

TC-814 A/B ALUMINUM FILLED URETHANE FOR TOOLING AND PARTS



TC-814 A/B is a durable, aluminum filled polyurethane system that offers excellent duplication properties. TC-814 A/B exhibits low shrink, low exotherm and quick demold times. Cured parts and molds can be machined or sanded/polished to produce smooth surfaces. Can be burnished to simulate metal finish for special effects or theming.

- Low viscosity - easy to mix & pour
- Great machining properties
- Low exotherm & low shrinkage
- Wax injection molds
- Greater settling resistance
- Safe to use with platinum based silicones
- Vacuum forming tools
- Simulate metal surfaces/cold metal casting

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Hardness, Shore D	ASTM D2240-04e1	85 ± 5
Density (g/cc)	ASTM D792-00	1.775
Cubic Inches per Pound	N/A	16.1
Color/Appearance	Visual	Gray/Opaque
Tensile Strength (psi)	ASTM D638-03	3,130
Tensile Modulus (psi)	ASTM D638-03	6.5 x 10 ⁵
Elongation (%)	ASTM D638-03	3.5
Shrinkage (in/in) linear	ASTM D2566 @ 1" depth	0.001
Heat Deflection Temperature @ 66psi	ASTM D648-04	210°F (98.9°C)
Heat Deflection Temperature @ 264psi	ASTM D648-04	200°F (93.3°C)
Dielectric Constant, 1 MHz	ASTM D150-87	12.386
Dissipation Factor, 1 MHz	ASTM D150-87	0.0134

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

HANDLING PROPERTIES	Part A	Part B
Mix Ratio by weight	100	100
Mix Ratio by volume	100	100
Specific Gravity @ 77°F (25°C)	1.725	1.722
Color	Gray	Gray
Viscosity (cps) @ 77°F (25°C) Brookfield	600	12,000
Mixed Viscosity (cps) @ 77°F (25°C) Brookfield	2,900	
Work Time, 100g mass @ 77°F (25°C)	12 – 14 minutes	
Gel Time	28 – 30 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 160 °F (71°C). Do not exceed curing temperatures of 200°F (93°C). Support of the part may be required to prevent part deformation during the heat curing process.

MIXING INSTRUCTIONS:

TC-814 A/B settles on standing but is easily remixed. Thoroughly mix cans A and B separately, preferably with a Jiffy Mixer. Then combine equal parts of A and B by weight or volume. Mix thoroughly for not more than 30 seconds and pour promptly. Do not mix in the original containers. Polyethylene mixing pails are excellent and may be reused. Be sure all material on the sides and bottom are well mixed. After each use, cans should be purged with dry nitrogen and tightly sealed to prevent moisture in the air from reacting with the contents.

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 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
Quart Kits	2 lbs.	2 lbs.	64
Gallon Kits	10 lbs.	10 lbs.	322

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



TC-814 Part A SDS



TC-814 Part B SDS