

**TC-851 A/B**  
**78 SHORE D POLYURETHANE CASTING SYSTEM**

TC-851 A/B produces a high impact rigid 78 Shore D material that is commonly used to make computer housings, models of all kinds, artwork, and can also be used for electronic component encapsulation. It provides a working time of 6-7 minutes.

- Low viscosity
- High Heat Deflection Temperature
- 1-2 hour demold time
- RoHS/REACH compliant
- Odorless, clean white color
- Excellent for vacuum or pressure casting

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Hardness, Shore D	ASTM D2240	78 ± 2
Density (g/cc)	ASTM D792	1.13
Cubic Inches per Pound	N/A	25.2
Color/Appearance	Visual	White/Opaque
Tensile Strength (psi)	ASTM D638	7,200
Tensile Modulus (psi)	ASTM D638	2.1 x 10 <sup>5</sup>
Elongation (%)	ASTM D638	8
Flexural Strength (psi)	ASTM D790	10,300
Flexural Modulus (psi)	ASTM D790	2.6 x 10 <sup>5</sup>
Shrinkage (in/in) linear	12"x 1/2" x 1/2"	0.005
Izod Impact, notched (ft-lb/in)	ASTM D256	0.65
Heat Deflection Temperature @ 66psi	ASTM D648	210 ± 5°F (98.9 ± 3°C)
Heat Deflection Temperature @ 264psi	ASTM D648	195 ± 5°F (90.6 ± 3°C)

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

HANDLING PROPERTIES	Part A	Part B
Mix Ratio (by weight)	100	50
Mix Ratio (by volume)	100	51
Specific Gravity @ 77°F (25°C)	1.1	1.07
Color	Pale Yellow	Colorless
Viscosity (cps) @ 77°F (25°C) Brookfield	75	1,400
Mixed Viscosity (cps) @ 77°F (25°C) Brookfield	400	
Work Time, 100g mass @ 77°F (25°C)	6 – 7 minutes	
Gel Time	7 – 8 minutes	
Demold Time @ 77°F (25°C)	1 – 2 hours	

Properties above are typical and not for specifications.

## **CURE SCHEDULE/HEAT CURING:**

Most of the physical properties can be achieved in 5-7 days at 77°F (25°C). You may use your own post-cure schedule but the physical properties may vary from BJB's cure schedule of 1-3 hours at 77°F (25°C) followed by 16 hours at 160 °F (71°C). Do not exceed curing temperatures of 200°F (93°C). Support of the part may be required to prevent part deformation during the heat curing process.

## **NOTE:**

TC-851 A/B with its non-mercury catalyst system does exhibit greater sensitivity to moisture than do similar products that use mercury-containing catalysts. TC-851 A/B should be stored at ambient temperature and the TC-851 "B" component may require vacuum de-airing prior to combining it with the "A" component. Evacuation of the mixed components is mandatory in order to achieve best results. If further information is required, please contact BJB's technical staff for assistance.

## **STORAGE:**

Store at ambient temperatures, 65-80°F (18-27°C). Unopened containers will have a shelf life of 6 months from date of shipment when properly stored at recommended temperatures. Purge opened containers with dry nitrogen before re-sealing.

<b>PACKAGING</b>	<b>Part A</b>	<b>Part B</b>	<b>Cubic Inches per Kit</b>
Quart Kits	2 lbs.	1 lb.	76
Gallon Kits	8 lbs.	4 lbs.	302
5-Gallon Kits	40 lbs.	20 lbs.	1,512
55-Gallon Drum Kits	400 lbs.	200 lbs.	15,120

## **SAFETY PRECAUTIONS:**

Use in a well-ventilated area. Avoid contact with skin using protective gloves and protective clothing. Repeated or prolonged contact on the skin may cause an allergic reaction. Eye protection is extremely important. Always use approved safety glasses or goggles when handling this product.

## **IF CONTACT OCCURS:**

- Skin:** Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. It is *not* recommended to remove resin from skin with solvents. Solvents only increase contact and dry skin. Seek qualified medical attention if allergic reactions occur.
- Eyes:** Immediately flush with water for at least 15 minutes. Call a physician.
- Ingestion:** If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person.

**⚠WARNING:** This product can expose you to chemicals including 1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## **NOTE:**

Refer to the Safety Data Sheet before using this product. For processing tips and guides, please visit: [learn.bjbmaterials.com](http://learn.bjbmaterials.com) to discover additional information.