

MD-50 REV 1 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. 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
- 2:1 user friendly ratio
- High tensile and tear strength
- Molds and cast parts
- Cures at room temperature

PHYSICAL PROPERTIES	TEST METHOD	7 DAY AMBIENT CURE	ELEVATED TEMPERATURE CURE*
Hardness, Shore D	ASTM D2240-04e1	50 ± 5	50 ± 5
Density (g/cc)	ASTM D792-00	1.14	1.14
Cubic Inches per Pound	N/A	25.1	25.1
Color/Appearance	Visual	Clear Amber	Clear Amber
Tensile Strength (psi)	ASTM D412-98a(2002)e1	TBD	4,360
Tensile Modulus (psi)	ASTM D412-98a(2002)e1	TBD	24,800
Elongation (%)	ASTM D412-98a(2002)e1	TBD	510
Tear Strength (pli)	ASTM D624-00e1	TBD	450
Shrinkage (in/in) linear	ASTM D2566 @ 1" depth	0.004 [†]	TBD
Izod Impact (ft-lb/in) notched	ASTM D256-05	TBD	>16
Dielectric Constant, 1 MHz	ASTM D150-87	4.993	4.993
Dissipation Factor, 1 MHz	ASTM D150-87	0.0599	0.0599

***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	100	50
Mix Ratio by volume	100	50
Specific Gravity @ 77°F (25°C)	1.103	1.109
Color	Pale Yellow	Amber
Viscosity (cps) @ 77°F (25°C) Brookfield	4,500	440
Mixed Viscosity (cps) @ 77°F (25°C) Brookfield	2,500	
Work Time, 100g mass @ 77°F (25°C)	15 – 20 minutes	
Gel Time	20 – 25 minutes	
Demold Time @ 77°F (25°C)	3 – 4 hours	

Properties above are typical and not for specifications.

NOTE:

Cure times are subject to part size. Smaller parts may need additional time in the mold or add mild heat (100-120°F) to decrease demold time. **Heat will also increase toughness of parts upon demold.**

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

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 MD-50 REV 1 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.

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.	301
5-Gallon Kits	40 lbs.	20 lbs.	1,506
55-Gallon Drum Kits	440 lbs.	220 lbs.	16,566

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.

⚠WARNING: This product can expose you to chemicals including Toluene diisocyanate, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.



Handling Guide



MD-50 REV 1 Part A SDS



MD-50 REV 1 Part B SDS