

CHARCOAT

CharCoat IC Insulator Coating

PRODUCT DESCRIPTION

CharCoat IC is a unique, room temperature vulcanising (RTV) silicone rubber formulation, specifically developed by CharCoat Passive Fire Protection, Mace Technologies and in collaboration with the Electric Power Research Group of the University of the Witwatersrand (South Africa), for the prevention of pollution flashover of high voltage outdoor insulation.

APPLICATION AREAS

CharCoat IC should be applied wherever pollution related flashovers of high voltage equipment insulation pose a significant threat to supply reliability. The coating of an insulator with this water repellent silicone elastomer inhibits the formation of conducting films on the insulator surface. This, in turn, ensures that dry band discharges – the critical stage in pollution flashover process – will not occur. Even in heavy pollution, an insulator coated with CharCoat IC will retain a flashover voltage significantly higher than the operational stresses.

TECHNICAL DATA

PROPERTIES	RESULT
Specific gravity @23°C	1.01 g/cm ³
Viscosity	33.8 cSt
Color	Grey / Sky Blue
Dielectric strength	@23°C 64 kV/mm
Surface resistivity	1.5 x 10 ¹³ Ω ohm
Volume resistivity	2.29 x 10 ¹³ Ωm ohm metre
Hydrophobicity	122° contact angle
Arc resistance	> 185 seconds
Tracking & erosion	> 470 minutes @ 2.5kV
Hydrophobicity recovery	After 100 hours corona test: HC6 After 48 hours: HC1-HC2
Skin over time @23°C	20 minutes



TDS

AUTHOR	SEAN RITCHIE
VERSION	3.0
PURPOSE/CHANGES	COMPANY ADDRESS
DATE PUBLISHED	FEB 2023

ADVANTAGES

The superior performance of hydrophobic silicone over other insulating materials in the most contaminated environments is well proven. What makes the silicone unique is the fact that its water repellency increases with time and that, owing to the migration of low molecular weight silanes that exist within the elastomer, these water repellent properties are imparted to contaminants which land on the surface. Leakage current activity is thus kept to a minimum and surface erosion is prevented. The CharCoat IC curing system has the benefits of not requiring any atmospheric moisture for vulcanisation to take place, the cure rate is independent of humidity, no by-products are released on curing and there is practically no shrinkage.

FEATURES AND BENEFITS

- Excellent arc resistance
- Fast hydrophobicity transfer to contaminating layers
- Fast recovery of hydrophobicity after arcing
- Resistance to damage by corona discharge
- Adhesion to glass, ceramic and resin surfaces
- Resistant to oil, ozone, various chemicals and petrols
- Ageing resistant
- 100% UV resistant
- After completion (full cure) temperature resistant down to -50°C

DIRECTION FOR USE:

Recommended conditions

1. Material and air temperature > 5°C, humidity < 80%
2. Recommended tip size for airless spraying: 0.010" – 0.012"
3. Pressure at least 6-7 bar
4. Fan width approx 15cm
5. Refer to complete application guide

PREPARATION BEFORE APPLICATION

IMPORTANT: CharCoat IC has to be stirred thoroughly before application

- All insulators to be clean and free of dust/oils/solids
- All surfaces must be primed with CharCoat IC Primer
- Catalyst must be added
- Mixing by a slow running stirrer
- Protect all areas not being coated from overspray
- Application by airless spraying or by compressor, high pressure hose and spray gun

COVERAGE RATE

1. Approx. 0.3-0.5mm dry = approx. 2.3m²/L
2. Thinning: Not required

DRYING

1. At 20°C object temperature and 65% relative
2. Touch dry: approx. 2 hours
3. Full cure: approx. Min. 24 hours

PACKAGING

- 5 Litre drums - CharCoat IC
- 5 Litre drums - CharCoat IC Primer
- Steel drums
- Other sizes on request

TRANSPORT / STORAGE

- Transport and storage free from frost preferably at a minimum of +5°C to a maximum of +30°C
- CharCoat IC: UN1866 Class 3 DG
- CharCoat IC Primer: UN1993 Class 3 DG
- Opened pails must be sealed completely

SHELF LIFE

When stored at the recommended conditions, unopened pails have a shelf life of 12 months from date of manufacture.

WARRANTY

Twelve (12) months from date of manufacture.

GENERAL INFORMATION

For safe handling information on this product, please refer to the Safety Data Sheet (SDS).

Use CharCoat IC in accordance with all applicable local and national regulation.

As regulations are often revised please request for the actual safety data sheet before using the product.

ADDITIONAL INFORMATION

DISCLAIMER:

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials used as well as to varying working conditions beyond our control we strictly recommend to carry out intensive trials to test the suitability of our products with regard to the required processes and applications. We do not accept any liability with regard to the above information or with regard to any verbal recommendation, except for cases where we are liable of gross negligence or false intention.

APPROVALS	DESCRIPTION	
BS2918	Dielectric Strength @23°C	64 kV/mm
IEC 93	Surface Resistivity	1.5 x 10 ¹³ Ω ohm
IEC 93	Volume Resistivity	2.29 x 10 ¹³ Ωm ohm metre
IEC 60273	Hydrophobicity	122° contact angle
ASTM D 495-99	Arc Resistance	> 185 seconds
ADTM D 2303-97	Tracking & Erosion	> 470 minutes @ 2.5kV
CPRI REC Spec. 76/2006	Hydrophobicity recovery	After 100 hours corona test: HC6 / After 48 hours: HC1-HC2 Wettability class: HC1 - HC6



Suite 301 – 220 Brew Street, Port Moody, BC V3H 0H6 Canada
 ☎ +1 604 941 1001 ✉ mail@CharCoat.com 🌐 www.CharCoat.com

SALES AND FRANCHISE OFFICES LOCATED IN:

AUSTRALIA/NZ | CENTRAL AMERICA | CHINA | HONG KONG | INDIA | ISRAEL | MALAYSIA | PHILIPPINES | ROMANIA | SAUDI ARABIA | THAILAND | TURKEY | USA



Disclaimer: The above data, particularly the recommendations for the application and use of Charcoat Passive Fire Protection products are based on the manufacturer's knowledge and experience. Due to different materials and conditions of application, which are beyond our control, we recommend in any case to carry out sufficient tests in order to ensure that Charcoat Passive Fire Protection products are suitable for the intended purpose and applications. Therefore, any liability for such recommendations or any oral advice is expressly excluded unless we have acted willfully or by gross negligence. It is always the responsibility of the installer / purchaser to guarantee correct preparation, DFT (Charcoat Coatings) and thickness (Charcoat Firestop Products) of all Charcoat Passive Fire Protection products. Charcoat Passive Fire Protection is not liable for installation or faulty installation. It is always the responsibility of the installer / purchaser to guarantee and certify the installation of materials.

