LISA -1®

Composition

Water born oven-drying impregnating varnish based on modified alkyd resin. May be diluted with deionized water.

Application

Environmentally compatible with no pollution during the drying process due to the absence of organic solvents.

Penetrates easily the deepness of the windings and electrical insulation, producing a very good consolidation.

The resulting film is flexible and resistant to atmospheric and chemical agents, when dried at 120°C minimum.

LISA-1 is used as impregnating varnish for motor coils that permit oven drying at temperatures between 120 and 150°C.

LISA-1 is designed for dipping process application. This varnish may be diluted by deionized water.

Thermal rating class:

European standard: F – 155 °C

American standard: H – 180 °C

UL – Information

LISA-1 is listed by Underwriters Laboratories (UL) as a class H (180 °C) varnish – file: E254955.

Availability

Delivered in plastic barrels of different capacities.

Storage

Maximum 6 months, if stored in closed and ventilated places, kept away from heat sources and frost, at temperatures between +10 and +30 °C. Sensitive to frost!

Security Measures

During manipulation of the product, a protection glove has to be used.

LISA-1®

technical data

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| --- | --- | --- | --- |
| Properties | Norm | Unit | Value |
| **VARNISH** |  |  |  |
| Aspect | - | - | white, emulsified liquid |
| Density, 25 °C | - | g/cm³ | 1,06 ±0,04 |
| Non-volatile substances content,  1g / 1h / 130 °C | IEC 60464-2 | % | 35 ±5 |
| pH | - | - | 7 – 8 |
| Viscosity, DIN cup Ø 4, at 20 °C | IEC 60464-2 | sec | 20 ±5 |
| Dilution / with deionized water (\*) | - | - | unlimited |
| Flash point | IEC 60464-2 | °C | >95 |
| Thin layer drying at 155 ±2 °C | IEC 60464-2 | h | 1,5 |
| **VARNISH FILM** |  |  |  |
| Film aspect | IEC 60464-2 | - | transparent, smooth |
| Flexibility on Ø 3 mm mandrel at 23 °C | IEC 60464-2 | - | Without fissures |
| Baking index at 23 ±2 °C  Baking index at 155 ±2 °C | IEC 60464-2 | - | 8  1,5 |
| Electric strength:  - at 23 ±2 °C, 50 ±2 % r. h., min.  - after 96 hours at 23 ±2 °C, 92 ±2 % r.h., min.  - at 155 ±2 °C, min. | IEC 60464-2 | Kv/mm | 100  85  80 |
| Volume resistance:  - at 23 ±2 °C, 50 ±2 % r.h., min.  - at 155 ±2 °C, min.  - after 96 hours in distilled water, min. | IEC 60464-2 | Ω×m | 1012  1010  1012 |
| Adherence: - primary state  - after 96 hours in water | SR ISO 2409 |  | No exfoliation  No exfoliation |
| Bond strength, helical coil test | IEC 1033 | N | 194 |
| Varnish action on copper | - | - | No changes |
| Temperature index, °C | ASTM D-3251 | - | 180 |

(\*) End-users may dilute this varnish with drinkable water having max. hardness 20 °d.