

Rapid Cast / Flame Retardant

Rigid, flame retardant polyurethane system

Key Properties

- Excellent physical properties after RT cure
- Free of mercury, MOCA or TDI
- Non Halogenated
- UL 94 V-1 certified

Applications

- Approved for many medical applications including MRI coil housings
- Formulated for room temperature meter-mix dispensing systems and short mold cycle times

Processing Properties

			Resin (Isocyanate)	Hardener (Polyol)
Mix ratio		pbw	100	100
		pbv	85	100
Density	ASTM D-792	g/cm ³	ca. 1.31	ca. 1.11
Viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 375	ca. 1,000

			Mixture
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 700
Gel time at 77°F (25°C)		sec	50-75
Demold time at 77°F (25°C)		min	9-15

Cured / Mechanical Properties (approximate values)

Cure 1: 24 hours at 77°F + 16 hours at 200°F
Cure 2: 7 days at 77°F

			Cure 1	Cure 2
Aspect	visual		Tan	Tan
Density	ASTM D-792	g/cm ³	1.26	1.26
Shore hardness D	ASTM D-2240		75-85	80-90
Deflection temperature, HDT (66psi)	ASTM D-648	°F (°C)	175 (79)	158 (70)
Tensile strength	ASTM D-638	psi	6,000	5,200
Elongation at Break	ASTM D-638	%	6	5
Flexural strength	ASTM D-790	psi	10,000	10,500
Flexural modulus	ASTM D-790	psi	300,000	325,000
Notched Izod	ASTM D-256	ft-lbf/in	0.6	0.6
Linear shrinkage	ASTM D-2566	in/in	0.002-0.005	0.002-0.005

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

RC-79D-1 can be used at room temperature. Meter-mix equipment is recommended due to the short working life of the formulation. RC-79D-1 has been engineered for medical applications and is MRI transparent. The resin and hardener components of RC-79D-1 will separate during storage. Mix thoroughly before use to ensure that the formula is homogeneous. The hardener component may also freeze. If this occurs, warm the material to approximately 125°F until liquefied.

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

Packaging

RC-79D-1 Quart Kit	4 lbs.
RC-79D-1 1 Gal. Kit	16 lbs.
RC-79D-1 5 Gal. Kit	80 lbs.
RC-79D-1 Drum Kit	900 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.
