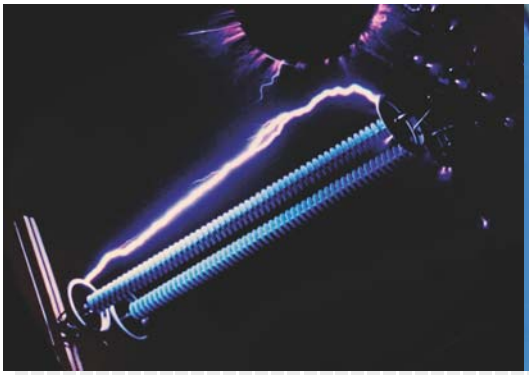
IEC 61952, ANSI C29.17, ANSI C29.18

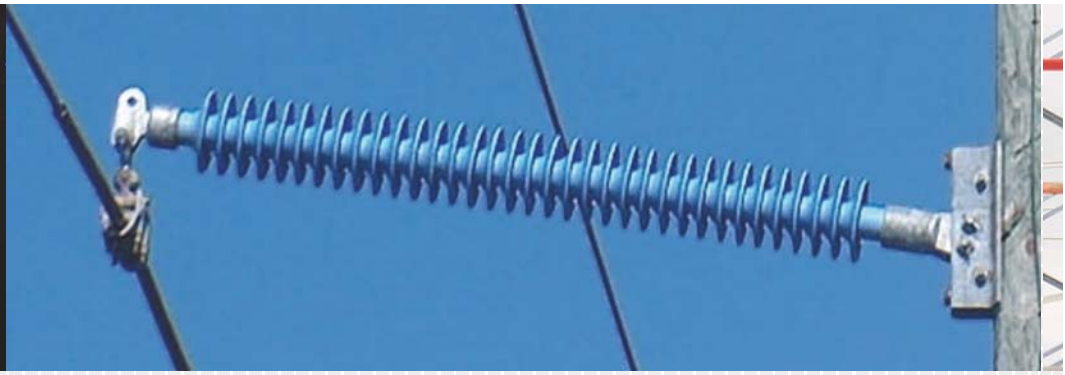
FACTORIES

Wunsiedel

APPLICATION

suspension and tension towers in high voltage power lines in compact configuration





POST INSULATORS

The RODURFLEX® product range features vertical line post insulators with flexible top and bottom attachments meeting all application needs.

RODURFLEX®

DIMENSIONS

voltage class 1-550 kV
maximum core diameter 101,2 mm (4“), bis 50 kNm
flexible creepage distances up to 55 mm / kV
DIN, IEC and ANSI flanges available

PRODUCTION METHOD

Modular assembly system
HTV silicone rubber, Generation III
ECR-FRP rod, brittle-fracture resistant
metastable silicone rubber sealing
optimized shed profiles for all pollution classes available
patented shallow underrib shed profile for enhanced creepage distances

SPECIFICATIONS

IEC 62231, ANSI C29.19, ANSI C29.9

FACTORIES

Wunsiedel

APPLICATION

switching equipment and busbar support in substations