



TC-854 A/B

RIGID 84 SHORE D POLYURETHANE CASTING SYSTEM

PRODUCT HIGHLIGHTS:

- Non-Mercury Based Catalyst System
- High impact rigid material
- Odorless, translucent
- Excellent for hand, vacuum or pressure casting
- Low viscosity
- Exhibits high heat distortion temperature

PRODUCT DESCRIPTION:

TC-854 A/B is a rigid 84 Shore D polyurethane system that exhibits exceptional physical properties. It is a high performance material that features high heat deflection capability and a low shrink factor. TC-854 is a highly translucent, colorless casting material that allows for unrestricted tinting and precise color matching. This product is ideal for producing intrinsically colored parts requiring a non-painted finish. This product can be easily processed for hand-cast, meter-mix-dispense, or vacuum cast applications.

PHYSICAL PROPERTIES:

| | |
|--|--------------------------|
| Hardness, Shore D ASTM D-2240..... | 84 ± 2 |
| Density, (g/cc) ASTM D-792..... | 1.20 |
| Cubic Inches Per Pound..... | 24.5 |
| Color/Appearance..... | Transparent light yellow |
| Tensile Strength, (psi) ASTM D-638..... | 10,060 |
| Tensile Modulus, (psi) ASTM D-638..... | 3.3 x 10 ⁵ |
| Elongation, (%) ASTM D-638..... | 10.5 |
| Flexural Strength, (psi) ASTM D-790..... | 13,700 |
| Flexural Modulus, (psi) ASTM D-790..... | 3.6 x 10 ⁵ |
| Shrinkage, (in./in.) linear (12" x 1/2" x 1/2")..... | 0.001 |
| Izod Impact, (ft.-lb./in.) ASTM D-256..... | 1.14 |
| Heat Deflection Temperature ASTM D-648: | |
| @ 66 psi..... | 190° ± 5°F (88° ± 3°C) |
| @ 264 psi..... | 170° ± 5°F (77° ± 3°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..... | 60 parts by weight |

Mix Ratio (by volume):

| | |
|-------------|---------------------|
| Part A..... | 100 parts by volume |
| Part B..... | 66 parts by volume |

Specific Gravity:

| | |
|-------------|------|
| Part A..... | 1.17 |
| Part B..... | 1.07 |

HANDLING PROPERTIES (continued):

Viscosity, (cps) @ 77°F (25°C) Brookfield:

| | |
|--------------|-----|
| Part A | 165 |
| Part B | 725 |
| Mixed | 450 |

Color:

| | |
|--------------|------------------------|
| Part A | Transparent yellow |
| Part B | Translucent, colorless |

Work Time, (100-gram mass) @ 77°F (25°C)..... 6-8 minutes
Gel Time 7-9 minutes
Demold Time @ 77°F (25°C)..... 2-3 hours

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° (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.

MIXING NOTES:

Preconditioning the “A” and “B” components to approximately 80°-100°F (27°-38°C) prior to mixing and casting is desirable for best results. TC-854 A/B with its non-mercury catalyst system does exhibit greater sensitivity to moisture than do similar products that use mercury-containing catalysts. TC-854 “B” component may require re-mixing and 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 temperature in a 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.**

PACKAGING:

| | |
|--------------------------|------------------------|
| Gallon Kits..... | 8 lbs. A, 4.8 lbs. B |
| 5 Gallon Kits..... | 40 lbs. A, 24 lbs. B |
| 55-Gallon Drum Kits..... | 400 lbs. A, 240 lbs. B |

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.

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."