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## Product Information

Elan-tech®

MG 536/W 506

100:33

Heat resistant epoxy gelcoat

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Resin  
**MG 536**

Hardener  
**W 506**

Mixing ratio by weight  
**100:33**

**Application:** Moulds for epoxy pre-pregs. Small and medium size tools and heat resistant moulds until 180°C.

**Processing:** Brush application for thick layer (0,5-0,1mm). Room temperature curing. The curing process can be accelerated by the use of moderate temperature (35-40°C). The system cured at RT may be brittle and it can be necessary the curing at 40°C before demoulding the model.

**Description:** Two components epoxy system. Thixotropic. High thermal resistance. High chemical resistance. Bright reproduction of mirror models. 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.

### TYPICAL SYSTEM CHARACTERISTICS

#### Resin

Colour resin			Brown	
Viscosity 25°C	IO-10-95 (ISO3219)	Pas	60	100
Density 25°C	IO-10-51 (ASTM D 1475)	g/ml	1,48	1,54

#### Hardener

Colour hardener			Pale/yellow	
Viscosity at: 25°C	IO-10-50 (ISO3219)	mPas	1.000	2.000
Density 25°C	IO-10-51 (ASTM D 1475)	g/ml	0,98	1,02

#### Processing Data

Mixing ratio by weight	for 100 g resin	g	100:33	
Mixing ratio by volume	for 100 ml resin	ml	100:50	

Pot life	25°C (50mm;200ml)	IO-10-53 (*)	min	110	145
Pot life (doubled initial viscosity)	25°C	IO-10-50 (ISO3219)	min	40	60
Exothermic peak	25°C (50mm;200ml)	IO-10-53 (*)	°C	95	100
Initial mixture viscosity at:	25°C	IO-10-50 (ISO3219)	mPas	7.000	15.000
Gelation time	25°C tack start (1mm)	IO-10-88 (ASTM D5895-03)	h	4,3	4,7
	25°C tack end (1mm)		h	7,0	8,0
	40°C tack start (1mm)		h	1,5	2,5
	40°C tack end (1mm)		h	2,8	3,4

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### TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 16h at 40°C + 10°C/h + 2h at 160°C

Colour				Brown
Hardness	25°C	IO-10-58 (ASTM D 2240)	Shore D/15	84 88
	130°C		Shore D/15	84 88
Glass transition (Tg)	(16h at 40°C+10°C/h+2h at 160°C) (16h at 40°C+10°C/h+2h at 130°C)	IO-10-69 (ASTM D 3418)	°C	177 183
			°C	152 158
			°C	
Maximum Tg	(16h at 40°C+10°C/h+2h at 160°C+2h at 190°C)	IO-10-69 (ASTM D 3418)	°C	187 193

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:** 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:** Prior to demould from the model cure the material at least for 16-12 hrs at 35-40°C. 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.

**Storage:** Epoxy resins and their hardeners can be stored for one year and two years respectively 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. Resin storage must be done at 10-20°C.

**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.