

Impact Resistant / Flame Retardant

Impact resistant polyurea

Key Properties

- Excellent physical properties
- Phthalate free
- Free of mercury, MOCA or TDI
- UL94 V-0 certified
- FAR 25.853 certified

Applications

- For vacuum assisted or meter-mix dispensing methods

Processing Properties

			Resin (Isocyanate)	Hardener (Polyol)
Mix ratio		pbw	100	50
		pbv	100	48
Density	ASTM D-792	g/cm ³	ca. 1.23	ca. 1.27
Viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 1,050	ca. 200
			Mixture	
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 700	
Gel time at 77°F (25°C)		min	10-15	
Demold time at 150°F (66°C)		h	ca. 1	

Cured / Mechanical Properties (approximate values)

Cure 1: 1 hour at 150°F + 24 hours at 77°F Cure 2: 7 days at 77°F			Cure 1	Cure 2
Aspect	visual		Amber	Amber
Density	ASTM D-792	g/cm ³	1.23	1.23
Shore hardness D	ASTM D-2240		65-75	65-75
Deflection temperature, HDT (66psi)	ASTM D-648	°F (°C)	133 (56)	140 (60)
Tensile strength	ASTM D-638	psi	4,000	5,500
Elongation at Break	ASTM D-638	%	70	55
Flexural strength	ASTM D-790	psi	6,400	4,800
Flexural modulus	ASTM D-790	psi	150,000	110,000
Notched Izod	ASTM D-256	ft-lbf/in	3.0	2.5
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 the 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 homogeneous.

Packaging

TP-4014 Quart Kit	3 lbs.
TP-4014 1 Gal. Kit	12 lbs.
TP-4014 5 Gal. Kit	60 lbs.
TP-4014 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.
