



WC-786 A/B

WATER CLEAR RIGID 78 SHORE D

URETHANE CASTING SYSTEM

PRODUCT HIGHLIGHTS:

- Exceptional clarity
- Very high impact rigid material
- 15-minute standard working time with six additional work speeds available
- No odor
- UV light and oxidation resistance
- Good weatherability, non-yellowing

PRODUCT DESCRIPTION:

WC-786 A/B produces a high impact, rigid, 78 Shore D material that is commonly used to make clear or tinted castings of all kinds. When used at room temperature castings 1/8" thick or larger can be readily cast. Castings that are less than 1/8" thick generally require pre-warming of materials, molds, and mild post-cure. Easy 1:1 by volume mix ratio for machine casting.

TYPICAL PRODUCT USES:

- ◆ Prototype computer parts
- ◆ Models of all kinds
- ◆ Artwork components
- ◆ Architectural models
- ◆ Gears, wheels, fans
- ◆ Transportation cases
- ◆ Miniatures and movie props

PHYSICAL PROPERTIES:

Hardness, Shore D ASTM D-2240.....	78 ± 2
Specific Gravity, (g/cc) cured ASTM D-792	1.05
Cubic Inches per Pound	26.4
Color/Appearance.....	Water clear/colorless
Tensile Strength, (psi) ASTM D-638.....	4,000
Elongation, (%) ASTM D-638.....	13 ± 2
Flexural Strength, (psi) ASTM D-790.....	7,200
Flexural Modulus, (psi) ASTM D-790	1.6 x 10 ⁵
Shrinkage, (in./in.) linear (12"x1/2"x1/2").....	0.005
Heat Deflection Temperature, (@ 66 psi) ASTM D-648.....	145°F (63°C)
Compressive Strength, (psi) ASTM D-695	7,150
Compressive Modulus, (psi) ASTM D-695	2.75 x 10 ⁵

HANDLING PROPERTIES:

Mix Ratio (by weight):
 Part A 100 parts by weight
 Part B 96 parts by weight

Mix Ratio (by volume):
 Part A 100 parts by volume
 Part B 100 parts by volume

Mixed Viscosity, (cps) @ 77°F (25°C) Brookfield..... 600 ± 50

Color:
 Part A Clear/colorless
 Part B Clear/colorless

Work Time, 100g mass @ 77°F (25°C)15 minutes*
 Demold Time @ 77°F (25°C)..... 6 - 8 hours
 Cure Schedule..... 5 - 7 days at R.T., or 16 hours at 150° - 180°F (66° - 82°C)
 Product is sufficiently cured after one day, ambient, for general handling. See heat curing below.

*The 15-minute work time is the standard in-stock product. Products with 5, 30, 60, 90,180, and 240-minute work times are available on a special order basis.

HEAT CURING:

Generally, for most applications, ambient temperature curing is adequate; however, maximum physical properties and heat resistance is obtained by post curing WC-786 for 16 hours at 150° - 180°F (66° - 82°C), or 6 - 8 hours at 180° - 210°F (82° - 99°C). Parts may require some support during heat cure. A suggested cure schedule is: 3 – 5 days at room temperature (to minimize any softening during heating), followed by 4 - 6 hours at 130° - 150°F (54° - 66°C), and an additional 16 hours at 160° - 180°F (71° - 82°C). This cure schedule minimizes part distortion and shrinkage, while affording maximum toughness and heat sag resistance.

NOTE:

The cure will be inhibited if cast against a tin catalyzed silicone RTV.

STORAGE AND HANDLING:

All materials should be kept in tightly closed containers out of contact with moist air. Stored under these conditions at temperatures of 60° - 80°F (16° - 27°C), the shelf life is 6 months, from date of shipment. Part B may turn hazy or partially freeze below 65°F (18°C) storage. Warming to 80° - 90°F (27° - 32°C) will return product to a clear state.

PACKAGING:

5 Gallon Kits..... 40 lbs. A, 38.4 lbs B
 55-Gallon Drum Kits..... 400 lbs. A, 384 lbs. B

SAFETY PRECAUTIONS:

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. Use in well-ventilated areas. Avoid breathing vapors. If exposures cannot be kept at a minimum, a respirator may be necessary in addition to ventilation. The use of a positive pressure air supplied respirator is mandatory when airborne isocyanate concentrations are “not known” or exceeds OSHA’S TWA of 0.005 ppm. Air purifying, organic cartridge type respirators are not generally recommended to use when handling this material without implementation of an end of life service program. Observe OSHA regulations for respirator use (29 CFR 1910.134). Employers are responsible for selecting the correct respirator for each situation.

IF CONTACT OCCURS:

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. 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.