EN

Product Information

Elan-tech®

EC 141 NF/W 241 100:45

EC 141 NF/W 242 NF 100:45

Epoxy system resistant to yellowing, protected with UV filters

ELANTAS Italia S.r.l.
Strada Antolini n°1 loc. Lemignano
43044 Collecchio (PR)
Italy
Tel +39 0521 304777
Fax +39 0521 804410
EEMEurope.ELANTAS@altana.com
info.elantas.italia@altana.com
www.elantas.com

ELANTAS

Resin	Hardener	Mixing ratio by weight
EC 141 NF	**W 241**	**100:45**
	W 242 NF	**100:45**

Application: Castings and encapsulation which need true transparency and resistance to yellowing.

Processing: Manual casting. Under vacuum casting. Room temperature curing.
W 241: Maximum racommended thickness 100 mm.
W 242NF: Maximum racommended thickness 10 mm.

Description: Two component colourless, transparent epxy sistem. The system is based on a low viscosity unfilled resin and an amine hardener.
W 241: Long pot-life. Low exothermic peak. The system can be used for casting to a maximum of 3-5 cm on furniture/surface tops or casting to a maximum of 10 cm in thickness for a mass of 1 litre.
W 242NF: The product W 242NF is an accelerated version of the product W 241. The system can be used for casting to a maximum of 1 cm in thickness and for surface finishing (e.g. lenticular labels). Good resistance towards UV, however, exposure to UV for long time causes a yellowing of the material.

SYSTEM SPECIFICATIONS

Resin					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	650	950
Hardener W 241					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	180	300
Hardener W 242 NF					
Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	250	350

TYPICAL SYSTEM CHARACTERISTICS

Resin					
Resin Colour				Colourless	
Density resin 25°C		IO-10-51 (ASTM D 1475)	g/ml	1,10	1,14
Hardeners				**W 241**	**W 242 NF**
Hardener Colour				Colourless	Colourless
Density 25°C		IO-10-51 (ASTM D 1475)	g/ml	0,99 1,01	0,98 1,02
Processing Data					
Mixing ratio by weight		for 100 g resin	g	100:45	100:45
Mixing ratio by volume		for 100 ml resin	ml	100:50	100:50
Pot life (doubled initial viscosity)	25°C	O-10-50 (EN13702-2) (*)	min	75 95	55 65 45 55 35 45
Initial mixture viscosity at:	25°C		mPas	400 700	130 150 170 190 400 600
Gelation time	25°C (15ml;6mm)	IO-10-73 (*)	h	10 12	4 5
Gelation time	25°C 100ml	IO-10-52a (UNI 8701)	min	140 180	50 70
Demoulding time	25°C (15ml;6mm)	(*)	h	36 48	18 24
Post-curing	60°C	(**)	h	(15)	(15)

EC 141 NF

TYPICAL CURED SYSTEM PROPERTIES

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

			W 241	W 242 NF
Colour			Colourless	Colourless
Density 25°C	IO-10-54 (ASTM D 792)	g/ml	1,08 1,12	1,08 1,12
Hardness 25°C	IO-10-58 (ASTM D 2240)	Shore D/15	80 85	80 85
Glass transition (Tg)	IO-10-69 (ASTM D 3418)	°C	61 67	52 58
Water absorption (24h RT)	IO-10-70 (ASTM D 570)	%	0,15 0,25	
Water absorption (2h 100°C)	IO-10-70 (ASTM D 570)	%	0,95 1,15	
Max recommended operating temperature	(***)	°C	55	50
Flexural strength	IO-10-66 (ASTM D 790)	MN/m²	90 102	69 78
Maximum strain	IO-10-66 (ASTM D 790)	%	4,0 5,5	3,5 5,5
Strain at break	IO-10-66 (ASTM D 790)	%	> 15	> 15
Flexural elastic modulus	IO-10-66 (ASTM D 790)	MN/m²	2.900 3.200	2.200 2.700
Tensile strength	IO-10-63 (ASTM D 638)	MN/m²	51 58	38 47
Elongation at break	IO-10-63 (ASTM D 638)	%	6,0 9,0	9 13

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 141 NF

Instructions: Add the appropriate quantity of hardener to the resin, mix carefully. Avoid air trapping. For some applications it can be useful to pre-heat the components and/or carry on a deaeration step under vacuum of the mixture before casting.

Curing / Post-curing: For a room temperature curing system post-curing allows fast stabilization of the material and obtainment of the best electrical and mechanical properties. During the curing process it is advisable to avoid thermal variations higher than 10°C/hour.

Storage: Epoxy resins and their hardeners can be stored for one year 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 safety data sheet and comply with regulations relating to industrial health and waste disposal.

emission date: May 2012
revision n° 00