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
Specific Gravity, (g/cc) cured 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 ..... 3.3×10^5
Elongation, (%) ASTM D-638 ..... 10.5
Flexural Strength, (psi) ASTM D-790 13,700
Flexural Modulus, (psi) ASTM D-790 ..... 3.6×10^5
Shrinkage, (in./in.) linear (12" x ½" x ½") 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, (g/cc):
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 ..... For maximum physical properties the material should be post cured (see "HEAT CURING").

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.

HEAT CURING:
Enhanced physical properties can be achieved by post-curing TC-854 A/B parts for a period of 2 - 4 hours at a minimum of 150°F (66°C) and to a maximum of 175°F (79°C). Four hours at 160°F (71°C) will provide a final heat distortion temperature @ 264 psi of 170°F (77°C). Parts generally should be supported during post-cures.

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. Do not re-suspend the "B" side of this product. The settled material in the bottom of the container is a desiccant utilized in hindering moisture from affecting the product, and should be left unmixed. 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 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 3 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.

For more information call BJB Enterprises, Inc. (714) 734-8450 Fax (714) 734-8929