ELANTAS
Electrical Insulation

Product Information

Epoxylite® 006-0841

Impregnating Resin

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Epoxylite® 006-0841

Description:

Epoxylite® 006-0841 is a solventless, low viscosity, Class H, single component epoxy resin system, with excellent long term, proven, tank stability.

Epoxylite® 006-0841 has excellent dielectric strength, water / chemical resistance and good loss tangent characteristics at temperature, these features combine to make it suitable for use in machines operating in the most demanding of environments.

Application:

Epoxylite® 006-0841 is suitable for Global Vacuum Pressure Impregnation (VPI) of form wound electrical machines up to and including 13.8kV, as well as armatures and other wound rotating components.

Processing:

It is advantageous to process Epoxylite® 006-0841 at ambient temperature as exposure to elevated temperatures will shorten the life of the resin, however if component pre-heating is required, for example in the impregnation of high voltage machines then 30-35°C would provide the optimum temperature range.

When using Epoxylite® 006-0841, care should be taken to ensure that the resin is not exposed to components with surface temperatures in excess of 40°C and that the resin stock tank contents does not exceed 25°C.

Development of bond strength is a function of curing temperature and time. For applications where high mechanical strength is required from the impregnant, a cure temperature of 160-170°C as measured on the component, is the optimum..

For a more complete guide to the processing of components and machines in Epoxylite® 006-0841 please refer to the separate processing data sheet for this product.

Containers of Epoxylite® 006-0841 should be stored in a cool place away from direct sunlight or other heat sources.

Maintenance of Resin:

The viscosity and gel-time of Epoxylite® 006-0841 in tanks should be regularly monitored and maintained within the recommended limits.

A Tank Sample Testing service is available from ELANTAS UK on request.

Properties:

Appearance	Clear amber liquid	
Viscosity	650 - 800	mPas @ 25ºC
Specific Gravity	1.14	g / cm³
Mix Ratio	Single component	p.b.w.
Mix Ratio	Single component	p.b.v.
Gelation Time	3 - 6 minutes	@ 160ºC
Cure Schedule	6 - 12 hours	@ 165ºC
Flash Point	> 100	º C

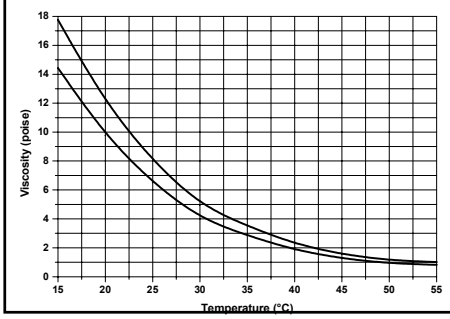
Epoxylite® 006-0841

TYPICAL PROPERTIES

- ❑ GENERAL DATA
- ❑ VISCOSITY/TEMPERATURE
- ❑ CURE SCHEDULES
- ❑ BOND STRENGTH
- ❑ DIELECTRIC STRENGTH
- ❑ LOSS TANGENT
- ❑ OTHER INFORMATION

GENERAL DATA

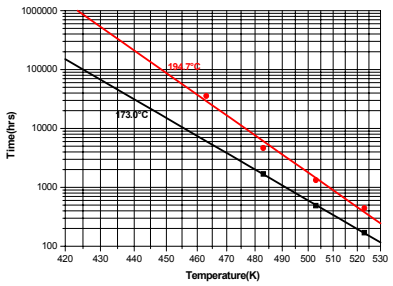
TRACKING INDEX	(IEC 60455-2 (1977))	>600 volts
H.D.T.	(ISO 75)	100°C
FLASH POINT	(Abel Closed Cup)	>100°C
GLASS TRANSITION	(PERKIN-ELMER DSC7)	101-104°C



VISCOSITY / TEMPERATURE

This graph shows the resin's viscosity characteristic. The viscosity can be substantially reduced by increasing the temperature, thus allowing the resin access to difficult windings.
For High Voltage windings it is recommended that the viscosity is reduced to 3-5 poise (approx 35°C).
However heating above 40°C is NOT recommended.

THERMAL ENDURANCE



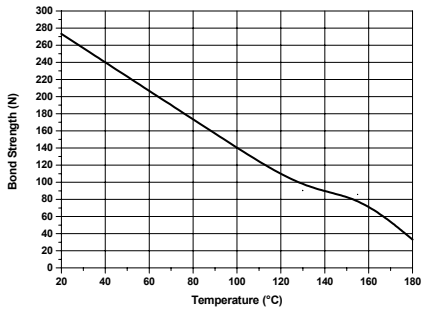
Thermal Endurance has been carried out on Helical Coils & Twisted Pairs to ASTM D3145 and D3251 respectively (as recognised by Underwriters Laboratories).
The results, with a 200°C grade wire enamel (MW35 type), show a Thermal Index of 187.9°C and 194.7°C respectively.

BOND STRENGTH

This graph shows the effect of operating temperature on the Bond Strength of Epoxylite® 006-0841.

The cure regime employed to obtain these figures was 16 hours @ 160°C

(Helical Coil Bond Strength according ASTM D2519 using mw-35 type wire)



OTHER INFORMATION

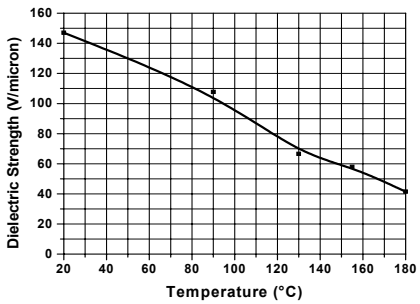
Tank Maintenance - Tanks should be regularly checked for viscosity and gel time deviations - A tank maintenance service is available on request.
Epoxylite® 006-0841 is only one of **ELANTAS UK'S** range of storage stable, one-part heat cured Epoxy resins, designed for the impregnation of Random and form Wound Machines.

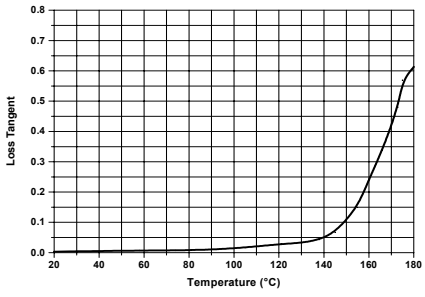
For applications where even higher film builds are necessary then our higher viscosity, thixotropic **Epoxylite® 006-0839** should be employed or for traction units **Epoxylite® 006-3221**.

For further information on these variants contact the ELANTAS UK Technical Sales department.

DIELECTRIC STRENGTH

The dielectric breakdown strength was measured on a 50 micron film on Aluminium Panels according to IEC 60464-2, using a controlled rate of voltage rise of 500V/sec at 50 Hz.
The results show that the resin system retains the breakdown properties across its required temperature range.





LOSS TANGENT

Loss Tangent has been determined to IEC 60455-2 (1977) @ 50 Hz. The graph shows the ultimate properties of the resin under ideal cure conditions. The properties of the complete insulation system will be dependent on both the resin and the other insulations used.