

High Impact / High Heat Resistance

Rigid, impact resistant polyurea

Key Properties

- Excellent physical properties
- Free of mercury, MOCA or TDI

Applications

- For hand-batch or vacuum casting methods

Processing Properties

			Resin (Isocyanate)	Hardener (Polyol)
Mix ratio		pbw	100	55
		pbv	100	54
Density	ASTM D-792	g/cm ³	ca. 1.20	ca. 1.23
Viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 1,000	ca. 1,150

			Mixture
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 1,250
Gel time at 77°F (25°C)		min	7-9
Demold time at 150°F (66°C)		hr	1

Cured / Mechanical Properties (approximate values)

Cure 1: 1 hour at 150°F + 7 days at 77°F

			Cure 1
Aspect	visual		Amber
Density	ASTM D-792	g/cm ³	1.20
Shore hardness D	ASTM D-2240		80-90
Deflection temperature, HDT (66psi)	ASTM D-648	°F (°C)	266 (130)
Tensile strength	ASTM D-638	psi	11,300
Elongation at break	ASTM D-638	%	15
Flexural strength	ASTM D-790	psi	15,700
Flexural modulus	ASTM D-790	psi	316,000
Notched Izod	ASTM D-256	ft·lbf/in	1.2
Linear shrinkage	ASTM D-2566	in/in	.001-.005

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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. For best results, pour mixed material into molds preheated to 150°F 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. Care must be taken not to damage the metal seal when removing it from the hardener can. This will allow the hardener to oxidize and become dark.

Packaging

TP-4009 Quart Kit	3.1 lbs.
TP-4009 1 Gal. Kit	12.4 lbs.
TP-4009 5 Gal. Kit	62 lbs.
TP-4009 Drum Kit	697.5 lbs.

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.

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.
