



# TC-821 A/B

## 84 SHORE D POLYURETHANE CASTING SYSTEM



TC-821 A/B produces a high impact rigid 84 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.

- Convenient 1:1 by volume ratio
- High impact rigid material
- Excellent for vacuum, pressure, hand, and rotational casting
- High impact rigid material
- Fast demolds
- Exhibits high heat distortion temperature

PHYSICAL PROPERTIES	TEST METHOD	RESULTS
Hardness, Shore D	ASTM D2240-04e1	84 ± 2
Density (g/cc)	ASTM D792-00	1.18
Cubic Inches per Pound	N/A	24.7
Color/Appearance	Visual	Translucent/Colorless
Tensile Strength (psi)	ASTM D638-03	7,600
Tensile Modulus (psi)	ASTM D638-03	2.4 x 10 <sup>5</sup>
Elongation (%)	ASTM D638-03	11.5
Flexural Strength (psi)	ASTM D790-03	11,500
Flexural Modulus (psi)	ASTM D790-03	3 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 D256-05	0.75
Heat Deflection Temperature @ 66psi	ASTM D648-04	195°F (90.6°C)
Heat Deflection Temperature @ 264psi	ASTM D648-04	170°F (76.7°C)
Dielectric Constant, 1MHz	ASTM D150-87	3.06
Dissipation Factor, 1 MHz	ASTM D150-87	0.019

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

HANDLING PROPERTIES	Part A	Part B
Mix Ratio (by weight )	100	90
Mix Ratio (by volume)	100	100
Specific Gravity @ 77°F (25°C)	1.19	1.06
Color	Yellow	Colorless
Viscosity (cps) @ 77°F (25°C) Brookfield	60	2,300
Mixed Viscosity (cps) @ 77°F (25°C) Brookfield	1,200	
Work Time, 100g mass @ 77°F (25°C)	2 minutes	
Demold Time @ 77°F (25°C)	30 – 60 minutes	

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 180 °F (82°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:**

Re-blend the “B” component thoroughly prior to use. It is advisable to evacuate entrapped air prior to casting this system. The use of a de-airing agent, (BJB’s AF-4), can speed up the process. If further information is required, please contact BJB’s technical staff for assistance.

**ACCESSORIES:**

BJB offers silicone RTV mold making materials along with a wide range of accessory items. These include de-airing agents, pigments, mold releases, and Jiffy® Mixers. Visit BJB’s website at [www.bjbenterprises.com](http://www.bjbenterprises.com) or consult a BJB representative for more information.

**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.

<b>PACKAGING</b>	<b>Part A</b>	<b>Part B</b>	<b>Cubic Inches per Kit</b>
Quart Kits	2 lbs.	1.8 lbs.	94
Gallon Kits	8 lbs.	7.2 lbs.	375
5-Gallon Kits	40 lbs.	36 lbs.	1,877
55-Gallon Drum Kits	400 lbs.	360 lbs.	18,772

**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 and Naphthalene, which are 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.

NON-WARRANTY "Except for a warranty that materials substantially comply with the data presented in Manufacturer's latest bulletin describing the product (the basis for this substantial compliance is to be determined by the standard quality control tests generally performed by Manufacturer), all materials are sold "AS IS" and without any warranty express or implied as to merchantability, fitness for a particular purpose, patent, trademark or copyright infringement, or as to any other matter. In no event shall Manufacturer's liability for damages exceed Manufacturer's sale price of the particular quantity with respect to which damages are claimed."