

Product Information

Electrical Insulation System
Impregnating Varnish

Elmotherm[®] 009-0008 Spray

Single component, anti-tracking, fungicidal varnish, suitable for transformers, motors and windings.

Product description

Elmotherm® 009-008 Spray is a single component, impregnating varnish based on a specially alkyd modified resin with long-term tank stability and a thermal rating of 180 °C.

The product consists of a polymeric binder, the so-called solid content and a solvent mixture.

Reducer X2 will be available to cleaning of the varnish.

It is designed for use in applications where high bond strength and or good moisture and chemical resistance is required.

Polymerization is initiated by the effect of atmospheric oxygen and proceeds as a rapid chain-reaction until a three-dimensionally cross linked, duroplastic cured material is produced.

The product fulfils the directive 2011/65/UE e 2002/95/CE (RoHS).

The raw materials of the product are pre-registered according to directive to CE 1907/2006 and s.m.i. (REACH).

The product does not contain polycyclic aromatic hydrocarbons and substances listed in the SVHC Candidate List.

Areas of application

Preferred applications for Elmotherm® 009-008 Spray can are

- Transformers
- Drive in the chemical industry
- Printed circuits
- General use

Properties of cured resin

The tough-hard material displays very good mechanical and dielectric properties even under high temperatures. Windings impregnated with Elmotherm® 009-008 Spray shows good bond strength. In addition, the cured material displays good resistance to the effects of liquid chemicals and their vapours. Owing to the high temperature index Of 180 °C.(acc. UL= Underwriters Laboratories USA) Elmotherm® 009-008 Spray can be used for machines in thermal class H (180°C).

Flow time (viscosity)

Elmotherm® 009-008 Spray is based on a relative low viscosity: 30-35 sec measured with the Ford 3 cup at 25 °C (ø 3 mm acc. ASTM D1200).

Processing methods

Elmotherm® 009-008 Spray is using as a finishing varnish or as impregnating varnish.

The impregnating process has to be carried out with a corresponding impregnating material.

Direction for use :

- Shake extensively before the use
- Thoroughly clean well the surface to be painted
- Implement by holding the bottle at about 25-30 cm
- Protect from sunlight and do not expose to temperature exceeding 50 °C.
- Do not pierce or burn after use
- Do not spray on naked flame or any incandescent material
- After use turn upside down, empty valve.
- To remove the exceeding varnish with acetone

Drying of the varnish will be at ambient temperature normally, time can be shortened by support of heat, for instance with hot air at 70-90 °C.

It will be necessary to follow the instructions of the Material Safety Data Sheet (MSDS) for varnish and reducer.

Storage and stability

3 years under appropriate storage conditions, protected from humidity and solar radiation.

Properties of base varnish

Property	Value	Unit
Appearance/ Colour	Liquid/yellowish	
Density at 23°C, DIN 51757	940-960	g/l
Content of binder (1g/1h/130°C), ISO 3251	40-44	%
Flow time at 21°C B4 cup	100-125	sec
Flash point	25	°C

Drying condition

Surface	23 °C	80°C
Touch-dry	5-10 min	3 min
Non slip	30 min	10 min
Fully dried	12 h	1 h

Mechanical properties in dried condition

Test criterion	Condition	Value	Unit
Bond strength, Elantas test following 61083 method (helical coil)	23 °C 155°C 180 °C	> 80 - -	N
Mandrel test (3 mm) Elantas test following 60464-3	23 °C	180	°
Adhesion on steel UNI EN ISO 2409 Double application	40 μ	100	%

Temperature Index

Test criterion	Condition	Value
Proof voltage Elantas test following IEC 60172 (twisted pair)	1000 V	185

Dielectric properties in dried condition

Test criterion	Condition	Value	Unit
Volume resistivity after water immersion Elantas test following IEC 60464 part 2	Initial value 7 d storing	>10 ¹⁶ >10 ¹⁵	Ω × cm
Volume resistivity , at elevated temperature Elantas test following IEC 60464 part 2	105 °C	>10 ¹¹ >10 ¹¹	Ω × cm
Electrical strength, after water immersion Elantas test following IEC 60464 part 2	Initial value 24 h storing	>140	KV/mm
Electrical strength, at elevated temperature Elantas test a following IEC 60464 part 2	155 °C 180 °C	> 100 > 100	KV/mm
Temperature at relative permittivity tang °= 0,1 Elantas test following IEC 60250	50 Hz 1 KHz 10 KHz	- > 170 > 180	°C

Effect of liquid chemicals, including water

Test criterion	Condition	Value	Unit
Resistance to vapour of solvents Elantas test following IEC 60464 part 2	Acetone Xylene Methanol Hexane Carbon disulphide	resistant resistant resistant resistant resistant	-
Water absorption Elantas test following IEC 62	at 23 °C 0,5 h at 100 °C	< 5 < 10	mg

Our advice in application technology given verbally, in writing and by testing corresponds to the best of our knowledge and belief, but is intended as information given without obligation, also with respect to any protective rights held by third parties. It does not relieve your own responsibility to check the products for their suitability to the purposes and processes intended. The application usage and processing of the product are beyond our reasonable control and will completely fall into your scope of responsibility. Should there nevertheless be a case of liability from our side, this will be limited to any damage to the value of the merchandise delivered by us. Naturally, we assume responsibility for the unobjectionable quality of our products, as defined in our general terms and condition

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