

F-170 A/B

70 SHORE A POLYURETHANE ELASTOMER



The fast "F" Series of polyurethane elastomers range in hardness from 5 – 95 Shore A. These products were developed with shorter processing times in mind. F-170 features an easy mix ratio, low viscosity, and short demold time. If more work time is needed, consider our "M" Series of polyurethane elastomers (Medium work life).

The F-170 is ideal for:

- Part Production
- Molds
- Special Effects and Props
- Potting
- Pigmenting
- And Much More

| PHYSICAL PROPERTIES | TEST METHOD | 7 DAY AMBIENT CURE | 21 DAY AMBIENT CURE | ELEVATED TEMPERATURE CURE* |
|----------------------------|-----------------------|---------------------|---------------------|----------------------------|
| Hardness, Shore A | ASTM D2240-04el | 70±5 | 70±5 | 70±5 |
| Density (g/cc) | ASTM D792-00 | 1.09 | 1.09 | 1.09 |
| Cubic Inches per Pound | N/A | 26 | 26 | 26 |
| Color/Appearance | Visual | Translucent Amber | Translucent Amber | Translucent Amber |
| Tensile Strength (psi) | ASTM D412-98a(2002)el | 1,429 | 1,574 | 1,803 |
| Tensile Modulus (psi) | ASTM D412-98a(2002)el | 695 | 529 | 405 |
| Elongation (%) | ASTM D638-03 | 1,183 | 1,430 | 1,147 |
| Tear Strength (pli) | ASTM D624-00el | 225 | 234 | 245 |
| Shrinkage (in/in) linear | ASTM D2566 @ 1" depth | 0.0025 [†] | TBD | TBD |
| Dielectric Constant, 1 MHz | ASTM D150-87 | 4.987 | 4.987 | 4.987 |
| Dissipation Factor, 1 MHz | ASTM D150-87 | 0.043 | 0.043 | 0.043 |

***Note:** Reported physical properties are based on test specimens cured 1-3 hours at room temperature then 16 hours at 160°F (71°C).

[†]Shrink test specimens are cured for 24 hours at room temperature and then 16 hours at 160°F (71°C).

| HANDLING PROPERTIES | Part A | Part B |
|---|-----------------|--------|
| Mix Ratio by weight | 50 | 100 |
| Mix Ratio by volume (cartridge dispense friendly) | 47 | 100 |
| Specific Gravity @ 77°F (25°C) | 1.12 | 1.04 |
| Color | Pale Yellow | Amber |
| Viscosity (cps) @ 77°F (25°C) Brookfield | 730 | 1,255 |
| Mixed Viscosity (cps) @77°F (25°C) Brookfield | 1,120 | |
| Work Time, 100g mass @ 77°F (25°C) | 5 - 5.5 minutes | |
| Gel Time | 6 - 7 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 160°F (71°C). Do not exceed curing temperature of 200°F (93°C).

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 or consult a BJB representative for more information.

COLOR VARIATIONS:

The color of the base material may vary slightly from batch to batch due to raw ingredients. Color variations will not affect the cured physical properties. Exposing the material to various conditions such as heat and UV light will alter the color of the cured system. Color stability is not guaranteed. This product can be pigmented, but you may see more color shift when using lighter pigments.

UV RESISTANCE:

This product is not classified as UV resistant. BJB offers an additive called UV-100, a UV inhibitor and anti-oxidant blend that will help slow down the effects of UV degradation and color change. The level of effectiveness varies from product to product.

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.

| PACKAGING | Part A | Part B | Cubic Inches Per Kit |
|---------------------|----------|----------|----------------------|
| Gallon Kits | 4 lbs. | 8 lbs. | 312 |
| 5-Gallon Kits | 20 lbs. | 40 lbs. | 1,560 |
| 55-Gallon Drum Kits | 220 lbs. | 440 lbs. | 17,160 |

SAFETY PRECAUTIONS:

Use in a well-ventilated area. Avoid contact with skin using protective gloves and protective clothing. Repeat 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.



Handling Guide



F-170 Part A MSDS



F-170 Part B MSDS

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."