

HUNTSMAN

Enriching lives through innovation

Advanced Materials

Araldite® S-HCEP Systems

Semiflexible hydrophobic epoxy
for composite insulators



POWER FROM 

Benefits for the manufacturer

- > Cost-efficient shed material
- > Hydrophobicity transfer and recovery
- > Semiflexible
- > Easy processing
- > High tracking and erosion resistance
- > No postcure

Material and processing cost savings

Araldite®S-HCEP (Semiflexible Hydrophobic Cycloaliphatic Epoxy) Systems are suitable for medium to high voltage insulation applications offering manufacturers substantial material

and processing cost savings. The system has a mix ratio of 1:1 volume which makes it suitable for standard two-component meter mix equipment.

High performance

Araldite®S-HCEP Systems are new epoxy-based shed materials for composite insulators. They deliver intrinsic hydropho-

bicity, hydrophobicity transfer and recovery similar to the well-known Araldite®HCEP Systems.

Easy processing on standard equipment



- > No premixing
- > No vacuum preparation
- > No degassing
- > No heating
- > No primer treatment
- > No mold cooling
- > Quick mold filling
- > Low clamping forces
- > No postcure
- > Light and cheap equipment
- > Low pump pressure

Hydrophobicity recovery

Araldite®S-HCEP Systems are able to recover their hydropho-

bic properties after losses, e.g. from electrical discharging.



Untreated sample: hydrophobic surface



After plasma treatment: hydrophilic surface



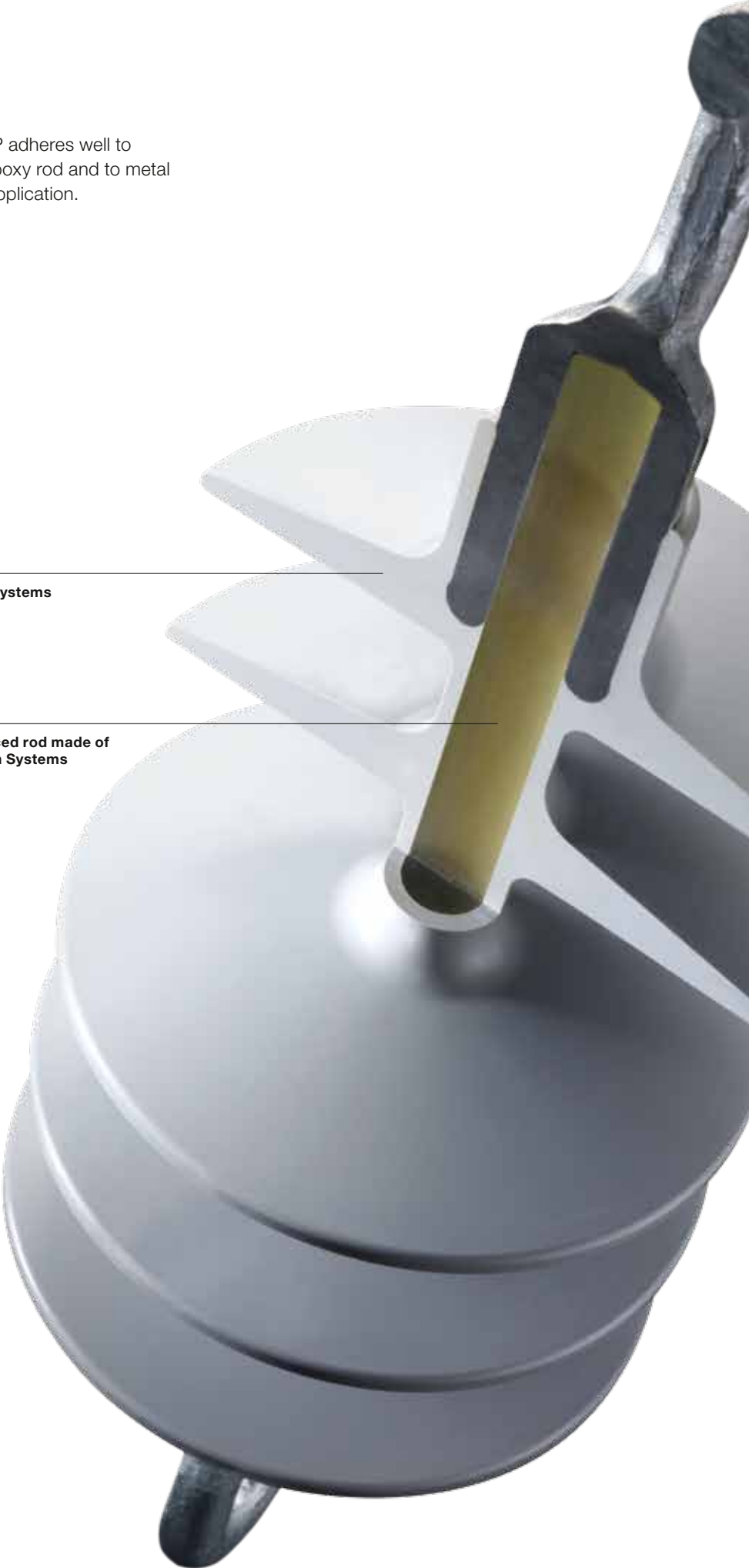
After 1 day: complete recovery of hydrophobic surface

