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Product Information

Elan-tech®

EC 1150/W 1150

100:45

**Epoxy trasparente system of variable hardness
Protected with UV filters**

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Resin
EC 1150

Hardener
W 1150

Mixing ratio by weight
100:45

Application: Transparent mass casting material with long curing time.

Processing: Manual casting. Under vacuum casting. Room temperature curing. The hardener can be used in variable mixing ratio according to required hardness:
W 1150 - 45 parts: Low elastic modulus, rigid system - Shore D 80
W 1150 - 90 parts: Flexible system - Shore A 70

Description: Two components epoxy system. Colourless and transparent. The system is based on a low viscosity unfilled resin and an amine hardener. Good resistance towards UV. The exposure to UV for long time causes nevertheless a slight yellowing of the material. System suggested for indoor applications. The system is RoHS compliant (European directive 2002/95/EC) and the new RoHS Directive 2011/65/EU (RoHS 2) entered into force on 21 July 2011 and requires Member States to transpose the provisions into their respective national laws by 2 January 2013.

TYPICAL SYSTEM CHARACTERISTICS

Resin

Colour resin				Slightly light blue
Viscosity 25°C	IO-10-50 (ISO3219)	mPas	500	700
Density 25°C	IO-10-51 (ASTM D 1475)	g/ml	1,10	1,15

Hardener

Colour hardener				Colourless
Viscosity at: 25°C	IO-10-50 (ISO3219)	mPas	30	60
Density 25°C	IO-10-51 (ASTM D 1475)	g/ml	0,96	1,00

Processing Data

Mixing ratio by weight	for 100 g resin	g	100:45
Mixing ratio by volume	for 100 ml resin	ml	100:50
Pot life 25°C (80mm;500ml)	IO-10-53 (*)	h	6 7
Exothermic peak 25°C (80mm;500ml)	IO-10-53 (*)	°C	50 60
Initial mixture viscosity at: 25°C	IO-10-50 (ISO3219)	mPas	150 250
Gelation time 25°C (15ml;6mm)	IO-10-73 (*)	h	46 50
Demoulding time 25°C (15ml;6mm)	(*)	h	70 74

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TYPICAL CURED SYSTEM PROPERTIES

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

Colour			Colourless	
Machinability			Excellent	
Density 25°C	IO-10-54 (ASTM D 792)	g/ml	1,08	1,12
Hardness 25°C	IO-10-58 (ASTM D 2240)	Shore D/15	76	80
Glass transition (Tg)	IO-10-69 (ASTM D 3418)	°C	47	53
Water absorption (24h RT)	IO-10-70 (ASTM D 570)	%	0,20	0,25
Water absorption (2h 100°C)	IO-10-70 (ASTM D 570)	%	1,05	1,25
Flexural strength	IO-10-66 (ASTM D 790)	MN/m ²	55	62
Maximum strain	IO-10-66 (ASTM D 790)	%	3,5	5,5
Strain at break	IO-10-66 (ASTM D 790)	%	>	15
Flexural elastic modulus	IO-10-66 (ASTM D 790)	MN/m ²	1.900	2.300
Tensile strength	IO-10-63 (ASTM D 638)	MN/m ²	40	46
Elongation at break	IO-10-63 (ASTM D 638)	%	18	25
Compressive strength	IO-10-72 (ASTM D 695)	MN/m ²	45	55

IO-00-00 = ELANTAS Europe's test method. The corresponding 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 a room temperature curing system the post-curing allows fast stabilization of the material and attainment 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. The hardeners are moisture sensitive therefore it is good practice to close the container 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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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.