



# VoltShield®

Revision date: 2 April 2024

A chemically cross-linking polymeric resin reacted with a catalyst in an industrial solvent base for the durable, 'non-stick' surface protection of glass and glazed ceramic electrical insulators.

technical data

## 1. Uses

Specially formulated for the environment that electrical insulators are exposed to, higher resistance against moisture and alkalinity, withstands staining and / or discolouration making it easier to clean and keep clean.

## 2. Benefits

- Improved catalyst forms a multi-molecular, chemical bond with the surface for a more durable performance
- Increased amount of bonding sites for a more effective performance
- Reduces build-up of surface pollution on insulators so potentially increasing the insulator service life
- Reduces 'flashover'
- Improves the Alternating-Voltage Corona Inception

## 3. Physical Properties

State:	Liquid
Colour:	Colourless
Odour:	Perceptible odour
Evaporation rate:	Moderate
Oxidising:	Non-oxidising (by EC criteria)
Solubility in water:	Not miscible
Also soluble in:	Most organic solvents
Viscosity:	Non-viscous
Boiling point / range:	32-37°C
Relative density:	1.07-1.20
VOC g/l:	0.582 g/l

## 4. Pack Sizes

- 10 x 500ml bottles
- 5 litre drums
- 25 litre drums

## 5. Coverage Rates – Typical

Manual spray:	40-50m <sup>2</sup> per litre
Hand application:	80-100m <sup>2</sup> per litre

## 6. Curing Rate

Normal Ambient Temperature: 35-45 minutes

## 7. Surface Operating Temperature

+3°C to +35°C

## 8. Health & Safety

**Classification under CLP:** This Product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures. A Safety Data Sheet will be supplied on request as it contains a substance in a concentration >0.1% that is classified 'Repr.2:H361f'.

Safety data sheet available on request. Can become flammable in use. Other hazards (phrases are Precautionary only): Keep only in original packaging. Store at temperatures not exceeding 25°C. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing spray. In case of inadequate ventilation wear respiratory protection.

Ensure there is sufficient ventilation of the area. Avoid the formation or spread of mists in the air. Store in a cool, well-ventilated area. Keep container tightly closed. Consult your own CoSHH Assessment.

**PBT:** This product is identified as a PBT/vPvB substance.

Cyclosiloxane meets the current REACH Appendix XIII criteria for PBT and vPvB. However, cyclosiloxanes do not behave similarly to known PBT / vPvB substances. The silicone industry's interpretation of the available data is that the weight of scientific evidence from field studies shows that cyclosiloxanes do not biomagnify in aquatic and terrestrial food webs. Cyclosiloxanes in air are broken down by reaction with naturally occurring hydroxyl radicals in the atmosphere. Cyclosiloxanes in air that do not degrade through reaction with hydroxyl radicals are not expected to be deposited from the air into water, land, or living organisms.

## 9. RoHS Compliant

Product:	Yes
Packaging:	Yes

## PERFORMANCE TESTING RESULTS

### IEC 60060 – Tamworth HVL ref HV381 2003

On BR120 & BR140 Type Third Rail Insulator, significant increases of frequency flashover performance of 9-18%

### IEC 60060-1 – Tamworth HVL ref HV383 2003

On 33kV Post Insulators (drawing FB2513 ref PI1126) Increase flashover performance of 130kV against 116.3kV indicating an average performance gain of 12% on samples tested

### IEC 60507 – Tamworth HVL

- (a) Kiesulghur Mixture, no adhesion
- (b) Kiesulghur Mixture @ 400%, no adhesion

### BS EN 60587 – N. Evagelos M.Sc. Report REFLEX, University of Newcastle upon Tyne 2008

On toughened glass samples, Pass, showing an average of 15% increase of performance

### BS EN 60507:1993 – FGH Mannheim Feb 2010

IEC 507:1991 Section 3, Pass, Salinities @ 160kgs/m<sup>3</sup> Carried out on 400kV Post Insulators, meets requirements of IEC60060-1

### GOST 6490-93 – Yuzhnouralsky Insulators and Fittings Plant AO (JSC) Testing Centre YuAIZ AO meeting requirements ISO / IEC 17025:2005, Report by Mr A. Cheskidov Sept 2016

Vilrida PSVI20B Suspension Insulators  
Increase in Performance Short String Wet: +~30%  
Increase in Performance Short String Salt Spray Wet: +~30%  
Increase in Performance Short String Salt Dry Value: +~40%



### Important Note

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