



TC-680 A/B

80 SHORE A POLYURETHANE ELASTOMER

PRODUCT DESCRIPTION:

TC-680 A/B is a two-component polyurethane elastomer compound specifically designed for casting applications. This product is a safe, easy-to-handle, room temperature mixing and curing system that contains no TDI, MDA, or MOCA. TC-680 A/B is insensitive to moisture during storage and normal handling and easily produces void-free parts without the foaming problems that some conventional urethane systems exhibit. The low shrinkage, superior toughness, and excellent detail reproduction of TC-680 A/B makes this system ideal for general purpose castings and quality tooling operations.

TYPICAL PRODUCT USES:

- ✓ Molds and forming dies
- ✓ Shock absorbent pads and liners
- ✓ All types of resilient parts
- ✓ Electrical Potting and cable sealing applications

PHYSICAL PROPERTIES:

Hardness, Shore A ASTM D-2240.....	80 ± 5
Specific Gravity (g/cc) cured ASTM D-792	1.04
Color/Appearance.....	Clear/pale green
Tensile Strength (psi) ASTM D-412.....	1475
Tensile Modulus (psi) ASTM D-412.....	4380
Modulus @ 100% Elongation (psi)	590
Modulus @ 200% Elongation (psi)	750
Modulus @ 300% Elongation (psi)	900
Elongation (%) ASTM D-412.....	715
Tear Strength (pli) ASTM D-624	225
Shrinkage (in./in.) linear ASTM D-2566.....	0.002
Water Immersion, (%) 24-hour weight gain.....	3.7

ELECTRICAL PROPERTIES:

Insulation Resistance.....	3×10^{12} (ohms)
Dielectric Constant	$3.9 @ 10^5$ Hz
Dissipation Factor.....	$0.01 @ 10^3$ Hz
Surface Resistivity	5×10^{15} (ohm-cm)

HANDLING PROPERTIES:

Mix Ratio:

Part A 100 parts by Weight or Volume
Part B 50 parts by Weight or Volume

Specific Gravity (g/cc):

Part A 1.03
Part B 1.04

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

Part A 9000
Part B 100
Mixed..... 2500

Work Time, 100g mass @ 77°F (25°C)20 minutes

Demold Time @ 77°F (25°C)..... 4-6 hours

Cure Schedule.....Full cure in 3 to 5 days at room temperature or 16 hours @ 150° F (66°C).

NOTE:

Use of mold release agents such as Ease Release 200 or Challenge 90 is essential during mold making operation with this product. Prolonged direct exposure to sunlight can affect the surface of this product. Cover molds or other products when storing outdoors. **The cure will be inhibited if cast against a tin catalyzed silicone RTV.**

STORAGE:

Store in a cool, dry place. Unopened containers of TC-680 A/B will have a shelf life of 6 months, from date of shipment, when properly stored under normal temperature conditions, 77° F (25°C).

PACKAGING:

1 Gallon kits..... 8 lbs. A, 4 lbs. B
5 Gallon kits..... 40 lbs. A, 20 lbs. B
55-Gallon drum kits..... 400 lbs. A, 200 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. 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."