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Product Information

Elan-tech ®

EC 327/WH 842/W 847 100:125:1

ELANTAS EUROPE Sales offices:
Strada Antolini n°1 loc. Lemignano
43044 Collecchio (PR)
Italy
Tel +39 0521 304777
Fax +39 0521 804410

Grossmannstr. 105
20539 Hamburg
Germany
Tel +49 40 78946 0
Fax +49 40 78946 349

info.elantas.europe@altana.com
www.elantas.com

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PRELIMINARY PRODUCT INFORMATION

Resin	Hardener	Catalyst	Mixing ratio by weight
EC 327	**WH 842**	**W 847**	**100:125:1**

Application: Impregnation of glass fibres, kevlar, hot curing fiber reinforced composites for manufacturing of composite materials. Epoxy binding agent for handworks thermal resistant until 260°C.

Processing: Pultrusion. Impregnation. Filament winding. Hot curing.

Description: Two component unfilled epoxy system. High thermal resistance. Very good electrical characteristics. The amount of catalyst can be changed between 0,2 and 4% by weight as function of required reactivity and working cycle.

TYPICAL SYSTEM CHARACTERISTICS

Resin

Resin Colour				Pale yellow
Viscosity 25°C	IO-10-50 (EN13702-2)	mPas	100	600
Density 25°C	IO-10-51 (ASTM D 1475)	g/ml	1,15	1,19

Hardener

Hardener Colour				Pale yellow
Viscosity at: 25°C	IO-10-50 (EN13702-2)	mPas	150	300
Density 25°C	IO-10-51 (ASTM D 1475)	g/ml	1,20	1,24

Catalyst

Catalyst colour				Amber
Viscosity 25°C	IO-10-50 (EN13702-2)	mPas	1	2
Density 25°C	IO-10-51 (ASTM D 1475)	g/ml	1,03	1,05

Processing Data

Mixing ratio by weight	for 100 g resin	g	100:125:1	
Mixing ratio by volume	for 100 ml resin	ml	100:120:1	
Pot life at: 80°C (100 mPas)	IO-10-50 (EN13702-2) (*)	min	80	100
Initial mixture viscosity at: 25°C	IO-10-50 (EN13702-2)	mPas	300	400
40°C		mPas	100	130
60°C		mPas	35	50
80°C		mPas	15	20
Gelation time 100°C (with 1% of W847)	IO-10-52b (UNI 8701)	min	55	65
100°C (with 3% of W847)	IO-10-52b (UNI 8701)	min	26	32
Suggested curing cycles	(**)	2h 130°C + 4h 160°C + 4h 180°C + 4h 200°C		

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TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 2h 130°C + 4h 160°C + 4h 180°C + 4h 200°C + 4h 250°C

Surface			Bright	
Density 25°C	IO-10-54 (ASTM D 792)	g/ml	1,21	1,25
Hardness 25°C	IO-10-58 (ASTM D 2240)	Shore D/15	90	92
Glass transition (Tg)	IO-10-69 (ASTM D 3418)	°C	250	260

IO-00-00 = Elantas Italia'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.

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Instructions: Add the appropriate quantity of hardener to the resin, mix carefully. 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.

Curing / Post-curing: For hot curing systems it is advisable to follow the indications reported in the present data sheet verifiyng the correctness for the components under development. In both cases thermal gradients higher than 10°C/hour must be avoided.

Storage: Epoxy resins can be stored for a year andthe anhydride based hardeners for six months if the containers are well sealed and are kept under cool and dry conditions. The hardeners are moisture sensitive therefore it is good practice to close the vessel immediately after each use. Epoxy resins may crystallize at low temperatures. To restore the original conditions, heat the material at 70-80°C avoiding local overheating. Before use, the product must be rehomogenized and cooled down at room temperature.

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

emission date:	May	2010
revision n° 02	January	2011

The information given in this publication is based on the present state of our technical knowledge but buyers and users should make their own assessments of our products under their own application conditions.