Barnes **Technical Data Sheet**

Product Name

TC-891 A/B
Rigid 80 Shore D Urethane Casting System

Product Description

TC-891 A/B incorporates a non-mercury based catalyst system that produces a tough 80 shore D material with a 12-minute work time. This system can be used to hand pour large electronic housing, models of all kinds, and point of purchase items. This system is also available in a 20-minute work time (TC-892), and a 5-minute work time (TC-890).

Product highlights include: non-mercury, convenient mixing ratio: 1 to 1 parts by weight, low viscosity, flows easily, demold time: 3-4 hours at ambient temperature in a silicone rubber mold (1/8" thick section).

Physical Properties

Hardness	Shore D	ASTM D-2240	80 ± 2
Specific Gravity	g/cc	ASTM D-792	1.14
Cubic Inches Per Pound			25
Color/Appearance			White/Opaque
Tensile Strength	psi	ASTM D-638	7,600
Tensile Modulus	psi	ASTM D-638	2.4X10^5
Elongation	%	ASTM D-638	10
Flexural Strength	psi	ASTM D-790	10,000
Flexural Modulus	psi	ASTM D-790	2.5X10^5
Shrinkage	in./in. linear (12” x 1/2” x 1/2”)		0.003
Izod Impact	ft.-lb./in.	ASTM D-256	0.7
Heat Deflection Temperature	ASTM D-648	@ 66 psi	91°C
		@ 264 psi	81°C

Note: Reported physical properties based on elevated temperature cured test specimens.

Handling Properties

Mix Ratio	by weight	Part A	100 parts by weight
		Part B	100 parts by weight
Mix Ratio	by volume	Part A	88 parts by volume
		Part B	100 parts by volume
Specific Gravity	g/cc	Part A	1.18
		Part B	1.04
Viscosity	cps @ 25°C Brookfield	Part A	325
		Part B	830
		Mixed	725
Colour		Part A	Yellow
		Part B	White
Work Time	100 gram mass @ 25°C		12 minutes
Gel Time			17 minutes
Demold Time	@25°C		3-4 hours

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Cure Schedule/Heat Curing

Most of the physical properties can be achieved in 5-7 days at ambient temperature, 77°F (25°C). In order to achieve maximum physical properties, a post cure with heat is required. BJB recommends 24 hours at ambient temperature, 77°F (25°C), followed by 16 hours at 180°F (82°C). Support of the part may be required to prevent part deformation during heat cure.

Storage

Store in a cool dry place. Unopened containers will have a shelf life of 6 months from date of shipment when properly stored at room temperatures. Purge opened containers with dry nitrogen before re-sealing.

Notes

It is advisable whenever possible to evacuate entrapped air prior to casting this system. The use of a de-airing agent can speed up the process. BJB's AF-7 antifoam works best as the de-airing agent. In conjunction with these support products BJB offers pigments in a wide variety of colors and stainless steel mixers called "Jiffy Mixers." If help is required call BJB for assistance. For additional information on the use of this product, refer to BJB Guidelines for Handling Polyurethane Products.

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1

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