EN

Product Information

Elan-tron®
MC 4260/W 4260 100:10
(Epoxylite ® EIP 4260 RESIN/Epoxylite ® EIP 4260 HARDENER)

2-component epoxy potting compound

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ELANTAS Electrical Insulation

Resin	Hardener	Mixing ratio by weight
MC 4260	**W 4260**	**100:10**

Application: Encapsulation of conventional electrical motors, linear motors and transformers. Excellent thermal cycling characteristics ensure service performance in applications requiring large bulk castings.

Processing: Manual and/or automatic casting. Under vacuum casting with automatic mixing/dispensing devices. Room temperature or moderate temperature curing. The long pot life of the system allows the pre-heating of the parts to be casted to facilitate the impregnation of complex components.

Description: Two component epoxy system filled with abrasive fillers, self-extinguishing, thermal class H (180° C). Low viscosity. High impregnation properties.
Low exothermic peak. Good electrical and mechanical properties. Good heat dissipation. The system is UL 94 HB and listed (File E143115 and E116643). The system is RoHS conform (European directive 2002/95/EC).

SYSTEM SPECIFICATIONS

Resin					
Density at:	25°C	IO-10-51 (ASTM D 1475)	g/ml	1,80	1,85
Viscosity at:	50°C	IO-10-50 (EN13702-2)	mPas	2.500	5.500
Hardener					
FTIR spectrum (correlation factor)		IO-10-75		0,990	1,000
Gelation time	80°C	IO-10-52b (UNI 8701)	min	15	25

TYPICAL SYSTEM CHARACTERISTICS

Processing Data					
Mixing ratio by weight		for 100 g resin	g	100:10	
Mixing ratio by volume		for 100 ml resin	ml	100:18	
Resin Colour				Black	
Hardener Colour				Neutral	
Viscosity at: 25°C Resin		IO-10-50 (EN13702-2)	mPas	15.000	25.000
Viscosity at: 25°C Hardener		IO-10-50 (EN13702-2)	mPas	5	15
Density at: 25°C Hardener		IO-10-51 (ASTM D 1475)	g/ml	0,94	0,98
Pot life (doubled initial viscosity)	50°C	IO-10-50 (EN13702-2) (*)	min	15	25
	80°C		min	10	15
Initial mixture viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	3.000	4.000
	50°C		mPas	400	700
Gelation time	25°C (15ml;6mm)	IO-10-73 (*)	h	5	6
Gelation time	60°C 100ml	IO-10-52b (UNI 8701)	min	50	60
Suggested curing cycles		(**)	48 hours at 25°C or 6 hours at 80°C		

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TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 24 h TA + 15 h 60°C

Surface				Bright	
Density 25°C		IO-10-54 (ASTM D 792)	g/ml	1,73	1,77
Hardness 25°C		IO-10-58 (ASTM D 2240)	Shore D/15	85	90
Glass transition (Tg)		IO-10-69 (ASTM D 3418)	°C	55	65
Linear thermal expansion (Tg -10°C)		IO-10-71 (ASTM E 831)	10^-6/°C	60	70
Linear thermal expansion (Tg +10°C)		IO-10-71 (ASTM E 831)	10^-6/°C	135	155
Flammability		IO-10-68 (UL 94 HB)	mm	6	
Thermal conductivity		IO-10-87 (ASTM C518)	W/(m°K)	0,60	0,70
Dielectric constant at:	25°C	IO-10-59 (ASTM D 150)		3,5	4,5
Loss factor at:	25°C	IO-10-59 (ASTM D 150)	x 10^-3	10	30
Volume resistivity at:	25°C	IO-10-60 (ASTM D 257)	Ohm x cm	8 x 10^14	3 x 10^15
Dielectric strength	25°C	IO-10-61 (ASTM D 149)	kV/mm	19	21
Tracking index		IEC 60112	CTI	> 600	
Flexural strength		IO-10-66 (ASTM D 790)	MN/m²	75	85
Strain at break		IO-10-66 (ASTM D 790)	%	1,5	2,5
Flexural elastic modulus		IO-10-66 (ASTM D 790)	MN/m²	4.500	5.500
Tensile strength		IO-10-63 (ASTM D 638)	MN/m²	40	50
Elongation at break		IO-10-63 (ASTM D 638)	%	1,5	3,0

IO-00-00 = Elantas Camattini's test method. The correspondent international method is indicated whenever possible.
nd = not determined na = not applicable RT = TA = laboratory room temperature (23±2°C)
Conversion units: 1 mPas = 1 cPs 1MN/m2 = 10 kg/cm2 = 1 MPa

(*) for larger quantities pot life is shorter and exothermic peak increases
(**) the brackets mean optionality
(***) the maximum recommended operating temperature is given on the basis of available laboratory information. Users should make their own assessments to verify the real component thermal class which is the result of the applied construction technology and used protective materials.

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Instructions: It is advisable to pre-heat the resin at 50°C to make easier the application of the product. In pre-filled products it is good practice to check and carefully rehomogenize the material if some settling is present. Add the appropriate quantity of hardener to the resin, mix carefully. Avoid air trapping.

Curing Post-curing: 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.

Storage: Epoxy resins and their hardeners can be stored for one year 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.

Handling precautions: Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

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