

Water Clear / Rigid

Water-clear, rigid polyurethane

Key Properties

- Excellent physical properties after RT cure
- Free of mercury, MOCA or TDI
- Excellent optical clarity as well as U.V. protection
- Mixed material can be cast into either tin or platinum silicone molds

Applications

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

Processing Properties

			Resin (Isocyanate)	Hardener (Polyol)
Mix ratio		pbw	100	57
		pbv	100	59
Density	ASTM D-792	g/cm ³	ca. 1.13	ca. 1.10
Viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 450	ca. 1,300
			Mixture	
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 650	
Gel time at 77°F (25°C)		min	15-20	
Demold time at 77°F (25°C)		h	2-4	

Cured / Mechanical Properties (approximate values)

Cure 1: 24 hours at 77°F + 16 hours at 150°F
Cure 2: 7 days at 77°F

			Cure 1	Cure 2
Aspect	visual		Water Clear	Water Clear
Density	ASTM D-792	g/cm ³	1.10	1.10
Shore hardness D	ASTM D-2240		75-85	75-85
Deflection temperature, HDT (66psi)	ASTM D-648	°F (°C)	203 (95)	129 (54)
Tensile strength	ASTM D-638	psi	10,500	8,000
Elongation at Break	ASTM D-638	%	8	8
Tensile modulus	ASTM D-638	psi	265,000	270,000
Flexural strength	ASTM D-790	psi	16,000	14,000
Flexural modulus	ASTM D-790	psi	345,000	350,000
Notched Izod	ASTM D-256	ft-lbf/in	1.1	0.5
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).

For best results, de-air the material prior to casting, then pressurize to 60 psi until cured. However, if pressure cannot be used, this material has been designed for vacuum degas only. OC-5086 can be easily buffed when cured.

Packaging

OC-5086 Quart Kit	3.14 lbs.
OC-5086 1 Gal. Kit	12.56 lbs.
OC-5086 5 Gal. Kit	62.8 lbs.
OC-5086 Drum Kit	706.5 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.
