

# LACKTHERM<sup>®</sup>

Electrical Insulating Varnishes



Motors | Automation | Energy | Transmission & Distribution | Coatings

# LACKTHERM®

WEG electrical insulating varnishes and resins offer excellent dielectric properties, flexibility, hardness, chemical resistance, adhesion and compatibility. They are recommended for the impregnation, encapsulation and insulation of materials from the electrical, electronic, transformer, generator and motor segments.

WEG's great competitive edge is that some lines of this product meet the UL® certification and RoHS directives.



UL® is an independent American certification laboratory that has been in operation for more than a century, being reputable in the electrical market worldwide. The UL® certification guarantees that the customers will consume a product periodically inspected and analyzed by an international agency, ensuring high-tech and excellent quality products for the electrical insulation market.



## Technical Data

Product	Utilization	Color	Viscosity	Solids content	Thermal Class (°C)	Catalysis System	Curing	Polymeric Base	Dielectric Strength min. (kV/mm)	Specific Weight (g/cm³)	Diluent	Available Packaging	Certification/Directive
LACKTHERM 1303	Motors up to 50 hp, dry-type reactors and transformers (up to 480 v), solenoids and electromagnets.	Amber	15-25 s	33-37	130	Single-component	Environment	Modified polyester	60	0,89 - 0,91	SL-12	0,9L   5L   20L   200L	ROHS
LACKTHERM 1333		Amber	15-20 s	30-34	130	Single-component	Environment	Modified polyester	60	0,86 - 0,90	SL-12	0,9L   5L   20L   200L	ROHS
LACKTHERM 1334		Golden Yellow	15-25 s	34-38	130	Single-component	Environment	Modified polyester	60	0,92 - 0,98	SL-12	0,9L   5L   20L   200L	ROHS   UL
LACKTHERM 1351-50		Amber	15-25 s	34-38	155	Single-component	Environment	Modified polyester	60	0,87 - 0,91	SL-12	5L   200L	ROHS
LACKTHERM 1351		Amber	20-30 s	34-38	155	Single-component	Environment	Modified polyester	60	0,88 - 0,92	SL-12	5L   20L   200L	ROHS
LACKTHERM 1320	Protection of machined metal parts (shafts, rotors and stators)	Blue	20-30 s	10-14	155	Single-component	Environment	Ethylcellulose-based resin	-	0,90 - 0,94	SL-12	0,9L   5L   20L	ROHS
LACKTHERM 1313	Low and high voltage motors and generators, all powers ratings and hermetic ones	Amber	40-60 s	47-51	180	Single-component	Oven	Modified polyester	60	0,99 - 1,01	Lacktherm 1102	0,9L   5L   20L   200L	ROHS
LACKTHERM 1314/40	Low voltage motors and generators (up to 480 v) of all power ratings	Amber	27-33 s	36-40	180	Single-component	Oven	Modified polyester	60	0,95 - 0,99	Lacktherm 1101	0,9L   5L   20L   200L   1000L	UL
LACKTHERM 1314/40 ESP		Amber	45-55 s	36-40	180	Single-component	Oven	Modified polyester	60	1,08 - 1,12	Lacktherm 1101	20L	ROHS
LACKTHERM 1356	Motors up to 350 hp and low voltage generators, except hermetic motors	Amber	35-50 s	48-52	180	Single-component	Oven	Modified polyester	60	0,98 - 1,02	Lacktherm 1024	5L   20L   200L	ROHS
LACKTHERM 1355	Oil distribution transformers up to 300 KVA and motors up to 100 hp	Amber	18-28 s	39-43	155	Single-component	Oven	Modified polyester	60	0,93 - 0,99	Lacktherm 1101	5L   20L   200L	ROHS
LACKTHERM 1357	Hermetic motors and windings in general for high chemical resistance	Amber	25-40 s	29-33	155	Single-component	Oven	Modified polyester	60	0,93 - 0,95	Lacktherm 1024	5L	ROHS
LACKTHERM 1319/50	Small motors up to 50 hp and for household appliances	Amber	55-60 s	32-36	180	Two-component	Oven	Unsaturated Polyester	60	1,02 - 1,06	Água	200L	ROHS   UL
LACKTHERM 1319/80		Light yellow	80-100 s	34-38	180	Two-component	Oven	Polyester	60	1,01 - 1,05	Água	20L   200L	ROHS   UL
LACKTHERM 1419/38	Impregnação de motores até 350 CV	White	20-25 s	36-40	180	Single-component	Oven	Epoxy	60	1,01 - 1,05	Água	200L	ROHS
LACKTHERM 1419/48		White	90-110 s	46-50	180	Single-component	Oven	Epoxy	60	1,01 - 1,05	Água	200L	ROHS
LACKTHERM 1317/25	Motors and small transformers and Rotors for high-speed household appliances (drills, sanders and stators in general)	Amber	15-25 s	-	180	Two-component	Oven	Unsaturated Polyester	60	1,03 - 1,07	Lacktherm 1105	18L	ROHS   REACH   UL
LACKTHERM 1317/90		Amber	85-95 cP	-	180	Two-component	Oven	Unsaturated Polyester	60	1,04 - 1,08	Lacktherm 1105	5kg   20kg	ROHS   REACH   UL
LACKTHERM 1317/120	Low voltage motors (up to 480 v) of all power ratings	Amber	120-140 cP	-	180	Two-component	Oven	Unsaturated Polyester	60	1,04 - 1,08	Lacktherm 1105	5L   20L   200L   600L	ROHS   REACH   UL
LACKTHERM 1317/350	Generator motors of all power ratings (low, medium and high voltage)	Amber	300-350 cP	-	180	Two-component	Oven	Unsaturated Polyester	60	1,05 - 1,09	Lacktherm 1105	20L   200L	ROHS   REACH   UL
LACKTHERM 1317/500		Amber	480-520 cP	-	180	Two-component	Oven	Unsaturated Polyester	60	1,05 - 1,09	Lacktherm 1105	20L   200L	ROHS   REACH   UL
LACKTHERM 1369	Lamp ballasts	White	125-145 s	-	180	Two-component	Oven	Unsaturated Polyester	60	1,40 - 1,60	Lacktherm 1105	18L	ROHS   REACH   UL
LACKTHERM 1323	High-speed rotors, fiberglass-covered wires and windings in general	Amber	500-800 cP	100	155	Single-component	Oven	Epoxy	60	1,09 - 1,13	-	5kg   20kg   200L	ROHS
LACKTHERM 1400	Encapsulation of salient poles rotors	Beige	30000-50000 cP	100	155	Single-component	Oven	Epoxy	60	1,40 - 1,60	-	20kg	ROHS
LACKTHERM 1326	Filling of motor terminal boxes, encapsulation of electrical components in general	Green	Thixotropic	100	180	Two-component	Oven	Unsaturated Polyester	60	1,40 - 1,60	Lacktherm 1105	15L	ROHS
LACKTHERM 1329	For balancing rotors and fans in general	Green	Thixotropic	100	180	Two-component	Environment	Epoxy	60	2,25 - 2,35	-	2kg	ROHS
LACKTHERM 1364	Bonding for insulation with mica/Fiberglass tape	Light yellow	700-1300 cP	100	180	Two-component	Environment	Epoxy	60	1,12 - 1,16	-	210L	ROHS
LACKTHERM 1366	Encapsulation of electrical components in general and winding finishing	Light yellow	10000-20000 cP	100	180	Two-component	Environment	Epoxy	60	1,12 - 1,16	-	0,7L	ROHS
LACKTHERM 1380	Encapsulation of electromagnet or brake motors	Red	32000-80000 cP	100	180	Two-component	Environment	Epoxy	60	1,60 - 1,66	-	1kg   4kg	ROHS
LACKTHERM 1390	Large electric equipment requiring high resistance to thermal cycling	Grayish White		100	180	Two-component	Environment	Epoxy	60	1,30 - 1,60	-	2,6kg	ROHS
LACKTHERM 1317/50	Stators and Rotors for high-speed motors (automotive line and power tools in general)	Amber	40-70 cP	-	180	Single-component	Oven	Unsaturated Polyester	60	1,04 - 1,08	Lacktherm 1105	20L	ROHS   REACH
LACKTHERM 1317/95		Amber	80-100 cP	-	180	Two-component	Oven	Unsaturated Polyester	60	1,04 - 1,08	Lacktherm 1105	20L	ROHS   REACH
LACKTHERM 1317/250		Amber	280-320 cP	-	180	Single-component	Oven	Unsaturated Polyester	60	1,04 - 1,08	Lacktherm 1105	20L	ROHS   REACH
LACKTHERM 1413	Epoxy resin for impregnation of systems via infusion process	Light yellow	Thixotropic	100	180	Two-component	Oven	Epoxy	60	1,16 - 1,20	-	20L	ROHS

