

High Impact / High Heat Resistant

Impact resistant polyurethane

Key Properties

- Excellent physical properties after RT cure
- Free of mercury, MOCA or TDI
- Phthalate free

Applications

- For room temperature hand-batch systems or vacuum-assisted casting methods

Processing Properties

			Resin (Isocyanate)	Hardener (Polyol)
Mix ratio		pbw	100	50
		pbv	100	48
Density	ASTM D-792	g/cm ³	ca. 1.16	ca. 1.20
Viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 5,100	ca. 100

			Mixture
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 2,100
Gel time at 77°F (25°C)		min	10-14
Demold time at 150°F (66°C)		hr	ca. 1

Cured / Mechanical Properties (approximate values)

Cure 1: 1 hour at 150°F + 24 hours at 77°F Cure 2: 1 hour at 150°F + 7 days at 77°F			Cure 1	Cure 2
Aspect	visual		Amber	Amber
Density	ASTM D-792	g/cm ³	1.17	1.17
Shore hardness D	ASTM D-2240		60-70	60-70
Deflection temperature, HDT (66psi)	ASTM D-648	°F (°C)	149 (65)	149 (65)
Tensile strength	ASTM D-638	psi	4,000	5,500
Elongation at break	ASTM D-638	%	70	55
Flexural strength	ASTM D-790	psi	4,000	5,000
Flexural modulus	ASTM D-790	psi	85,000	115,000
Notched Izod	ASTM D-256	ft·lbf/in	7.0	6.0
Linear shrinkage	ASTM D-2566	in/in	0.001-0.005	0.001-0.005

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

Formulated for hand-batch equipment. For best results, de-air material prior to casting, then pressurize to 60 psi until cured. The hardener component will darken as it ages. It is recommended that dry nitrogen be used to protect the material from oxidizing and being moisture contaminated.

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

Packaging

TP-4004-1 Quart Kit	3 lbs.
TP-4004-1 1 Gal. Kit	12 lbs.
TP-4004-1 5 Gal. Kit	60 lbs.
TP-4004-1 Drum Kit	675 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.
