ELANTAS
Electrical Insulation

Electronics & Engineering Materials

Product Information
Elan-tron® MC62/W363

2-component Flame Retardant, Room Temperature curing epoxy system

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Product Description

Two component filled epoxy system, fluid. Self-extinguishing. The system is free from halogens and solvents.

Features of the system

- Good electrical and mechanical properties.
- Low shrinkage
- Good heat dissipation
- Suitable for immersion in sea water.
- The system is UL 94 V-0 listed (File E116643). UL listed system for CTI, HAI, HWI, GWIT, GWFI (File E116643).
- RoHS compliant (European directive 2002/95/EC).
- fulfills the requirements of UNI-CEI 11170-3 "Protection towards fire of rail-tramvehicles".

Areas of Application

The preferred applications for this series are via the encapsulation of:

- Transformers
- Igniters
- Submersible pumps
- Elnoise filters

Processing

Manual casting. Under vacuum casting. Room temperature curing. In pre-filled products it is good practice to check and carefully re-homogenize the material if some settling is present. Add the appropriate quantity of hardener to the resin, mix carefully.

Processing cont.

Avoid air trapping. For some applications it can be useful to pre-heat the components and/or carry out a de-aeration step under vacuum of the mixture before casting.

For a room temperature curing system post-curing allows fast stabilization of the material and obtainment of the best electrical and mechanical properties. During the curing process it is advisable to avoid thermal variations higher than 10°C/hour.

Mix Ratio (by weight) 100:13
Mix Ratio (by Volume) 100:23

Health & Safety

Refer to Elantas Malaysia Material Safety Data Sheet (MSDS) for MC62 & W363.

Shelf life / Storage

Filled epoxy resins and relative hardeners can be stored for one year and two years respectively, in the original sealed containers, stored in a cool, dry place. After that period or if the material has been stored in anomalous conditions, pre-filled resins can be settled down and their use is possible, only if they are accurately re-homogenized with the help, if necessary, of a mechanical mixer. The hardeners are moisture sensitive therefore it is good practice to close the vessel immediately after each use. Long storage may cause filler settling mix the components before use.

Properties of the System as Supplied

	RESIN	HARDENER
VISCOSITY @ 25°C	9000-13000 CPS	10-30 CPS
DENSITY	1.68-1.72 g/ml	0.96 - 1.01 g/mil
GEL TIME @ 25°C (100ml)	52-62 MINUTES	

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Mixed viscosity Brookfield	25°C	1400– 2200 centipoises
	40°C	800– 1100 centipoises
Exothermic Peak	（50mm;200ml)	100-115ºC
Gel time @ 25°C	(15ml，6mm)	2.5—3.5 hours
	40°C (15ml，6mm)	1.0—2.0 hours
	50°C (15ml，6mm)	50—70 min
Demoulding time @ 25°C (15ml，6mm)		8—10 hours
Pot life (time to double viscosity)	25°C	35-45 min
	40°C	15-25 min
Pot Life	（50mm;200ml)	25—35 min
Post curing		60ºC for 15hours
Recommended thickness		25—30 mm

Cured system Properties （cure time 24H TA + 15H 60º C）

PROPERTY		DATA
Density 25°C		1.61-1.62
Hardness	Shore D/15	85 - 90
Glass transition (Tg)°C	1h 50ºC+ 2h 70ºC	53 - 58
	1h 50ºC+ 2h 70ºC	60 - 67
Linear thermal Expansion	(Tg –10°C)	35 - 45 10^{-6}/ºC
	(Tg +10°C)	120 - 130 10^{-6}/ºC
Water Absorption	RT 24H	0.20%-0.30%
	2 hours @ 100ºC	0.9%-1.1%
Max recommended operating temperature		155ºC
Thermal conductivity	W/(m°K)	0.85-0.95
Thermal Shock（10 cycles）	(insert olyphant)	-55ºC to 180ºC
Dielectric constant 25ºC		4.0—5.0
Loss Factor 25ºC		30-50 ×10^{-3}
Dielectric Strength 25ºC		21—24kV/mm
FLAMMABILITY (UL94 V-0)		V-0 @ 4MM
ELONGATION AT BREAK		1.0-.2.0%