

## Water Clear / High Heat

High heat polyurethane

### Key Properties

- Excellent physical properties
- Free of mercury, MOCA or TDI
- Excellent optical clarity as well as U.V. stability
- With a short post cure, exceptional heat resistance may be achieved

### Applications

- For hand-batch or vacuum assisted casting methods

### Processing Properties

			Resin (Isocyanate)	Hardener (Polyol)
Mix ratio		pbw	100	37
		pbv	100	40
Density	ASTM D-792	g/cm <sup>3</sup>	ca. 1.16	ca. 1.08
Viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 900	ca. 2,100
			Mixture	
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	ca. 1,000	
Gel time at 77°F (25°C)		min	10-14	
Demold time at 77°F (25°C)		h	2-4	

### Cured / Mechanical Properties (approximate values)

Cure 1: 7 days at 77°F Cure 2: 24 hours at 77°F + 4 hours at 175°F			Cure 1	Cure 2
Aspect	visual		Water Clear	Water Clear
Density	ASTM D-792	g/cm <sup>3</sup>	1.14	1.14
Shore hardness D	ASTM D-2240		80-90	80-90
Deflection temperature, HDT (66psi)	ASTM D-648	°F (°C)	137 (58)	133 (56)
Tensile strength	ASTM D-638	psi	9,000	9,900
Elongation at Break	ASTM D-638	%	4	6
Flexural strength	ASTM D-790	psi	16,000	15,500
Flexural modulus	ASTM D-790	psi	350,000	350,000
Notched Izod	ASTM D-256	ft·lbf/in	0.7	0.8
Linear shrinkage	ASTM D-2566	in/in	0.001-0.005	0.001-0.005

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### Processing

**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. A short post-cure at 175°F will significantly increase the heat resistance of this system. OC-5273 can be easily buffed when cured. The lower hardener viscosity at a slightly elevated temperature allows improved processing where thin wall sections are difficult to fill.

RAMPF Group Inc.'s water clear rigid products may be inhibited by certain platinum based silicone rubbers. It is recommended that a test sample be prepared to verify compatibility.

Although warming the hardener component will reduce the viscosity effectively, it is not recommended that the material be stored in the oven at 100°F or above. This will cause the material to yellow.

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### Packaging

OC-5273 Quart Kit	2.74 lbs.
OC-5273 1 Gal. Kit	10.96 lbs.
OC-5273 5 Gal. Kit	54.80 lbs.
OC-5273 Drum Kit	616.5 lbs.

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### 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.

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### 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.

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