

## High Heat / Rigid

Rigid polyurethane

### Key Properties

- Excellent physical properties
- Free of mercury, MOCA or TDI
- With an elevated post cure, exceptional HDT

### Applications

- For hand-batch or vacuum assisted casting methods

### Processing Properties

			Resin (Isocyanate)	Hardener (Polyol)
Mix ratio		pbw	100	77
		pbv	100	81
Density	ASTM D-792	g/cm <sup>3</sup>	ca. 1.20	ca. 1.12
Viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 1,400	ca. 280
			Mixture	
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 1,000	
Gel time at 77°F (25°C)		min	5-7	
Demold time at 158°F (70°C)		h	1	

### Cured / Mechanical Properties (approximate values)

Cure 1: 12 hours at 230°F + 7 days at 77°F Cure 2: 1 hour at 158°F + 12 hours at 230°F			Cure 1	Cure 2
Aspect	visual		Amber	Amber
Density	ASTM D-792	g/cm <sup>3</sup>	1.16	1.16
Shore hardness D	ASTM D-2240		75-85	75-85
Deflection temperature, HDT (66psi)	ASTM D-648	°F (°C)	230 (110)	266 (130)
Tensile strength	ASTM D-638	psi	9,000	9,900
Elongation at break	ASTM D-638	%	4	6
Flexural strength	ASTM D-790	psi	14,360	13,025
Flexural modulus	ASTM D-790	psi	343,500	310,200
Notched Izod	ASTM D-256	ft.lbf./in	0.7	0.8
Linear shrinkage	ASTM D-2566	in/in	0.001-.0005	0.001-0.005

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**Processing**

**The processing and material temperature should be between 68-77°F (20-25°C).**

For best results, de-air the material prior to casting, then pressurize to 60psi until cured. A post-cure at 110°C will significantly increase the heat resistance of this system. For best results, pour mixed material into molds preheated to 70°C and allow the molds to remain in the temperature for 1 hour before removing from the heat to demold. The hardener component will darken as it ages. It is recommended that dry nitrogen be used to blanket the material to prevent oxidation and from becoming moisture contaminated.

**Agitate the hardener and resin before use to ensure that the formula is homogeneous.**

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**Packaging**

VA-1290 Quart Kit	3.54 lbs.
VA-1290 1 Gal. Kit	14.16 lbs.
VA-1290 5 Gal. Kit	70.8 lbs.
VA-1290 Drum Kit	796.5 lbs.

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**Storage**

Original containers should be kept tightly sealed and stored at ambient temperatures 59-86°F (15°C to 30°C). If properly stored the products have the shelf-life indicated on the product label.

Partly used containers should always be sealed appropriately and used up as soon as possible.

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**Handling Precautions**

Good workplace ventilation is to be ensured during processing. At the same time, the employer's liability insurance association's industrial hygiene safety regulations regarding the handling of reaction resins and their hardeners are to be observed. Please take heed of the appropriate safety data sheets.

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