

Elan-tech® EC 131LV/W 340 100:24

EC 131LV/W 341 100:24

Epoxy system for high-performance composites

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



pag.1/3



	Resin	Hardener	Mixing ratio by weight
	EC 131LV	W 340	100:24
		W 341	100:24
Application:	High performance composite parts c structural parts for boats, model aircr	of small and medium size. F afts, racing vehicles, sport	ilament winding. Manufacturing of components.
Processing:	Manual Impregnation at atmospheri kevlar fiber tissue. Room temperature W 340 (medium-slow): Under vacuur W 341 (fast): Impregnation by contac	ic pressure or under vacu e or moderate temperature n impregnation. t medium size components	um bag for wood, glass, carbon or curing. s.
Description:	Un-filled epoxy system. The curing post-curing at moderate temperature	agent should be selected is suggested to obtain the	according to the application. The best performance for the system.

SYSTEM SPECIFICATIONS

Resin					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	1.000	1.600
Hardener W 340					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	45	55
Hardener W 341					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	200	300
	TYPICAL SYS	TEM CHARACTERI	STICS		
Resin					
Resin Colour				Vie	olet
Density resin 25°C		IO-10-51 (ASTM D 1475)	g/ml	1,10	1,15
Hardeners				W 340	W 341
Hardener Colour				Pale/yellow	Pale/yellow
Density 25°C		IO-10-51 (ASTM D 1475)	g/ml	0,92 0,94	0,94 0,96
Processing Data					
Mixing ratio by weight		for 100 g resin	g	100:24	100:24
Mixing ratio by volume		for 100 ml resin	ml	100:29	100:29
Pot life 25	°C (40mm;100ml)	IO-10-53 (*)	min	65 75	15 20
Exothermic peak 25	°C (40mm;100ml)	IO-10-53 (*)	°C	120 130	150 160
Initial mixture viscosity at:	: 25°C	IO-10-50 (EN13702-2)	mPas	600 800	700 900
Gelation time	25°C (15ml;6mm)	IO-10-73 (*)	h	4 6	1,5 2,5
Demoulding time	25°C (15ml;6mm)	(*)	h	17 22	10 15
Post-curing	60°C	(**)	h	15	15
Maximum recommended	thickness		mm	5	5

EC 131LV

TYPICAL CURED SYSTEM PROPERTIES

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

				W 3	40	W	341
Colour Machinability				Colou Exce	urless ellent	Colo Exce	urless ellent
Density		IO-10-54 (ASTM D 792)	g/ml	1,08	1,12	1,09	1,13
Hardness		IO-10-58 (ASTM D 2240)	Shore D/15	86	88	86	88
Glass transition (Tg)		IO-10-69 (ASTM D 3418)	°C	78	82	73	77
Maximum Tg	10 h 80°C	IO-10-69 (ASTM D 3418)	°C	93	96	87	93
Water absorption (24h RT)		IO-10-70 (ASTM D 570)	%	0,10	0,15	0,11	0,16
Water absorption (2h 100°C	C)	IO-10-70 (ASTM D 570)	%	0,50	0,70	0,60	0,80
Flexural strength		IO-10-66 (ASTM D 790)	MN/m²	98	103	92	97
Maximum strain		IO-10-66 (ASTM D 790)	%	5,2	5,8	5,5	6,0
Strain at break		IO-10-66 (ASTM D 790)	%	8,0	8,5	9,4	9,9
Flexural elastic modulus		IO-10-66 (ASTM D 790)	MN/m²	2.500	3.000	2.300	2.800
Tensile strength		IO-10-63 (ASTM D 638)	MN/m²	58	62	58	62
Elongation at break		IO-10-63 (ASTM D 638)	%	5,8	6,4	5,8	6,4
Compressive strength		IO-10-72 (ASTM D 695)	MN/m²	85	90	83	88

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 $(23\pm2^{\circ}C)$ 1 mPas = 1 cPs 1MN/m2 = 10 kg/cm2 = 1 MPa Conversion units:

(*) for larger quantities pot life is shorter and exothermic peak increases

(**) the brackets mean optionality (***) The maximum operatin 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.

PRODUCT INFORMATION

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EC 131LV

- **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 / Postcuring: 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. The hardeners may crystallize at low temperatures. To restore the original conditions, heat the material at 40-50°C avoiding local overheating. Before use, the product must be rehomogenized and cooled down at room temperature.
- HandlingRefer to the safety data sheet and comply with regulations relating to industrial health and wasteprecautions:disposal.

emission date:	June	1999
revision n° 03	March	2012

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.