ELANTAS
Electrical Insulation

PRODUCT INFORMATION

Elan-tron®
EC 505/W 764.1 100:30

2-component room temperature curing epoxy system

Application:

Protection of: electrical and electronic components. Small castings of transformers ignition coils, wound magnetic cores.

Processing:

Manual and/or automatic casting. Room temperature or moderate temperature curing.

Description:

Two component epoxy system based on a low viscosity unfilled resin and an amine hardener. Solvent free. Low exothermic peak. Low shrinkage. Good adhesion to metals and plastic materials. Good electrical and mechanical properties. Good toughness. Very good thermal shock resistance. The system is RoHS compliant (European directive 2002/95/EC).

Instructions:

Add the appropriate quantity of hardener to the resin, mix carefully. Avoid air trapping. It is not recommended to process this resin/hardener combination under high vacuum (<200 mbar) since blistering can occur. The components to be moulded should be dry, clean and free from grease and fat.

Curing / Post-curing:

Normally the post-curing is not necessary.

Storage:

Epoxy resins and their hardeners can be stored for two years in the original sealed containers stored in a cool, dry place. 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.

SYSTEM SPECIFICATIONS

Property	Conditions	Method	Resin EC 505	Hardener W 764.1	UM
Viscosity at:	25°C	IO-10-50 (EN13702-2)	550÷650	500÷700	mPas

TYPICAL SYSTEM CHARACTERISTICS

Property	Conditions	Method	Value	UM
Mixing ratio by weight		for 100 g resin	100:30	g
Mixing ratio by volume		for 100 ml resin	100:37	ml
Resin Colour			Pale yellow	
Hardener Colour			Pale yellow	
Density resin	25°C	IO-10-51 (ASTM D 1475)	1,09÷1,15	g/ml
Density hardener	25°C	IO-10-51 (ASTM D 1475)	0,94÷0,98	g/ml
Initial mixture viscosity at:	25°C 40°C 60°C	IO-10-50 (EN13702-2) IO-10-50 (EN13702-2) IO-10-50 (EN13702-2)	400÷700 150÷250 50÷100	mPas mPas mPas
Pot life (doubled initial viscosity)	40°C 60°C	IO-10-50 (EN13702-2) (*) IO-10-50 (EN13702-2) (*)	20÷30 10÷15	min min
Gelation time	25°C (15ml;6mm)	IO-10-73 (*)	1,5÷2,5	h
Gelation time	25°C 100 ml	IO-10-52a (UNI 8701)	15÷25	min
Demoulding time	25°C (15ml;6mm)	(*)	3,0÷4,0	h

TYPICAL CURED SYSTEM PROPERTIES

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

Property	Conditions	Method	Value	UM
Density	25°C	IO-10-54 (ASTM D 792)	1,11÷1,15	g/ml
Hardness	25°C	IO-10-58 (ASTM D 2240)	76÷80	Shore D/15
Glass transition (Tg)		IO-10-69 (ASTM D 3418)	60÷70	°C
Linear thermal expansion (Tg -10°C)		IO-10-71 (ASTM E 831)	65÷75	10^-6/°C
Linear thermal expansion (Tg +10°C)		IO-10-71 (ASTM E 831)	160÷180	10^-6/°C
Max recommended operating temperature		IEC 60085 (***)	120	°C
Dielectric constant at:	25°C 80°C 105°C 130°C	IO-10-59 (ASTM D 150) IO-10-59 (ASTM D 150) IO-10-59 (ASTM D 150) IO-10-59 (ASTM D 150)	3,0÷3,6 4,0÷4,6 4,8÷5,3 5,6÷6,4	
Loss factor at:	25°C 80°C 105°°C 130°C	IO-10-59 (ASTM D 150) IO-10-59 (ASTM D 150) IO-10-59 (ASTM D 150) IO-10-59 (ASTM D 150)	10÷20 90÷110 140÷160 180÷220	x 10^-3 x 10^-3 x 10^-3 x 10^-3
Volume resistivity at:	25°C 80°C 105°C 130°C	IO-10-60 (ASTM D 257) IO-10-60 (ASTM D 257) IO-10-60 (ASTM D 257) IO-10-60 (ASTM D 257)	3 x 10^15÷7 x 10^15 6 x 10^12÷12 x 10^12 4 x 10^11÷8 x 10^11 3 x 10^11÷8 x 10^11	Ohm x cm Ohm x cm Ohm x cm Ohm x cm
Dielectric strength	25°C	IO-10-61 (ASTM D 149)	21÷23	kV/mm
Tracking index		IEC 60112	>600	CTI
Flexural strength		IO-10-66 (ASTM D 790)	55÷65	MN/m²
Strain at break		IO-10-66 (ASTM D 790)	4,5÷6,5	%
Flexural elastic modulus		IO-10-66 (ASTM D 790)	1.500÷2.000	MN/m²
Tensile strength		IO-10-63 (ASTM D 638)	45÷55	MN/m²
Elongation at break		IO-10-63 (ASTM D 638)	6÷10	%

Sales office South Europe:
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

Sales office Central Europe:
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 North Europe:
ELANTAS UK Ltd
Keate House
1 Scholar Green Road
Cobra Court
Manchester M32 OTR
United Kingdom
Tel +44 161 848 8411
Fax +44 161 848 0966
sales.elantas.uk@altana.com
www.elantas.com

Legenda:
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 operating temperature is given on the basis of laboratory information available being it function of the curing conditions used and of the type of coupled materials. For further possible information see post-curing paragraph.

Manufactured: ELANTAS Camattini S.p.A. Strada Antolini n° 1 loc. Lemignano, 43044 Collecchio (PR), Italy
www.elantas.com