## Air Drying Varnish

This line is recommended for application in small motors and transformers. Motors up to 50 hp, dry-type reactors and transformers (up to 480 v), solenoids and electromagnets. It is a modified polyester polymer-based product that has a short curing time, optimizing the production process and reducing energy consumption.

## Oven-Cured Varnish

The products stand out for their stability in tanks due to their versatility in application on motors, generators and transformers with different voltages and power ratings. With a modified polyester polymerIC base, they offer high weather resistance, high performance and excellent electrical properties. The line has the advantage of having solubilization in solvents from a renewable source.

## Water-Soluble Varnish

Polyester and epoxy based impregnation varnish. They are products with low emission of solvents (VOC) in the environment. They also have high chemical resistance, excellent thermal and electrical properties. A great advantage is that the material is classified as non-flammable and does not make an environment hazardous. Recommended to impregnate small Motors for household appliances and motors up to 50 hp on Polyester base. On epoxy base, application is recommended on motors up to 350 hp.

## Unsaturated Imidic Polyester Resin

Its use is recommended on machines that need high chemical, mechanical, thermal and humidity resistance. With high power of agglutination and high solids, it reduces the emission of organic materials into the environment. Its lines comprise single-component and two-component materials, which can be adapted for better application in the field. Its products are considered non-flammable and are diluted in styrene or vinyl toluene, in compliance with REACH.

## Modified Epoxy and Epoxy Resin

They have excellent resistance to chemical agents, hardness, thermal and electrical resistance. Good thermal conductivity and low expansion are advantages of the line, with options that meet flame resistance and no VOC emmissions. They have excellent final performance, being a robust solution for large equipment and fixation or finishing of electrical machines. They can be used to encapsulate general electrical components and to finish windings, to encapsulate electromagnet or brake motors, among others.

For WEG's worldwide  
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