



"YOU SUPPLY THE TALENT... WE'LL SUPPLY THE REST!"

THE COMPLEAT SCULPTOR

Technical Data Sheet– Hydroshrink™ -- Reducing Urethane Polymer

DESCRIPTION

Hydroshrink is a unique single component, flexible, 100% solids (contains no V.O.C.), elastomeric, polyurethane compound. Hydroshrink, when fully cured, provides for simple method for reducing three dimensionally molded parts. The reduction process is accomplished in several steps.

1. Simply mix 1 part HydroShrink with 4 parts cold water (approx 40°F), mix quickly but thoroughly.
2. Pour mixture into your prepared mold.
2. Allow the piece to cure for 30 minutes at room temperature
3. De-mold the Hydroshrink part from the mold
4. Allow the piece to shrink at room temperature.

Full reduction is 51 % the original part i.e. (a 12 inch part will reduced to 6.12 inches) which can be achieved between 5 & 14 days depending on cross section thickness of the part. (Thicker cross sections take longer then thinner cross sections)

APPLICATION

Choose a work area that is free from visible moisture and capable of maintaining a temperature range of 70°F to 80°F. The liquid component of Hydroshrink should be stabilized at a temperature of 72°F before beginning to work. Warmer temperatures will decrease working life: cooler temperatures will increase application time. Gloves, and eye protection should be worn during application (see MSDS for more details).

MIX RATIO

Mix one (1) part of Hydroshrink to four (4) parts water (best temperature is approx. 40°F) by volume (use maximum batch size of no more than two (2) quarts of Hydroshrink to eight (8) quarts of water [2.5 gallon total mix]. Pour both the water and Hydroshrink into a clean one (1) gallon plastic pail and quickly mix using a spatula for batch size of .5 gallon or less or Jiffy mixer and electric drill for larger batch sizes, take care to scrape side of pail with flat spatula to include all of the unmixed liquid (do not use square or round rod as mixers). Mix for about 30 seconds and quickly pour into the prepared mold. After about 3 to 5 minutes Hydroshrink cures to a firm white gel.

MOLD PREPARATION

Hydroshrink can be molded in almost any kind of mold as long as it is fully prepared before filling with uncured polymer. Release agents used in the molding process may inhibit the evaporation of water from the part, therefore slowing down the reduction process. All waxes and release agents should be thoroughly removed with mineral spirits or acetone before the part is allowed to dehydrate. Parts molded in silicone mold require no additional preparation. All surfaces should be free of dirt and visible moisture. Depending on relative humidity and temperature, parts can be handled in 30 minutes.

TYPICAL PROPERTIES

	Viscosity	Specific Gravity	Weight per Gallon
Hydroshrink	4000 cps	1.104	9.20lbs
Water	1 cps	1.00	8.33 lbs
Mixed	600 cps	1.02	8.51 lbs

MIX RATIO

By volume:	1 part Hydroshrink to 4 parts water
By weight:	26 parts Hydroshrink to 100 parts water

Work Time:	1 to 2 minutes
Cure Time:	30 minutes
(dependent on temperature and relative humidity)	

PHYSICAL PROPERTIES

	Test Method	Value
Shore A Hardness:	ASTM 2240-85	0 A initial / 5 A fully reduced
Reduction Rate:	@ 14 day/ at 72 °F	51 % of the original size
Color: White		

STORAGE / SHELF LIFE

Hydroshrink liquid should be stored in the original, unopened containers at temperatures between 75 °F and 85 °F (24 degrees C and 29 degrees C). Shelf life of materials when kept in unopened sealed containers at the recommended storage temperature is six months. Containers should not be opened until ready for immediate use. When resealing opened containers purge with the air with dry gas blanket, to avoid air entrapment and avoid undue agitation.

PACKAGING

Hydroshrink is available in convenient 1 quart and 1 gallon kits and is non-hazardous to ship.

PROBLEM SOLVER

Problem: Material sets to quickly

Reason: liquid components too warm before using

Solution: Use colder water; 40°F water can be used with no ill effect on the finished part.

Problem: Clumps in liquid

Reason: Moisture in the container.

Solution: Purge liquid containers with dry gas blanket after each use.

Problem: Cured Hydroshrink will not reduce

Reason: Mold release agent on surface

Solution: Clean cured parts with mineral spirits or acetone or use silicone molds

Problem: Sticky spots

Reason: Uneven mixing

Solution: Reduce batch size do not scrape the mixing container into the mold

Solution: Do not mix more than .5 gallon by hand, larger batch sizes require a Jiffy mixer and electric drill.

Solution: Use a flat spatula.

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