

# RIGID FILLED & UNFILLED URETHANES

"Dedicated to QUALITY, SERVICE, SAFETY, and INNOVATION"

## TC-850 A/B 75 SHORE D POLYURETHANE CASTING SYSTEM



TC-850 A/B produces a high impact rigid 75 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.

- RoHS/REACH Compliant
- High impact rigid material
- Odorless, clean white
- One to two hour demold time
- Excellent for vacuum or pressure casting
- Low viscosity

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Hardness, Shore D	ASTM D2240	75 ± 2
Density (g/cc)	ASTM D792	1.12
Cubic Inches per Pound	N/A	25.6
Color/Appearance	Visual	White/Opaque
Tensile Strength (psi)	ASTM D638	6,800
Tensile Modulus (psi)	ASTM D638	2.1 x 10 <sup>5</sup>
Elongation (%)	ASTM D638	10
Flexural Strength (psi)	ASTM D790	9,800
Flexural Modulus (psi)	ASTM D790	2.42 x 10 <sup>5</sup>
Shrinkage (in/in) linear	12" x 1/2" x 1/2"	0.006
Izod Impact, notched (ft-lb/in)	ASTM D256	0.66
Heat Deflection Temperature @ 66psi	ASTM D648	203°F (95°C)
Heat Deflection Temperature @ 264psi	ASTM D648	193°F (89.4°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	52
Specific Gravity @77°F (25°C)	1.10	1.06
Color	Pale Yellow	Colorless
Viscosity (cps) @77°F (25°C) Brookfield	75	1,350
Mixed Viscosity (cps) @77°F (25°C) Brookfield	160	
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 ambient temperature, 77°F (25°C). In order to achieve maximum physical properties, a post cure with heat is required. 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.

**VACUUM DE-GASSING/DE-AIRING:**

It is advisable whenever possible to evacuate entrapped air prior to casting this system. The use of de-airing agent, (BJB’s AF-4), can speed the process.

**NOTE:**

TC-850 A/B should be stored at ambient temperature and the TC-850 “B” component may require vacuum de-airing prior to combining it with the “A” component. Evacuation of the mixing components is mandatory in order to achieve best results. It is recommended that the “A” & “B” components as well as the mold should be pre-conditioned to a minimum of 80°F (26.7°C) prior to use.

**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>
Gallon kits	8 lbs.	4 lbs.	307.2
5 Gallon kits	40 lbs.	20 lbs.	1,536
Drum kits	440 lbs.	220 lbs.	16,896

**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.