

LACKTHERM[®]

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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The values are subject to change without prior notice.

The information contained is reference values.