

Data sheet:

Synthite AC-43 Air drying varnish

Designation **Synthite ER-43 Air drying varnish**
Solvent Borne Polyester Air-Drying Enamel CLEAR

DESCRIPTION

Synthite AC-43 is a clear, air drying electrical insulation varnish on basis of modified polyester and resistant to high temperatures, suitable for class H. It produces a film of excellent hardness and flexibility. It dries very quickly in the air, and even shorter drying times can be achieved with short oven drying times.

PROPERTIES

Synthite AC-43 has the following excellent properties:

- UL-approved
- very fast air drying
- excellent chemical resistance
- solderable
- excellent adhesion
- good penetration
- transformer oil resistance ASTM D 155-55
- corrosion and humidity resistance

CHARACTERISTICS

Physical properties	
Color	clear
Specific gravity @ 25oC	900±30 g/L
Viscosity, ISO Cup 4 @ 25oC	50-70 seconds
Viscosity, Ford Cup 4 @ 25°C	18-24 seconds
Build, DFT (ASTM D-115)	0.075 - 0.100mm
Corrosive effect on copper	None
Air-drying time on copper strip set to touch	Time to touch: 10 min

Electrical properties	
Electric strength, (dry / 0.025 mm film Thickness) ASTM D-115	80 kV/mm
Electric strength, 24 hours in water/ 0.025 mm film thickness (ASTM D-115)	48 kV/mm
Creep resistance CTI (IEC 60112)	600M

Chemical resistance

(ISO 2812 method 2, 168-hour exposure and on dried film thicknesses of 40 µm. Drying: 24h @ RT + 24h @ 60°C),

	Blistering	Rusting	Cracking	Test method
Salt water	no	no	no	ISO 4628/2-3-4
Water	no	no	no	ISO 4628/2-3-4
10 % sulfuric acid	no	no	no	ISO 4628/2-3-4
1 % NaOH dilution	no	no	no	ISO 4628/2-3-4
IEC 60296 transformer oil IEC 60296, ASTM D 115-55			Test OK	ASTM D 115-55
Corrosion resistance (salt fog)		hours	200	ISO 9227
Humidity resistance		hours	72	ISO 6270

Thermal class (UL 1446 FILE)

Twisted pairs, MW28C magnet wire	130°C
Twisted pairs, MW24C magnet wire	155°C
Twisted pairs, MW35C magnet wire	180°C

APPLICATION

Typical applications for Synthite AC-43 are:

- stators
- printed circuit boards
- form wound coils
- resistors
- transformers
- capacitors

STORAGE

Synthite AC-43 can be stored at room temperature and in closed containers for up to 36 months (max. 30 °C). The varnish has to be stored in cold, dry places, protected against direct sunlight.

PROCESSING.

Synthite AC-43 may be applied by dipping, brushing or spraying as supplied.

For fast conveyor application, the following cycle is recommended:

1. Preheat units for 10 min. at 110 °C
2. Dip into the varnish for 30 sec.
3. Drain 10-20 min.
4. Bake 60-90 min. at 110 °C

For this type of cycle Synthite AC43 should be diluted 10-15 % with Dolph's® T-200 thinner.

HARDENING

Air drying time (on copper plate):

10 min. - set to touch

Baking of 20-30 min. at 150 °C will provide a film with optimum toughness and bond strength.

COMPATIBILITY WITH WIRE COATINGS

SYNTHITE AC-43 varnish is compatible with the following enamelled wires:

Polyvinyl formal

Polyamide

Polymer

Polyvinyl Formal-Polyamide

Polyurethane

Epoxy

Polyester

Polyester-Amide Imide

Amide-Imide

Glass-coated yarn

Polyurethane-Polyamide

PRECAUTIONS FOR USE

Use in well-ventilated area, avoid contact with skin and eyes and wear protective clothes. Please observe the safety data sheet.

Liability

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