EN

Product Information

Elan-tech®
EC 14/W 152 HR 100:30

2-component RTM epoxy system

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PRODUCT INFORMATION

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Resin	Hardener	Mixing ratio by weight
EC 14	**W 152 HR**	**100:30**

Application: High performance composite parts of small and medium size, sport components, racing vehicles.

Processing: Moulding by RTM moulding of glass, carbon, kevlar fabrics. Hot curing.

Description: Two component epoxy system with high modulus. Good thermal resistance. Medium pot life.

SYSTEM SPECIFICATIONS

Resin					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	6.000	8.000
Hardener					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	30	80

TYPICAL SYSTEM CHARACTERISTICS

Processing Data				
Resin Colour				Pale/yellow
Hardener Colour				Pale/yellow
Mixing ratio by weight	for 100 g resin		g	100:30
Mixing ratio by volume	for 100 ml resin		ml	100:33
Density 25°C Resin	IO-10-51 (ASTM D 1475)		g/ml	1,13 1,17
Density 25°C Hardener	IO-10-51 (ASTM D 1475)		g/ml	1,02 1,06
Initial mixture viscosity at: 25°C	IO-10-50 (EN13702-2)		mPas	1.800 2.600
Gelation time 80°C (2mm)	IO-10-73 (*)		sec	115 125
Gelation time 25°C 100ml	IO-10-52a (UNI 8701)		min	12 18
Demoulding time 80°C (2mm)	(*)		min	13 18
Suggested curing cycles	(**)		15 min 80°C	

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TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 15 min 80°C

Colour				Pale yellow	
Machinability				Excellent	
Density 25°C		IO-10-54 (ASTM D 792)	g/ml	1,10	1,14
Hardness 25°C		IO-10-58 (ASTM D 2240)	Shore D/15	88	92
Glass transition (Tg)	15 min 80°C	IO-10-69 (ASTM D 3418)	°C	95	100
	2° scan (25-150°C)		°C	100	106
Flexural strength		IO-10-66 (ASTM D 790)	MN/m²	110	120
Maximum strain		IO-10-66 (ASTM D 790)	%	4,5	6,5
Strain at break		IO-10-66 (ASTM D 790)	%	10	14
Flexural elastic modulus		IO-10-66 (ASTM D 790)	MN/m²	3.200	3.500
Tensile strength		IO-10-63 (ASTM D 638)	MN/m²	65	70
Elongation at break		IO-10-63 (ASTM D 638)	%	3,0	4,5
Compressive strength		IO-10-72 (ASTM D 695)	MN/m²	90	100

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: Verify and when necessary, homogenize the components before use. Add the appropriate quantity of hardener to the resin, mix carefully. Avoid air trapping. For the surface preparation (mould or model) refer to the release agents data sheet.

Curing / Post-curing: Post curing is always advisable for RT curing systems in order to stabilize the component and to reach the best properties. It is necessary when the component works at a high temperature. Post cure the tool as stated in the table, increasing gradually 10°C/hour. Cool it down slowly. The rate of heating and the indicated post-curing time are referred to standard specimen size. Users should evaluate the best conditions of curing or post-curing depending on the component size and shape. For big size components decrease the thermal gradient and increase the post-curing time. In the case of thin layer applications and composites, post cure on the jig.

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.

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