



## WC-780 A/B

### MASS CASTING WATER CLEAR RIGID 82 SHORE D POLYURETHANE CASTING SYSTEM

#### **PRODUCT HIGHLIGHTS:**

- Water clear with exceptional clarity
- Impact resistant
- 3 hour working time with three additional work speeds available
- No odor
- Good weatherability, non-yellowing

#### **PRODUCT DESCRIPTION:**

WC-780 A/B is an impact resistant, rigid, 82 Shore D material that is commonly used to make clear or tinted castings of all kinds. When used at room temperature, castings 1" thick or larger can be readily cast.

#### **TYPICAL PRODUCT USES:**

- ◆ Prototype computer parts
- ◆ Models of all kinds
- ◆ Architectural products

#### **PHYSICAL PROPERTIES:**

Hardness, Shore D ASTM D-2240 .....	82
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 .....	6,650
Tensile Modulus, (psi) ASTM D-638 .....	$2.6 \times 10^5$
Elongation, (%) ASTM D-638 .....	65
Flexural Strength, (psi) ASTM D-790 .....	11,000
Flexural Modulus, (psi) ASTM D-790 .....	$3.2 \times 10^5$
Izod Impact, (ft.-lb./in.) ASTM D-256 .....	1.0
Compressive Strength, (psi) ASTM D-695 .....	8,350
Compressive Modulus, (psi) ASTM D-695 .....	$3.5 \times 10^5$
Shrinkage, (in./in.) linear (12"x1/2"x1/2") .....	0.004
Heat Deflection Temperature, (66 psi) ASTM D-648 .....	158°F (70°C)

#### **HANDLING PROPERTIES:**

##### Mix Ratio (by weight):

Part A .....	100 parts by weight
Part B .....	85 parts by weight

##### Mix Ratio (by volume):

Part A .....	100 parts by volume
Part B .....	88 parts by volume

##### Specific Gravity, (g/cc):

Part A .....	1.06
Part B .....	1.03

#### **HANDLING PROPERTIES (continued):**

Viscosity, (cps) @ 77°F (25°C) Brookfield:

Part A .....	600 ± 50
Part B .....	550
Mixed .....	650 ± 50

Color:

Part A .....	Clear/colorless
Part B .....	Clear/colorless

Work Time, (100-gram mass) @ 77°F (25°C) ..... 3 hours\*

Demold Time @ 77°F (25°C)..... 24 hours

Cure Schedule.....5 - 7 days at R.T., or 16 hours at 160° - 180°F (71° - 82°C)

Product is sufficiently cured after one day, ambient, for general handling. See "HEAT CURING" below.

\*The 3-hour work time is the standard in-stock product. Products with a 60 minute, 90 minute 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-780 for 16 hours at 160° - 180°F (71° - 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 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:**

Gallon Kits.....	8 lbs. A, 6.8 lbs. B
5 Gallon Kits.....	40 lbs. A, 34 lbs. B
55 Gallon Drum Kits .....	400 lbs. A, 340 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 content by gastric suction or induce vomiting only a directed by medical personnel. Never give anything by mouth to an unconscious person.

**Refer to the Material Safety Data Sheet before using this product.**