

PROPERTIES

Amine-cured laminating epoxy system with low viscosity at RT and long pot life at elevated temperature. The cured system shows excellent mechanical dynamic and thermal (hot/wet) properties and good chemical resistance.

PROCESSING

- Resin Transfert Moulding (RTM, VARTM)
- Filament Winding
- Pressure Moulding
- Pultrusion
- Wet lay-up

PHYSICAL PROPERTIES				
Composition		RESIN	HARDENER	MIX
Mix ratio by weight		100	35	
Mix ratio by volume at 25°C		100	42	
Aspect		liquid	liquid	liquid
Colour		amber	colourless to light amber	amber
Viscosity (mPa.s)				
- 25°C	ISO 3219: 1993	1,500	100	700
- 40°C	CONE/PLATE	-	-	280
- 60°C	VISCOSIMETER	-	-	120
Specific gravity at 25°C (g/cm ³)	ISO 1675: 1985	1.16	0.94	1.10
Pot life on 100 ml at (min)				
- 23°C	Gel Timer TECAM			500 – 600
- 40°C				140 - 160
Gel time at (min) (1)				
- 60°C	ISO 8130-6: 1992			90 – 120
- 80°C	(Hot plate)			35 – 45
- 100°C				15 – 20
- 140°C				3 – 4

(1) The gel time values shown are for small amounts of pure resin/hardener mix. In composite structures the gel can differ significantly from the given values depending on the fibre content and the laminate thickness.

PROCESSING CONDITIONS

We recommend that the components are weighed with an accurate balance to prevent mixing inaccuracies which can affect the properties of the matrix system. The components should be mixed thoroughly to ensure homogeneity. It is important that the side and the bottom of the vessel are incorporated into the mixing process. When processing large quantity of mixture the pot life will decrease due to exothermic reaction. It is advisable to divide large mixes into several smaller containers.

TYPICAL CURES CYCLES

- 2 hrs 60°C + 4-8 hrs 120°C
- or 1 hr 80°C + 2-8 hrs 120°C
- or 0.5 hr 100°C + 2-8 hrs 160°C

The optimum cure cycle has to be determined case by case depending on the processing and the economic requirements

MECHANICAL PROPERTIES at 23°C (2)			
Tensile modulus	ISO 527-2: 1993	MPa	2,500 – 2,700
Tensile strength	ISO 527-2: 1993	MPa	70 - 76
Elongation at break	ISO 527-2: 1993	%	4 – 6
Flexural modulus	ISO 178: 2001	MPa	2,500 – 2,700
Flexural strength	ISO 178: 2001	MPa	118 – 126

(2) : Average values obtained on standard specimens / Hardening 1 hr 80°C + 8 hrs 140°C

THERMAL AND SPECIFIC PROPERTIES			
Glass transition temperature (Tg)	ISO 11357-2: 1999	°C	100 – 110 108 – 115 120 – 128 125 – 135 128 – 138 130 – 140
- 4 hrs 80°C			
- 30 min 120°C			
- 4 hrs 120°C			
- 2hrs 140°C			
- 1 hr 80°C + 2 hrs 140°C			
- 15 min. 120°C + 2 hrs 150°C			
Water absorption (immersion) at 23°C (2)	ISO 62: 2008	%	0.24
- 10 days			

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products :

- Ensure good ventilation
- Wear gloves, safety glasses and waterproof clothes.

For further information, please consult the product safety data sheet.

STORAGE CONDITIONS

Shelf life of both parts is 24 months in a dry place and in their original unopened containers at a temperature between 5 and 40°C. See expiry date on original container. Partly emptied containers should be closed immediately after use.

GUARANTEE

The information contained in this technical data sheet result from research and tests conducted in our Laboratories under precise conditions. It is the responsibility of the user to determine the suitability of AXSON products, under their own conditions before commencing with the proposed application. AXSON guarantee the conformity of their products with their specifications but cannot guarantee the compatibility of a product with any particular application. AXSON disclaim all responsibility for damage from any incident which results from the use of these products. The responsibility of AXSON is strictly limited to reimbursement or replacement of products which do not comply with the published specifications.

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