EN

Product Information

Elan-tech ®

PC 30/G 37

100:20 by weight

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Resin	Hardener	Mixing ratio by weight
PC 30	**G 37**	**100:20**

Applications: Matrices, foundry patterns and for tracer milling. Realizations of negatives with short demoulding time.

Processing: Face and solid casting also at high thickness using the filled product. The casting size is limited only by the short pot-life of the system. Further castings can be made by successive applications on the previous gelled layer (within 5 min). Castings only on moulds that are well dried and moisture insulated. Fast curing.

Description: Two component odourless system filled with abrasive fillers. Very high quality of reproduction. Low exothermic peak. Low shrinkage. Time stable.

SYSTEM SPECIFICATIONS

Resin					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	3.500	6.500
Density at:	25°C	IO-10-51 (ASTM D 1475)	g/ml	1,56	1,60
Gelation time	25°C 100ml	IO-10-52a (UNI 8701)	min	7,0	9,0
Hardener					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	5	35

TYPICAL SYSTEM CHARACTERISTICS

Processing Data					
Mixing ratio by weight		for 100 g resin	g	100:20	
Mixing ratio by volume		for 100 ml resin	ml	100:26	
Resin Colour				Light blue Black	
Hardener Colour				Brown	
Viscosity at: 25°C Hardener		IO-10-50 (EN13702-2)	mPas	5	35
Density at: 25°C Hardener		IO-10-51 (ASTM D 1475)	g/ml	1,20	1,22
Pot life	25°C (50mm;200ml)	IO-10-53 (*)	min	3,5	4,5
Exothermic peak	25°C (50mm;200ml)	IO-10-53 (*)	°C	60	70
Initial mixture viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	1.000	2.000
Gelation time	25°C (15ml;6mm)	IO-10-73 (*)	min	10	15
Demoulding time	25°C (15ml;6mm)	(*)	min	30	50
Post-curing	60°C	(**)	h	(3 - 5)	
Maximum recommended thickness			mm	30	50

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TYPICAL CURED SYSTEM PROPERTIES

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

Colour			Black/light blue	
Machinability			Good	
Density	IO-10-54 (ASTM D 792)	g/ml	1,47	1,51
Hardness	IO-10-58 (ASTM D 2240)	Shore D/15	84	86
Glass transition (Tg)	IO-10-69 (ASTM D 3418)	°C	80	86
Linear shrinkage	IO-10-74 a	‰	1,60	1,80
Water absorption (24h RT)	IO-10-70 (ASTM D 570)	%	0,10	0,20
Water absorption (2h 100°C)	IO-10-70 (ASTM D 570)	%	0,70	0,80
Max recommended operating temperature	(***)	°C	60	70
Flexural strength	IO-10-66 (ASTM D 790)	MN/m²	45	55
Strain at break	IO-10-66 (ASTM D 790)	%	1,50	1,90
Flexural elastic modulus	IO-10-66 (ASTM D 790)	MN/m²	3.000	3.500
Tensile strength	IO-10-63 (ASTM D 638)	MN/m²	20	30
Elongation at break	IO-10-63 (ASTM D 638)	%	1,00	1,50
Compressive strength	IO-10-72 (ASTM D 695)	MN/m²	65	70

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: 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: 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.

Handling precautions: Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

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