**No primer
required**

Araldite®S-HCEP adheres well to
the glass fibre epoxy rod and to metal
without primer application.

Araldite®S-HCEP Systems

**Glass fibre reinforced rod made of
Araldite®Pultrusion Systems**



Key advantages

	Araldite®S-HCEP Systems	Liquid silicone rubber
Viscosity	low	high
Primer treatment	no	yes
Flexibility	semiflexible	high
Hydrophobicity	good	very good
Tracking and erosion resistance	high	high
Bird attack resistance	yes	no
Leakage current	low	medium
Tear strength	high	low
Material cost	medium	high



220 kV hollow insulator made by Hübers –
with courtesy of Hübers, Germany



Composite bushing 72 kV
made by Huntsman, Switzerland –
with courtesy of Lapp, Germany

Track record, tests and approvals

High tracking and erosion resistance

Araldite®S-HCEP Systems provide excellent tracking and erosion resistance and good water diffusion break-down strength.



Insulators made from Araldite®S-HCEP Systems have passed the 1000 hours salt fog test according to IEC 61109 (FGH Mannheim, Germany) and showed extremely low leakage current.



Araldite®S-HCEP insulators passed South Africa KIPTS test and fit for use in a coastal and marine environment

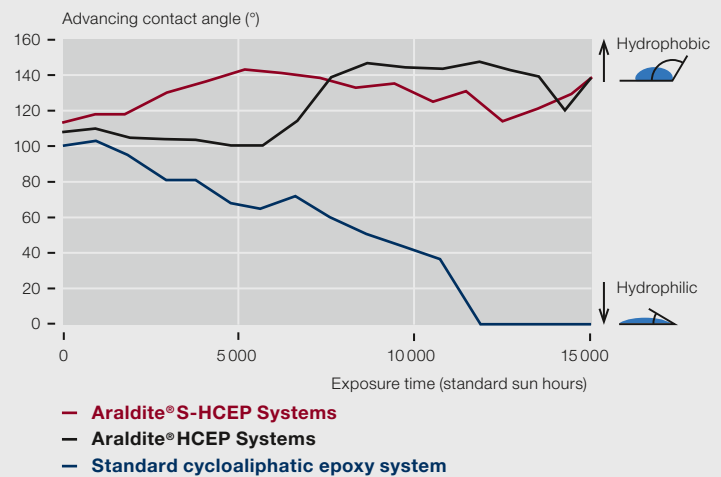
Araldite®S-HCEP Systems used for composite insulators have fully passed one of the most stringent natural aging tests for

outdoor applications: KIPTS test (Koeberg Insulator Pollution Test Station) in South Africa.



Long-term stability of hydrophobicity

Standard cycloaliphatic epoxies lose hydrophobicity after 5000 hours during accelerated fluorescent UV and weathering test whereas Araldite®S-HCEP Systems keep their hydrophobicity even after extended UV and weathering times. 1000 standard sun hours fluorescent UV correspond to 1 year in nature.



Huntsman Advanced Materials

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More than 9000 companies around the world use Huntsman Advanced Materials technologies in key markets such as adhesives and inks, aerospace, automotive, coatings, construction, electronics, medical, marine, power transmission and distribution, sports equipment and wind power generation.

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Global presence – 13 manufacturing sites



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