EN

Product Information

Elan-tech®
EC 131LV/W 342 100:25

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Resin	Hardener	Mixing ratio by weight
EC 131LV	**W 342**	**100:25**

Application: Composite parts of small and medium size. Filament winding. Structural parts for boats, model aircrafts, racing vehicles, sport components.

Processing: Manual, under vacuum impregnation at atmospheric pressure and under vacuum bag for wood, glass, carbon or kevlar fiber tissue. Room temperature or moderate temperature curing.

Description: Un-filled epoxy system. The system EC 131LV/W 342 allows the obtainment of a good surface finish. Very good resistance towards UV. The post-curing at a moderate temperature is suggested to obtain the best performance for the system.

SYSTEM SPECIFICATIONS

Resin					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	1.000	1.600
Hardener					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	30	70

TYPICAL SYSTEM CHARACTERISTICS

Processing Data				
Resin Colour				Violet
Hardener Colour				Colourless
Mixing ratio by weight	for 100 g resin		g	100:25
Mixing ratio by volume	for 100 ml resin		ml	100:30
Density 25°C Resin	IO-10-51 (ASTM D 1475)		g/ml	1,10 1,15
Density 25°C Hardener	IO-10-51 (ASTM D 1475)		g/ml	0,94 0,96
Pot life 25°C (40mm;100ml)	IO-10-53 (*)		min	22 32
Exothermic peak 25°C (40mm;100ml)	IO-10-53 (*)		°C	160 170
Initial mixture viscosity at: 25°C	IO-10-50 (EN13702-2)		mPas	300 800
Gelation time 25°C (15ml;6mm)	IO-10-73 (*)		h	3,0 4,0
Demoulding time 25°C (15ml;6mm)	(*)		h	15 20
Post-curing 60°C	(**)		h	(10 - 15)
Maximum recommended thickness			mm	5

EC 131LV/W 342

TYPICAL CURED SYSTEM PROPERTIES

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

Colour				Colourless	
Density 25°C		IO-10-54 (ASTM D 792)	g/ml	1,08	1,12
Hardness		IO-10-58 (ASTM D 2240)	Shore D/15	86	88
Glass transition (Tg)		IO-10-69 (ASTM D 3418)	°C	78	82
Maximum Tg	(15h 60°C + 5h 80°C)	IO-10-69 (ASTM D 3418)	°C	88	92
Water absorption (24h RT)		IO-10-70 (ASTM D 570)	%	0,12	0,22
Water absorption (2h 100°C)		IO-10-70 (ASTM D 570)	%	1,00	1,40
Max recommended operating temperature		(***)	°C	75	
Flexural strength		IO-10-66 (ASTM D 790)	MN/m²	110	120
Maximum strain		IO-10-66 (ASTM D 790)	%	5,8	6,2
Strain at break		IO-10-66 (ASTM D 790)	%	8,0	8,4
Flexural elastic modulus		IO-10-66 (ASTM D 790)	MN/m²	2.800	3.000
Tensile strength		IO-10-63 (ASTM D 638)	MN/m²	74	78
Elongation at break		IO-10-63 (ASTM D 638)	%	5	6

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.

EC 131LV/W 342

Instructions: 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. 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 data sheet and comply with regulations relating to industrial health and waste disposal.

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