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Product Information

Elan-tech®

EC 14/HR 2200 100:25

EC 14/HR 2200 100:28

2-components unfilled epoxy system

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Resin	Hardener	Mixing ratio by weight
EC 14	**HR 2200**	**100:25**
	HR 2200	**100:28**

Application: Impregnation by slow rotation of abrasive flap wheels with hole made of thin or medium grain abrasive strips.

Processing: Manual casting or with mixing/dispensing devices. Curing at moderate temperature with 60-80°C pre-heated wheels.

Description: Two components unfilled epoxy system. Good thermal resistance. It is possible to use the mixing ratio of 100:25 and 100:28 without any substantial change of the characteristics of the cured product. 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.

SYSTEM SPECIFICATIONS

Resin					
Viscosity at:	25°C	IO-10-50 (ISO3219)	mPas	6.000	8.000
Hardener					
Viscosity at:	25°C	IO-10-50 (ISO3219)	mPas	10	40

TYPICAL SYSTEM CHARACTERISTICS

Resin					
Resin Colour				Pale/yellow	
Density resin 25°C		IO-10-51 (ASTM D 1475)	g/ml	1,13	1,17
Hardeners				**HR 2200**	**HR 2200**
Hardener Colour				Pale/yellow	Pale/yellow
Density	25°C	IO-10-51 (ASTM D 1475)	g/ml	0,99 1,03	0,99 1,03
Processing Data					
Mixing ratio by weight		for 100 g resin	g	100:25	100:28
Mixing ratio by volume		for 100 ml resin	ml	100:29	100:32
Initial mixture viscosity at:	25°C	IO-10-50 (ISO3219)	mPas	1.000 1.300	1.000 1.300
Gelation time	25°C (1mm)	IO-10-88 (ASTM D5895-03)	h	3,0 4,0	2,5 3,5
Gelation time	25°C 100ml	IO-10-52a	min	28 38	25 35
Suggested curing cycles		(**)		12h at 70°C	12h at 70°C

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TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 24 h RT + 15 h 60°C				HR 2200 (100:25)		HR 2200 (100:28)	
Colour				Pale yellow		Pale yellow	
Machinability				Excellent		Excellent	
Density 25°C		IO-10-54 (ASTM D 792)	g/ml	1,16	1,20	1,16	1,20
Hardness		IO-10-58 (ASTM D 2240)	Shore D/15	84	88	83	87
Glass transition (Tg)	24h at RT	IO-10-69 (ASTM D 3418)	°C	50	55	55	60
	24h at RT + 15h at 60°C		°C	78	84	84	90
	12h at 70°C		°C	90	96	90	96
Flexural strength		IO-10-66 (ASTM D 790)	MN/m²	115	128	107	120
Maximum strain		IO-10-66 (ASTM D 790)	%	4,0	6,0	4,5	6,5
Strain at break		IO-10-66 (ASTM D 790)	%	4,0	6,0	6,0	8,0
Flexural elastic modulus		IO-10-66 (ASTM D 790)	MN/m²	3.300	3.600	3.000	3.400
Tensile strength		IO-10-63 (ASTM D 638)	MN/m²	78	86	78	86
Elongation at break		IO-10-63 (ASTM D 638)	%	4,5	6,5	5,5	7,5

IO-00-00 = ELANTAS Europe'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: Add the appropriate quantity of hardener to the resin, mix carefully. Avoid air trapping.

Curing/Post-curing: Suggested to post-cure at a moderate temperature of 70°C for 12 hours.

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 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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