Barnes **Technical Data Sheet**

Product Name

WC-784 A/B
Water Clear Rigid 82 Shore D Urethane Casting System

Product Description

WC-784 A/B is an impact resistant, rigid, 82 Shore D material that is commonly used to make clear or tinted castings of all kinds. When used at room temperature, castings 1/8" thick or larger can be readily cast. Castings that are less than 1/8" thick generally require a mild post-cure.

Product highlights include: exceptional clarity, impact resistant, no odor, and good weatherability.

Physical Properties

Hardness	Shore D	ASTM D-2240	82
Density	g/cc	ASTM D-792	1.05
Cubic Inches Per Pound			26.4
Colour/Appearance			Water Clear/Colorless
Tensile Strength	psi	ASTM D-638	6,650
Tensile Modulus	psi	ASTM D-638	2.6 x 10^5
Compressive Strength	psi	ASTM D-695	8,350
Compressive Modulus	psi	ASTM D-695	3.5 x 10^5
Shrinkage	in./in. linear (12" x ½" x ½")	ASTM D-2566	0.004
Flexural Strength	psi	ASTM D-790	11,000
Flexural Modulus	psi	ASTM D-790	3.2 x 10^5
Izod Impact	notched, (ft.-lb./in.)	ASTM D-256	1.0
Heat Deflection	@ 66psi	ASTM D-648	70ºC
Elongation	%	ASTM D-638	65

Handling Properties

Mix Ratio	**by weight**	**Part A**	**100 parts by weight**
		Part B	**85 parts by weight**
Mix Ratio	**by volume**	**Part A**	**100 parts by volume**
		Part B	**88 parts by volume**
Specific Gravity	g/cc	Part A	1.08
		Part B	1.04
Viscosity	**cps @ 25°C ASTM D-2393**	**Part A**	**600 ± 50**
		Part B	**550**
		Mixed	**650 ± 50**
Colour		**Part A**	**Clear/Colorless**
		Part B	**Clear/Colorless**
Work Time	@ 25°C		6 minutes
Demold Time	@ 25°C		2-3 hours

Cure Schedule: 5 - 7 days at R.T., or 16 hours at 71° - 82°C.
Product is sufficiently cured after one day, ambient, for general handling. See heat curing below.

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Cure Schedule/Heat Curing

Generally, for most applications, ambient temperature curing is adequate; however, maximum physical properties and heat resistance is obtained by post curing WC-784 for 16 hours at 71° - 82°C, or 6 - 8 hours at 82° - 99°C. Parts may require some support during heat cure. A suggested cure schedule is: 3 - 5 days at room temperature (to minimize any softening during heating), followed by 4 - 6 hours at 54° - 66°C, and an additional 16 hours at 71° - 82°C. This cure schedule minimizes part distortion and shrinkage, while affording maximum toughness and heat sag resistance.

Storage

All materials should be kept in tightly closed containers out of contact with moist air. Stored under these conditions at temperatures of 16° - 27°C, the shelf life is 6 months from date of shipment. Part B may turn hazy or partially freeze below 18°C storage. Warming to 27° - 32°C will return product to a clear state.

Notes

The cure will be inhibited if cast against a tin catalyzed silicone RTV.

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1

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