

EN **Product Information**

Elan-tech®

PC 27 LV/G 127 **100:100**

PC 27 LV/G 127/CARICA ALOLT 1 **100:100:300**

2-component fast curing polyurethane for casting applications

ELANTAS Italia S.r.l.

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

Resin
PC 27 LV

Hardener
G 127

Filler
CARICA ALOLT 1

Mixing ratio by weight
100:100

Application: Reproduction of scale models and prototypes. Matrices, foundry patterns, negative and pilot moulds if filled with ALOLT 1.

Processing: Manual mixing. Mechanical mixing. Cast inside the mould within the pot-life of the system. The filler can be added in the suggested or in a different ratio depending on the application and on the required thickness. The greater the filler loading, the lower the shrinkage.
Attention: homogenize the resin before use (follow the instructions).

Description: Two component system, odourless, fluid, resilient with separated filler to be added when required to reduce shrinkage and exothermicity. High reactivity. Very high quality of reproduction.

SYSTEM SPECIFICATIONS

Resin

Viscosity at:	25°C	IO-10-50 (ISO3219)	mPas	90	180
Pot life	25°C	IO-10-73 (*)	min	4,5	6,5

Hardener

NCO groups		IO-10-55	% peso	19,50	21,00
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TYPICAL SYSTEM CHARACTERISTICS

Resin

Resin Colour				White	
Density resin 25°C		IO-10-51 (ASTM D 1475)	g/ml	1,02	1,06

Hardener

Hardener Colour				Brown	
Viscosity at: 25°C		IO-10-50 (ISO3219)	mPas	20	40
Density 25°C		IO-10-51 (ASTM D 1475)	g/ml	1,09	1,11

Processing Data

Mixing ratio by weight		for 100 g resin	g	A+B 100:100	A+B+C 100:100:300
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Exothermic peak	(40mm;100ml)	IO-10-53 (*)	°C	85	95	48	58
Initial mixture viscosity at:	25°C	IO-10-50 (ISO3219)	mPas	60	100	1.200	1.800
Gelation time	25°C (15ml;6mm)	IO-10-73 (*)	min	5	7	7	9
Demoulding time	25°C (15ml;6mm)	(*)	h	1,0	1,5	1,0	1,5
Post-curing	60°C	(**)	h	(15)		(15)	

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TYPICAL CURED SYSTEM PROPERTIES

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

			A+B		A+B+C		
Colour			Beige		Beige		
Machinability			Excellent		Excellent		
Density 25°C	IO-10-54 (ASTM D 792)	g/ml	1,08	1,10	1,62	1,65	
Hardness 25°C	IO-10-58 (ASTM D 2240)	Shore D/15	78	82	82	86	
Glass transition (Tg)	IO-10-69 (ASTM D 3418)	°C	72	78	72	78	
Linear shrinkage	5 mm after 24 h RT 5 mm after 1 month RT 3 cm after 24 h RT 3 cm after 1 month RT	IO-10-74 a	‰	1,20	1,30	1,20	1,30
				1,70	1,80	1,70	1,80
				1,80	1,90	1,82	1,90
				2,20	2,30	2,22	2,32
Water absorption (24h RT)	IO-10-70 (ASTM D 570)	%	0,10	0,20	0,08	0,12	
Water absorption (2h 100°C)	IO-10-70 (ASTM D 570)	%	0,90	1,00	0,60	0,70	
Flexural strength	IO-10-66 (ASTM D 790)	MN/m ²	42	52	18	22	
Maximum strain	IO-10-66 (ASTM D 790)	%	5	7	0,7	1,3	
Strain at break	IO-10-66 (ASTM D 790)	%	10	15	--	--	
Flexural elastic modulus	IO-10-66 (ASTM D 790)	MN/m ²	1.200	1.400	2.000	2.100	
Tensile strength	IO-10-63 (ASTM D 638)	MN/m ²	30	35	25	30	
Elongation at break	IO-10-63 (ASTM D 638)	%	6	10	0,9	1,6	
Compressive strength	IO-10-72 (ASTM D 695)	MN/m ²	--	--	54	58	

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. Apply. For the surface preparation (mould or model) refer to the release agents data sheet.
- Curing / Post-curing:** The post curing is usually not necessary. It may be advisable in order to stabilize and to reach the best properties. In this case post cure the tool up to 60°C increasing gradually 10°C/hour.
- Storage:** Polyol resins and the isocyanate based hardeners can be stored for one year in the original sealed containers stored in a cool, dry place. The hardeners may present an increase in viscosity that does not change the cured system properties. After that period or if the material has been stored in anomalous conditions, pre-filled resins can be settled down and their use is possible, only if they are accurately re-homogenized with the help, if necessary, of a mechanical mixer. Both components are moisture sensitive therefore it is good practice to close the vessels immediately after each use. Moisture absorption may cause the expansion of the product during application and/or the hardener may crystallize during storage. The isocyanates 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.
Note: pay attention to the instructions given in paragraph 8 of the safety data sheet.
- 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.