



TC-891 FR REV 1 BLACK
RIGID 80 SHORE D URETHANE CASTING SYSTEM
FIRE RETARDANT



This tough 80 Shore D Flame Retardant material is UL Listed with a flammability rating at 1/16 inch (1.6 mm). It's great for hand casting or machine dispensing electronic enclosures, or any parts requiring flame retardant characteristics. The 12 to 14 minute work time exhibits very low shrinkage and exceptional physical properties. Also available in a variety of work times as TC-890, 892, and 894 FR REV 1.

- RoHS compliant
- 3-4 hour demold time
- 12-14 minute work time
- UL 94V-0 Listed, flammability rating at 1/16" thickness (File# E174527)

PHYSICAL PROPERTIES	TEST METHOD	RESULTS
Hardness, Shore D	ASTM D2240-04e1	80 ± 2
Density (g/cc)	ASTM D792-00	1.3
Cubic Inches per Pound	N/A	21.9
Color/Appearance	Visual	Black
Tensile Strength (psi)	ASTM D638-03	6,117
Tensile Modulus (psi)	ASTM D638-03	2.5 x 10 ⁵
Elongation (%)	ASTM D638-03	21
Flexural Strength (psi)	ASTM D790-03	10,126
Flexural Modulus (psi)	ASTM D790-03	2.81 x 10 ⁵
Shrinkage (in/in) linear	12"x1/2"x1/2"	0.0005
Izod Impact, notched (ft-lb/in)	ASTM D256-05	0.58
Heat Deflection Temperature @ 66 psi	ASTM D648-04	186°F (85.6°C)
Heat Deflection Temperature @ 264 psi	ASTM D648-04	168°F (75.6°C)
Dielectric Constant, 1 MHz	ASTM D150-87	3.241
Dissipation Factor, 1 MHz	ASTM D150-87	0.014
Ball Pressure Test (mm) 167°F (75°C)	IEC 60695-10-2	1.3

Note: Reported physical properties are based on test specimens cured at an elevated temperature, 180°F (82°C).

HANDLING PROPERTIES	Part A	Part B
Mix Ratio by weight	70	100
Mix Ratio by volume	79	100
Specific Gravity @ 77°F (25°C)	1.18	1.33
Color	Yellow	Black
Viscosity (cps) @ 77°F (25°C) Brookfield	325	1,450
Mixed Viscosity (cps) @ 77°F (25°C) Brookfield	740	

HANDLING PROPERTIES (continued)

Work Time, 100g mass @ 77°F (25°C)	12 – 14 minutes
Gel Time	13 – 15 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 temperatures of 200°F (93°C). Support of the part may be required to prevent part deformation during the heat curing process.

NOTE:

It is advisable whenever possible to evacuate entrapped air prior to casting this system. The use of a de-airing agent can speed up the process. BJB's AF-5 antifoam works best as the de-airing agent. In conjunction with these support products BJB offers pigments in a wide variety of colors and stainless steel mixers called "Jiffy Mixers." If help is required call BJB for assistance. For additional information on the use of this product, refer to BJB Guidelines for Handling Polyurethane Products.

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
Gallon Kits	5.6 lbs.	8 lbs.	298
5-Gallon Kits	28 lbs.	40 lbs.	1,489

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.

NOTE:

Refer to the Safety Data Sheet before using this product. For processing tips and guides, please visit: learn.bjbmaterials.com to discover additional information.

⚠WARNING: This product can expose you to chemicals including 1,2-Benzenedicarboxylic acid, di-C8-10-branched alkyl esters, C9-rich, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.