

DESCRIPTION

Polyurethane surface casting resin designed for foundry tools (patterns, core boxes) on aluminum pre-forms, concrete resin etc.

PROPERTIES

- Good abrasion resistance
- Good shock resistance
- Quick hardening
- Low toxicity

PHYSICAL PROPERTIES				
Composition		PART A ISOCYANATE	PART B POLYOL	MIXED
Mix ratio by weight		100	50	
Mix ratio by volume at 77° (25°C)		100	50	
Aspect		liquid	liquid	liquid
Color		white	amber to dark amber*	beige to dark beige*
Viscosity at 77°F (25°C) (mPa.s)	BROOKFIELD LVT	3,000	150	1,500
Specific gravity at 77°F (25°C)	ISO 1675 : 1985	1.08	1.08	-
Cured density at 74°F (23°C)	ISO 2781 : 1996	-	-	1.08
Pot life at 77°F (25°C) on 150 g (min)	Gel Timer Tecam			14

*Some color variations may occur without changing the final properties.

MECHANICAL PROPERTIES at 74°F (23°C) ⁽¹⁾			
Hardness	ISO 868 :2003	Shore D1/D15	67/64
Tensile modulus	ISO 527 : 1993	psi (MPa)	76,900 (530)
Tensile strength	ISO 527 : 1993	psi (MPa)	3,900 (27)
Elongation at break	ISO 527 : 1993	%	120
Flexural modulus	ISO 178 : 2001	psi (MPa)	65,300 (450)
Flexural strength	ISO 178 : 2001	psi (MPa)	4,100 (28)
Tear strength <i>Unnotched angular specimens</i>	ISO 34 :2004	lbf/in (kN/m)	536 (94)
Impact strength (CHARPY) <i>Unnotched specimens</i>	ISO 179/1eU : 1994	ft-lb/in ² (kJ/m ²)	unbreakable
BASHORE resilience	ASTM 2632 : 1992	%	62
Abrasion resistance (TABER 1000 revs / H22)	ISO 5470: 1999	mg / 100U	54

PROCESSING CONDITIONS

Both parts (polyol and isocyanate) have to be mixed at a temperature equal or higher than 64°F (18°C) according to the mixing ratio. Part A may be heated to reduce the viscosity. This will reduce the pot life and increase shrinkage. Before casting, make sure that parts or molds are free of any trace of moisture.

THERMAL AND SPECIFIC PROPERTIES ⁽¹⁾			
Working temperature	-	°F (°C)	-40 – 176 (-40 – 80)
Glass transition temperature (Tg)	ISO 11357 : 1999	°F (°C)	212 (100)
Coefficient of thermal expansion (CTE) 32° to 104°F (0° to 40°C)	ISO 11359 : 1999	ppm/°F (°C)	78 (140)
Linear shrinkage (specimen approximately 10x2x0.125 inches (250x50x3mm))	-	%	0.5%
Maximum recommended casting thickness	-	in (mm)	0.8 (20)
Demolding time -at 74°F (23°C) -at 176°F (80°C)	-	hours	16 4
Complete hardening time -at 74°F (23°C) -at 176°F (80°C) (heating after gel)	-	days hours	6 8

⁽¹⁾ Average values obtained on standard specimens / Hardening conditions 16 hr at 158°F (70°C)

HANDLING PRECAUTIONS

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

Ensure good ventilation

Wear gloves, safety glasses and protective clothes.

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

STORAGE CONDITIONS

Shelf life is 12 months in a dry place and in original unopened containers at a temperature between 68°F/(20°C) and 77°F/(25°C). Any open container must be tightly closed under dry nitrogen blanket.

IMPORTANT: if stored at a temperature lower than 60°F (15°C), part A may crystallize. The part must be placed for 4 to 6 hours in an oven at 122°F (50°C) until completely melted.

CAREFUL: Excessive heating (temperature >140°F (60°C) or heating time >12 hours) of the unmixed components may cause degradation of the product.

GUARANTEE

The information of our technical data sheet are based on our present knowledge and the result of tests conducted 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 refuse any guarantee about 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 guarantee conditions are regulated by our general sale conditions.