



SHORE D SEMI-RIGID URETHANES

"Dedicated to *QUALITY, SERVICE, SAFETY, and INNOVATION*"

MD-50 A/B

50 SHORE D POLYURETHANE ELASTOMER



BJB's MD Series of semi rigid, medium work time urethane elastomers exhibit great flexibility and excellent durability. These tough, abrasion resistant systems easily process at room temperature and range in hardness from 50 Shore D to 65 Shore D. The MD Series is perfect for larger or more complex parts and offers superior performance in many applications such as rollers, foundry tooling and high impact semi rigid parts. For faster work times consider BJB's FD Series of elastomers.

- RoHS/REACH compliant
- High tensile and tear strength
- 2:1 user friendly ratio
- Molds and cast parts
- Ideal for cartridge dispense
- Cures at room temperature

PHYSICAL PROPERTIES	TEST METHOD	7 DAY AMBIENT CURE	21 DAY AMBIENT CURE	ELEVATED TEMPERATURE CURE*
Hardness, Shore D	ASTM D2240-04 ^{ε1}	50 ± 5	50 ± 5	50 ± 5
Density (g/cc)	ASTM D792-00	1.149	1.149	1.149
Cubic Inches per Pound	N/A	25.0	25.0	25.0
Color/Appearance	Visual	Clear Amber	Clear Amber	Clear Amber
Tensile Strength (psi)	ASTM D412-98a(2002) ^{ε1}	TBD	TBD	4,333
Tensile Modulus (psi)	ASTM D412-98a(2002) ^{ε1}	TBD	TBD	14,036
Elongation (%)	ASTM D412-98a(2002) ^{ε1}	TBD	TBD	470
Tear Strength (pli)	ASTM D624-00 ^{ε1}	TBD	TBD	435
Flexural Strength (psi)	ASTM D790	TBD	TBD	805
Flexural Modulus (psi)	ASTM D790	TBD	TBD	19,000
Shrinkage (in/in) linear	ASTM D2566 @ 1" depth	0.0053 [†]	TBD	TBD
Izod Impact (ft-lb/in) notched	ASTM D256-05	TBD	TBD	>16
Dielectric Constant, 1 MHz	ASTM D150-87	4.891	4.891	4.891
Dissipation Factor, 1 MHz	ASTM D150-87	0.0676	0.0676	0.0676

*Note: Reported physical properties are based on test specimens cured 1-3 hours at room temperature then 16 hours at 180°F (82°C).

[†]Shrink test specimens are cured for 24 hours at room temperature and then 16 hours at 180°F (82°C).

HANDLING PROPERTIES	Part A	Part B
Mix Ratio (by weight)	100	50
Mix Ratio (by volume)	100	50
Specific Gravity @ 77°F (25°C)	1.110	1.108
Color	Pale Yellow	Amber
Viscosity (cps) @77°F (25°C) Brookfield	3,220	515
Mixed Viscosity (cps) @77°F (25°C) Brookfield	1,700	
Work Time, 100g mass @ 77°F (25°C)	15 – 20 minutes	
Gel Time	24 – 26 minutes	
Demold Time @ 77°F (25°C)	3 – 4 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 180°F (82°C). Do not exceed curing temperature of 200°F (93°C).

PREPARATION AND RELEASING:

When MD-50 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 or consult a BJB representative for more information.

STORAGE:

Store 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.	4 lbs.	300
5-Gallon Kits	40 lbs.	20 lbs.	1,500
55-Gallon Drum Kits	440 lbs.	220 lbs.	16,500

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



MD-50 Part A MSDS



MD-50 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."