

# FD-45 A/B

## 45 SHORE D POLYURETHANE ELASTOMER



FD-45 A/B is a high performance elastomer system that can perform many functions. Can be used to produce both molds and parts. Product characteristics are:

- RoHS compliant
- Cures at room temperature to produce a strong, resilient elastomer
- Easy to use
- High tensile and tear strength

PHYSICAL PROPERTIES	TEST METHOD	7 DAY AMBIENT CURE	21 DAY AMBIENT CURE	ELEVATED TEMPERATURE CURE*
Hardness, Shore D	ASTM D2240-04e1	45±5	45±5	45±5
Density (g/cc)	ASTM D792-00	1.113	1.113	1.113
Cubic Inches per Pound	N/A	25.58	25.58	25.58
Color/Appearance	Visual	Translucent Amber	Translucent Amber	Translucent Amber
Tensile Strength (psi)	ASTM D412-98a(2002)e1	2,059	2,135	4,545
Tensile Modulus (psi)	ASTM D412-98a(2002)e1	9,432	10,613	9,484
Elongation (%)	ASTM D412-98a(2002)e1	735	647	635
Tear Strength (pli)	ASTM D624-00e1	405	415	490
Shrinkage (in/in) linear	ASTM D2566 @ 1" depth	0.0030 <sup>†</sup>	TBD	TBD
Dielectric Constant, 1 MHz	ASTM D150-87	4.631	4.631	4.631
Dissipation Factor, 1 MHz	ASTM D150-87	0.0495	0.0495	0.0495

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

<sup>†</sup>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 )	100	32
Mix Ratio (by volume)	100	31
Specific Gravity @ 77°F (25°C)	1.075	1.115
Color	Pale Yellow	Amber
Viscosity (cps) @77°F (25°C) Brookfield	3,680	1,650
Mixed Viscosity (cps) @77°F (25°C) Brookfield	4,320	
Work Time, 100g mass @ 77°F (25°C)	10 minutes	
Gel Time	15 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).

**PREPARATION AND RELEASING:**

When FD-45 A/B is used to produce molds or parts from plaster, wood or other porous substrates, we would first recommend that they be sealed. Release agents may then be applied over the sealed surface.

**NOTE:**

Prolonged direct exposure to sunlight can affect the surface of this product. Cover molds or other products when storing outdoors.

**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](http://www.bjbenterprises.com) or consult a BJB representative for more information.

**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	8 lbs.	2.6 lbs.	271.15
5-Gallon Kits	40 lbs.	12.8 lbs.	1,350.62
55-Gallon Drum Kits	400 lbs.	128 lbs.	13,506.2

**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.**



Handling Guide



FD-45 Part A



FD-45 Part B

Quality Management System Registered to ISO 9001:2008

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."