ELANTAS
Electrical Insulation

Product Information

Casting Compound

Elan-tron®

PU 4257 LV FR M / PH 4900 100:22

Hard polyurethane, low viscosity, UL recognized (UL 94 class V0)

Product Description

Elan-tron® PU 4257 LV FR M with Hardener Elan-tron® PH 4900 produces a medium hard casting compound with good resistance against water, chemicals, transformer oil, heating oil and fuel.

The system meets the requirement of ROHS.

Areas of Application

Elan-tron® PU 4257 LV FR M is specially suitable for hand casting of small transformers when self extinguishing properties are required. Long pot life and low working viscosity allow bubble-free potting particularly for hand application. Machine potting is of course also possible. Elan-tron PU 4257 LV FR M with Hardener Elan-tron PH 4900 meets the UL 94 V0 standard at 2mm thickness of the test piece (File E 140 720) for “all colour recognition”.

Properties of the Insulating Material

- Medium hard casting compound

- Low Shrinkage

- Low processing viscosity

- Self-extinguishing to UL 94 V0

- UL Approved (File 140 720)

- Good dielectric properties

- Good resistance to chemicals, oil and hydrolysis

- Good adhesion

- Insulating Material Class B (130°C)

Processing Methods

Preparation of components: The components to be potted should be clean dry and free from grease. Compatibility between the resin and all materials of the component should be checked prior to use.

Preparation of Material: Elan-tron® PU 4257 LV FR M contains filler materials which tend to settle and must be stirred in the original container to restore the original homogenous composition before processing.

Mixing: Elan-tron® PU 4257 LV FR M with the Hardener Elan-tron® PH 4900 should be mixed in the prescribed ratio. After intensive stirring or mixing the compound is ready for use. During mixing, care should be taken to avoid including air

Application: Elan-tron® PU 4257 LV FR M/ Elan-tron® PH 4900 can be applied either manually or with suitable mixing and dosing equipment. An accelerator can be pre-mixed to reduce curing time.

Curing conditions:

- at Room Temperature 8-10 h
- at 90°C 1-1.5 h

PU compounds cured at Room temperature should not be subjected to mechanical or electrical loads or tests for 3-4 days to allow full development of cured properties. To reduce this time post curing at 80°C for 12 to 16 hours will complete the curing.

Storage:

Containers filled with Elan-tron® PU 4257 LV FR M and Elan-tron® PH 4900 can be stored in closed containers to protect the material against humidity for at least 6 months. The shelf life is indicated on the label of the containers supplied.
Opened containers of the Hardener Elan-tron ® PH 4900 should be used up as soon as possible because moisture in air reduces reactivity. The Hardener Elan-tron ® PH 4900 might form crystals at temperatures below 5°C. Heating the entire conents of the drum for a short time to 70 °C will recover the complete liquid state.

System Specifications

Property	Condition	Resin	Hardener	Units
Viscosity DIN 53019	25°C	2400 ± 400	110 ± 30	mPa*s
Density DIN EN ISO 2811-2	20°C	1.66 ± 0.05	1.23 ± 0.05	g/cm^3
Shelf Life	23°C	6	6	months

Typical System Characteristics

Property	Condition	Value	Units
Color resin		grey	
Color hardener		brown transparent	
Viscosity IO-10-50 resin	25°C	6000/2300	mPa*s (0,17/1,7 sec^{-1})
Viscosity IO-10-50 hardener	25°C	-/140	mPa*s (0,17/1,7 sec^{-1})
Mix Ratio by weight (resin : hardener)		100:22	Parts by weight
Mix Viscosity DIN 53019	25°C	950	mPa*s
Process time (15 ml mixed volume)	23°C	120	min

Typical Cured System Characteristic (Post cure before measurement 24h/23°C + 16h/80°C)

Property	Condition	Value	Units
Thermal Conductivity DIN 52613		0,65	W/m*K
Glass transition temperature IEC 61006		30	°C
Thermal index IEC 216 flexural strength	% weight loss	136	°C
Linear coefficient of expansion Beck Test M 56	above tg	-	K^{-1}
Specific Gravity DIN 16945	20°C	1.58 ± 0.02	g/cm^3
Hardness ISO 868		83 ± 7	Shore D
Tensile Strength DIN 53455/457		14	MPa
Bending Strength		13	MPa
Volume resistivity IEC 60455 Part 2	23°C 50 % rh 23°C (7 d storage in water)	10^{15} -	Ω*cm Ω*cm
Dielectric Constant ε_r IEC 60250	23°C / 50 Hz 23°C / 1K Hz	4.2 -	
Dielectric Strength IEC 60250	23°C 50% rh 23°C (7 d storage in water)	26 -	kV/mm kV/mm
Dissipation factor tan-δ IEC 60250	50Hz, 23°C, 50% rh 1 KHz 23°C, 50% rh 1MHz,23°C, 50% rh	0.03 - -	
Dissipation factor tan-δ IEC 60250 7 days storage in water	50Hz, 23°C, 50% rh 1 KHz 23°C, 50% rh 1MHz,23°C, 50% rh	- - -	
Tracking resistance IEC 60112		-	CTI
Water absorption ISO 62	24h RT	0.4	%

Sales office North :

ELANTAS UK Ltd
Keate House
1 Scholar Green Road
Cobra Court
Manchester M32 0TR
United Kingdom
Tel +44 161 848 8411
Fax +44 161 848 0966
sales.elantas.uk@altana.com
www.elantas.com

Sales office Central :

ELANTAS Beck GmbH
Grossmannstr. 105
20539 Hamburg
Germany
Tel +49 40 78946 0
Fax +49 40 78946 349
info.elantas.beck@altana.com
www.elantas.com

Sales office South :

ELANTAS Camattini S.p.A.
Strada Antolini n°1 loc. Lemignano
43044 Collecchio (PR)
Italy
Tel +39 0521 304711
Fax +39 0521 804410
info.elantas.camattini@altana.com
www.elantas.com

Producer: ELANTAS Beck GmbH, Großmannstraße 105, D-20539 Hamburg
www.elantas.com