



TECHNICAL BULLETIN
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PRODUCT INFORMATION

ULTIMEG 2050RR

SOLVENTLESS EPOXY
SINGLE COMPONENT
LOW TEMPERATURE CURE
NO VOC
GOOD THERMAL CONDUCTIVITY
CLASS H (180°C)

ULTIMEG 2050RR EPOXY TRICKLE FILLING RESIN

GENERAL DESCRIPTION

ULTIMEG 2050RR is a rapid repair one-part fast curing epoxy resin that is trickle impregnated onto windings giving high bond strength working up to 180°C. The material is stable, off the shelf, and is ready for use in quick repair application. It has a controlled viscosity to facilitate application from easy to use dispensing bottles for non-flammable and virtually zero VOC processing. A thin stream of the material applied to the hot rotating winding impregnates by capillary action to give complete fill and fast cure at lower temperature with no drainage. This film when cured has exceptionally good mechanical, chemical and thermal properties and is also suitable for hermetic and Freon resistant equipment. The complete fill of the winding gives improved heat transfer again extending the life of the component.

APPLICATION

The product is a stable, fast curing and ready for use resin filled in its unique packaging to offer easy processing for quick repair application on small and medium windings. Cured resin gives high bond strength and excellent chemical resistance to electrical equipment.

SPECIFICATION:

VISCOSITY Brookfield at 25°C	10000- 15000 mPa
NON-VOLATILE CONTENT	100% reactive polymer
SPECIFIC GRAVITY	1.20 - 1.24
COLOUR	white
FLASHPOINT	not applicable
SHELF LIFE	9 months at 20°C

NOTE: Due to the introduction of improvements from time to time the right is reserved to supply products that may differ slightly from those illustrated or described in this publication.

Email: aev@aev.co.uk
www.aev.co.uk

AEV Ltd,
Marion Street, Birkenhead,
Wirral. U.K CH41 6LT
Tel: ++ 44 (0) 151 647 3322
Fax: ++ 44 (0) 151 647 3377



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PROCESSING

METHOD	-	trickle application
VISCOSITY	-	As supplied

WORKSHOP PRACTICE

When trickling onto hot windings, ensure adequate ventilation. See material safety data sheet.

The system is a stable ready to use product, designed to trickle onto preheated windings at around 100-120°C and above. At these temperatures the material has a controlled rheology that ensures the full impregnation into the winding followed by fast gelation and cure without additional drainage.

The product is filled in a 1/2kg bottle, especially designed to dispense the resin in a controlled flow.

Typical impregnation:

1. Preheat the component up to 100-120°C. The temperature required here will vary depending on component size and slot length!
2. Remove the stator from oven and place it in a vertical position.
3. Trickle the 2050RR directly into the windings, controlling the flow and impregnation to ensure all areas have been covered and resin has been sucked down into the slots.
4. Invert the component and repeat trickle process to ensure full impregnation.
5. On larger stators, the recommended preheat temperature should be lower to allow the resin to impregnate the longer slots before gelling.

It will be necessary to optimise processing to determine the best process parameters and temperature of application. This will be dependent on the size and design of the component. Depending on application, component temperature is more likely to drop and it will be necessary to place it back in the oven to ensure full cure! (See cure schedule for info)

The 2050RR is a stable product, but storage at temperatures above room temperature has an adverse effect on the stability of the product and storage times can be increased by storage at temperatures between 15-18°C.

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CURE SCHEDULE

Typical cure schedules for small open static windings are shown below. (Temperatures are those of components).

OVEN

TIME (minutes)	30	20
TEMPERATURE (°C)	120	130

Infrared lamp or Induction heating can be used to achieve rapid cure times to allow for fast processing.

CURRENT HEATING

TIME (minutes)	15	10-15	7-10	5-7
TEMPERATURE (°C)	120	130	140	150

PROPERTIES OF CURED VARNISH (Estimated)

Shore D hardness	DIN 53505	90
Deflection temperature	IEC1006	120°C
Bond strength	IEC1033	23°C >400N
	Twisted coil	155°C 70N
Elongation at break	ISO 527	<0.5 %
Thermal Conductivity	ISO 8894-1	0.4 W/M/K
Dielectric strength	IEC 243-1	>200 kV/cm.
Dielectric constant	IEC 250	3.9 @ 50Hz
Volume resistivity	IEC 93	> 10 ¹³ ohm/cm ³
CTI	IEC 112	>550V

HEALTH & SAFETY

Refer to Material Safety Data Sheet available.

PACKAGING

½ kg dispensing bottles

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