



RIGID-CAST 8004 A/B

RIGID 85 SHORE D FIRE RETARDANT POLYURETHANE CASTING SYSTEM FOR FAST PRODUCTION AND PROTOTYPE PARTS

PRODUCT HIGHLIGHTS:

- Designed for meter-mix machine dispensing
- Fast setting. Parts may be cycled in 45 - 60 minutes
- Convenient ratio by weight or by volume
- High heat resistance
- UL 94V-0 Flame class recognition from a minimum thickness of 3.25 mm (0.128 inches)
- FAR PART 25.853 compliant for Flammability Resistance
- Does not contain Pentabromo or Octabromo diphenyl ether*
- Non-mercury based catalyst system

***California’s ban on pentabromodiphenyl ether (“penta”) and octabromodiphenyl ether (“octa”) takes effect in 2008. The RC-8004 does not contain either of these substances.**

PHYSICAL PROPERTIES:

Hardness, Shore D ASTM D-2240.....	85
Density (g/cc) ASTM D-792.....	1.32
Cubic Inches per Pound	21.0
Color/Appearance.....	Light Tan
Tensile Strength, (psi) ASTM D-638.....	6,700
Tensile Modulus, (psi) ASTM D-638.....	3.2 x 10 ⁵
Elongation, (%) ASTM D-638.....	7.0
Flexural Strength, (psi) ASTM D-790.....	10,420
Flexural Modulus, (psi) ASTM D-790	3.1 x 10 ⁵
Shrinkage, (in./in.) linear, (12" x 1/2" x 1/4"):	
7-day ambient cure,	0.002
Post-cure, Method 1, (See page 2)	0.004
Post-cure, Method 2, (See page 2).....	0.002
Izod Impact, notched (ft.-lb./in.) ASTM D-256	0.51
Heat Deflection Temperature, ASTM D-648:	
@ 66 psi.....	220° ± 5°F (104° ± 3°C)
@ 264 psi	200° ± 5°F (93° ± 3°C)
Compressive Strength, (psi) ASTM D-695	12,750
Water Absorption, (%) ASTM D-570 [1/8" thick specimen, 24-hour immersion @ 150°F (66°C)]	+0.75

Note: Reported physical properties obtained on elevated temperature cured test specimens. Test conditions are at ambient temperature and humidity unless so indicated.

HANDLING PROPERTIES:

Mix Ratio (by weight):	
Part A.....	60 parts by weight
Part B	100 parts by weight
Mix Ratio (by volume):	
Part A.....	67 parts by volume
Part B	100 parts by volume

HANDLING PROPERTIES (continued):

Specific Gravity:

Part A	1.21
Part B	1.40

Viscosity, (cps) Brookfield:

Part A @ 77°F (25°C)	300
Part B @ 110°F (43°C)	1,800
Initial Mixed Viscosity	800

Color:

Part A	Brown
Part B	Cream Yellow

Work Time[†], 100g mass @ 77°F (25°C)..... 45 seconds - 2.5 minutes
Demold Time @ 77°F (25°C)..... 45 - 60 minutes

RECOMMENDED PROCESSING PROCEDURES:

Both A & B components should be pre-warmed to approximately 80°-90°F (27°-32°C) and pre-blended prior to use.

†NOTE:

At time of manufacture of the RC-8004 A/B, the work time is approximately 2.5 minutes and may reduce down to 45 seconds within a 3 month period.

CURING AND POST-CURING RECOMMENDATIONS:

Two suggested post-curing methods to achieve maximum physical properties are as follows:

Method 1:

After demolding, allow parts to further cure at 77°F (25°C) for 2 - 4 hours. Parts then may be stage-cured at 140°±10°F (60°±6°C) for 4 hours, followed by 4-6 hours at 180°-200°F (82°-93°C). Support may be needed for certain configurations during stage curing.

Method 2:

After demolding, allow parts to cure for 16 hours (overnight) at 77°F (25°C), followed by 6-8 hours at 180°F (82°C), or stage-cure per Method 1. Support may be needed depending on part configuration. Shrinkage is minimized by not rushing the demold and heat curing stages.

Rigid-Cast 8004 A/B will cure at ambient temperatures in 3-5 days. However, hardness will be slightly reduced and the heat distortion temperature will be lower by approximately 25°F (-4°C).

STORAGE:

Store in a cool dry place. Unopened containers of RC-8004 A, will have a shelf life of 6 months and RC-8004 B will have a shelf life of 3 months from date of shipment when properly stored at room temperatures. Purge opened containers with dry nitrogen before re-sealing. Electric band heaters for material feed containers may be required during cold weather periods.

PACKAGING:

1 Gallon kits.....	6 lbs. A, 10 lbs. B
5-Gallon kits	30 lbs. A, 50 lbs. B

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.