

**TC-854 A/B****RIGID 84 SHORE D POLYURETHANE CASTING SYSTEM**

TC-854 is an extremely stiff, high impact, translucent material making it ideal when exact color matching is required. When coupled with the low viscosity, low shrink and high heat deflection temperature, this material is always a popular choice for a wide variety of applications.

- RoHS/REACH compliant
- High impact strength
- High heat distortion temperature
- Odorless, Translucent
- Low viscosity
- Excellent for hand, vacuum, or pressure casting

PHYSICAL PROPERTIES	TEST METHOD	RESULTS
Hardness, Shore D	ASTM D2240-04e1	84 ± 2
Density (g/cc)	ASTM D792-00	1.20
Cubic Inches per Pound	N/A	24.5
Color/Appearance	Visual	Transparent Pale Yellow
Tensile Strength (psi)	ASTM D638-03	10,060
Tensile Modulus (psi)	ASTM D638-03	3.3 x 10 <sup>5</sup>
Elongation (%)	ASTM D638-03	10.5
Flexural Strength (psi)	ASTM D790-03	13,700
Flexural Modulus (psi)	ASTM D790-03	3.6 x 10 <sup>5</sup>
Shrinkage (in/in) linear	12"x1/2"x1/2"	0.001†
Izod Impact, notched (ft-lb/in)	ASTM D256-05	1.14
Heat Deflection Temperature @ 66 psi	ASTM D648-04	190 ± 5°F (88 ± 3°C)
Heat Deflection Temperature @ 264 psi	ASTM D648-04	170 ± 5°F (77 ± 3°C)

\*Note: Reported physical properties are based on test specimens cured 1-3 hours at room temperature then 16 hours at 180°F (82°C).

†Shrink test specimens are cured for 24 hours at room temperature and then 16 hours at 180°F (82°C).

HANDLING PROPERTIES	Part A	Part B
Mix Ratio by weight	100	60
Mix Ratio by volume	100	66
Specific Gravity @ 77°F (25°C)	1.17	1.07
Color	Pale Yellow	Colorless
Viscosity (cps) @ 77°F (25°C) Brookfield	165	725
Mixed Viscosity (cps) @ 77°F (25°C) Brookfield	450	
Work Time, 100g mass @ 77°F (25°C)	6 – 8 minutes	
Gel Time	7 – 9 minutes	
Demold Time @ 77°F (25°C)	2 – 3 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 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.

**MIXING NOTE:**

Preconditioning the “A” and “B” components to approximately 80°-100°F (27°-38°C) prior to mixing is desirable for best results. Evacuation of the mixed components is recommended in order to achieve the best results. The use of a de-airing agent, (BJB’s AF-4), can speed the process.

**HANDLING NOTE:**

Material contains a small amount of moisture scavenger that will settle to the bottom of the container. At moderate levels, the scavenger has little effect on the cured properties. BJB suggests doing one of the following:

- A. Mix material prior to every use to uniformly redistribute the scavenger –OR–
- B. Allow moisture scavenger to settle at the bottom of container without remixing. (A layer of residual moisture scavenger should remain in the container when finished.)

**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.

PACKAGING	Part A	Part B	Cubic Inches per Kit
Quart Kits	2 lbs.	1.2 lbs.	78
Gallon Kits	8 lbs.	4.8 lbs.	314
5-Gallon Kits	40 lbs.	24 lbs.	1,568
55-Gallon Drum Kits	400 lbs.	240 lbs.	15,680

**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.

**Refer to the Material Safety Data Sheet before using this product.**

**⚠WARNING:** This product can expose you to chemicals including Ethylbenzene, 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).



Handling Guide

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."