Qualities that Bond

TECHNICAL BULLETIN

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PRODUCT INFORMATION

ULTIMEG 2020HV
2 PART EPOXIDE
AMBIENT CURED
TRICKLE IMPREGNATION
CLASS H (180°C)

ULTIMEG 2020HV TWO PART EPOXY TRICKLE RESIN

GENERAL DESCRIPTION

Ultimeg 2020HV is a two-component epoxide resin that features high bond strength at all temperatures up to 180°C Class H. The system is applied by trickle methods at ambient or slightly elevated temperatures to give penetration and fill of the winding whilst allowing development of high build around the winding. The cured films have excellent electrical properties together with resistance to atmospheric moisture and chemical attack.

APPLICATION

For trickle impregnating of motor armature and stators together with the encapsulation, sealing and potting of small electronic and electrical components.

SPECIFICATION

PROPERTIES OF THE BASE -

Viscosity @ 25°C	cPs	10000- 12000
Specific gravity		1.16 – 1.20
Appearance		clear

PROPERTIES OF THE HARDENER -

Viscosity @ 25°C	cPs	50
Specific gravity		0.98 - 1.00
Appearance		Clear liquid

PROPERTIES OF THE MIXTURE -

Mix ratio base: hardener		4.8:1 pbw 4:1 pbv
Viscosity @ 25°C	cPs	1200- 1800
Specific gravity		1.13 – 1.17
Gel time	100gram at 25°C	65min
Usable life 500 grams mass		20 minutes

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WORKSHOP PRACTICE

Most problems occur with 2 part systems due to the failure to mix correctly. The following procedure is recommended: -

The stirring process should scrape the bottom and the sides of the container and be sufficient to ensure there are no dead areas of unmixed material but should also be a relatively slow process stirring a horizontal circular motion so that minimal air is included into the mix. The base and hardener can be measure out by weight, volume or by using all of the pre-weighed kit, but is should be noted the usable life of the mixture decreases as the weight of the mix increases. Ensure the base and hardener are mixed thoroughly using the minimal air inclusion method described previously. This mixing process can take up to 4-5 minutes, and it is recommended that, if the usable life allows, extra time is spent mixing at this stage where failure to mix is most frequent.
For non-rotational and rotational or trickle impregnating of motor armature and stators, the component to be treated is normally processed at a temperature of 60-80°C although this temperature can be varied according to component size.
2020 Mixture is slowly poured on to the heated component, and gelation takes place whilst impregnation is in progress.
In order to develop maximum properties is recommended that the U2020HV be warmed to 50°C. Heat cured samples will exhibit a superior appearance as the material can have a slight surface tack unless it is warmed whilst it is allowed to cure.

CURE SCHEDULE

24 hours @ 25°C
6 hours @ 50°C

PACKAGING
1kg, and 5 kg kit

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PROPERTIES OF CURED COMPOUND

Shore D hardness	DIN 53505	88
Thermal Class	ASTM D2307/20,000hrs	180°C
Deflection temperature	IEC1006	120°C
Tensile strength	ISO 527	75 N/mm2
Elongation at break	ISO 527	2%
Thermal Conductivity	ISO 8894-1	0.22 W/M/K
Dielectric strength	IEC 243	240 kV/cm.
Dielectric constant	IEC 250	4.2 @ 50Hz
Volume resistivity	IEC 93	$> 10^{13}$ ohm/cm
CTI	IEC 112	>550V

STORAGE

24 months shelf life, stored between 10°C and 30°C.

HEALTH & SAFETY

See relevant Material Safety Data Sheet.

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