

POWERSIL[®] N 553 DARKGREY

Moisture Curing Silicone Rubber (RTV-1)

POWERSIL[®] N 553 DARKGREY is a one-component silicone dispersion that cures to a tough high voltage insulator coating with every good electrical properties.

Properties

- very good resistance to weathering
- outstanding tracking resistance

Specific features

- Excellent hydrophobicity behavior
- Primerless adhesion to most substrates
- Ready to use

Technical data

Properties Uncured

Property	Condition	Value	Method
Density	23 °C	1.11 g/cm ³	DIN EN ISO 2811-2
Viscosity, dynamic	25 °C	4000 mPa·s	DIN EN ISO 3219
Flash point	-	19 °C	ISO 13736
Skin formation time	23 °C 50 % r.h	15 min	-
solid content by volume	-	57 %	-
solid content by weight	-	71 %	-

These figures are only intended as a guide and should not be used in preparing specifications.

Properties Cured

Cure conditions: 14d / 23°C / 50% RH

Property	Condition	Value	Method
Color	-	dark grey	-
Density	23 °C	1.41 g/cm ³	DIN EN ISO 1183-1 A
Hardness Shore A	-	60	ISO 7619-1
Tensile strength	-	3.0 N/mm ²	ISO 37 type 1
Elongation at break	-	100 %	ISO 37 type 1
Volume resistivity	-	5 x 10 ¹⁵ Ohmcm	IEC 62631-3-1
Permittivity	50 Hz	2.9	IEC 62631-2-1
Dissipation factor	50 Hz	< 3x10 ⁻²	IEC 62631-2-1
Dielectric strength (1mm)	-	28 kV/mm	IEC 60243-1
Tracking resistance	-	1A 4.5	IEC 60587
Arc resistance	-	420 s	IEC 61621
Tear strength	-	9.0 N/mm	ASTM D 624 B

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All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Applications

- Insulator Coatings

Application details

Protective silicone coating for porcelain, glass and epoxy insulators as well as for other high-voltage insulating equipment where surface contamination causes service problems.

POWERSIL® N 553 DARKGREY forms a long-term hydrophobic surface. Thus it prevents the formation of wet conductive films and therefore the risk of pollution flashovers.

POWERSIL® N 553 DARKGREY contains ATH as filler.

Processing

Surface pretreatment

The insulator surface to be coated should be clean and free of dust and grease. For cleaning the following operations are suggested:

- a) Proper cleaning by using water and a suitable detergent might be sufficient,
- b) Insulators that show and adhering pollution, such like cement, other mineral or chemical pollution layers should be cleaned by either "cob corn-" or carbon dioxide blasting,
- c) Any type of grease or fatty pollution is to be removed by using a suitable solvent like White Spirit or turpentine,
- d) Residual contaminants should be removed by thoroughly wiping,
- e) Finish the cleaning just before spraying POWERSIL® N 553 DARKGREY with Isopropanol or an equivalent alcohol.

Check carefully that there is no residue of dirt or grease left before spraying!

In most cases it is not necessary to apply a primer before coating.

Proper shaking of drum is mandatory before material is used.

Coating Application

POWERSIL® N 553 DARKGREY is preferably applied by spraying. It can be applied by brushing or dipping as well. For spraying application, the airless process was found to be efficient. The following equipment settings were found to be suitable:

- Flat nozzle of 0.33 mm, 20°
- Setting of pressure output 50 – 150 bar

The spray gun should be moved evenly across the surface at a distance of about 30 – 50cm. Due to the thixotropic properties of POWERSIL® N 553 DARKGREY it is usually possible to apply the first layer with a good cover. A second layer can be applied after approximately 10-20 minutes.

A typical dry film thickness is 0.4 mm to 0.5 mm. Thus, the theoretical consumption is 0.7 kg to 0.9 kg of POWERSIL® N 553 DARKGREY per square meter of insulator surface. Take losses for overspray and cleaning of the equipment into consideration.

Rain can damage the coating. In case of rain, please protect the job site or stop application.

Full cure is obtained in 8 – 12 hours after coating application depending on thickness, temperature and humidity.

Curing of the coating releases by-products that lead to the formation of siloxanes. These may condensate at the surface, especially at low temperature and low ventilation rate. Therefore it is recommended to process the coating at a temperature above 20°C at well ventilated conditions.

All spraying equipment should be cleaned with a nonpolar solvent (e. g. Xylene or White Spirit) immediately after use.

Maintenance

The product contains migratable matter that is able to encapsulate contaminants and to provide a hydrophobic surface. Coated insulators may appear dirty after some time in service. Nevertheless, washing and cleaning, especially with detergents and other chemicals is not recommended. In case of necessity of any cleaning, we recommend using POWERSIL® Shine.

Inspection

The water repellent appearance can be evaluated by spraying with water. IEC 62073, "Guidance on the measurement of wettability of insulator surfaces" provides further information. A partly lowering of the effect does not necessarily require immediate action. Experience shows that the remaining parts of the insulator will provide the necessary insulation ability.

Physical damage, such like scratching can be easily repaired by brushing of fresh coating after partly cleaning with White Spirit.

To allow an instant replacement of broken insulators it is recommendable to store a number of coated spare insulators. These should be stored in a protective covering

Packaging and storage

Storage

The 'Best use before end' date of each batch is shown on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

POWERSIL® N 553 DARKGREY contains a combustible solvent. Explosion-proof equipment has to be used during application.

QR Code POWERSIL® N 553 DARKGREY



For technical, quality or product safety questions, please contact:

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