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CLEAR CAST RU-575 A/B Product Data Sheet

RU-575 A/B—80 D Shore is a two-component, low viscosity, rigid water clear urethane resin system with easy mix ratio—1 to1 by volume. It *produces* parts that are extremely **Water Clear** and tough, with minimal shrinkage. **UV additives** provide for longer, non-yellowing water clarity. Great for small and medium sized parts. Note: Bubble free parts are best achieved through vacuum degassing or pressure casting. Use Only Platinum Base (R-2000 Series) RTV for molds. For extra thin parts, a Post Cure may be required. UD Dyes are available and can be added to create transparent, colored parts.
Available Sizes: Pint Kit (2 lb) & Qrt Kit (4 lb) Gal Kit (16 lb) & 5 Gal Kit (76 lbs)

Applications

Prototypes, lenses, model windows, decorative objects, encapsulation and clear injection plastic like parts

TYPICAL PROPERTIES REACTIVITY DATA:

Solids by Weight (%): 100%
Shrinkage: Nil (200 grams)
Specific Gravity: 1.07 *Cured
Viscosity @ 74F, Mixed: 250 cps

Gel Time (Pot Life): 14 minutes (100gram, ½" thick)
De-Mold Time: 30-35 min.

Mix Ratio: By Volume: 100A /100B (Weight 100A / 90B)

CURED MATERIAL PHYSICAL PROPERITES (Typical):

Color:	Water Clear	
Hardness, Shore D:	80 D	
Elongation:	6.4 %	<u>POST CURED for 12 hours @ 150F</u>
Elastic Modulus (psi):	133,940	145,775
Flexural Modulus (psi):	250,980	270,450
Flexural Strength@5% Strain:	8,475 psi	
Heat Deflection:	135F	180F
Refractory Index:	A- 1.5012 B- 1.4628	

Processing Instructions:

Parts A and B should be at room temperature—above 75F—prior to use. Use appropriate plastic mixing containers and spatulas (tongue depressors and paint sticks are acceptable) that are clean and moisture free. **Part B should be shaken or properly stirred prior to use.** Weigh or measure appropriate amounts of A and B in container. Combine components and immediately mix, thoroughly scraping sides and bottom for 20-30 seconds before pouring into Platinum silicone mold (A double mix works best: mixing in one container, transferring to another one, then remixing). If possible, degas mix to remove any air, allowing 2-3 times empty space for expansion. Pressure casting in mold helps produce bubble free castings. Processing area should be controlled to eliminate dust and particles from mixture. Urethanes are moisture sensitive and may react with moisture leaving bubbles or growth by foam formation on part. **Caution!! For Molds use only Platinum Base (R-2000 Series)**—Tin based silicone RTV (R-1000 Series) will cause a reaction with resin resulting in rejected parts.

Post Curing:

Let part solidify at room temperature till cured. Finish curing process in oven or exposure to 100 to150F for 5-12 hrs, depending on part size. Using a pre-heated mold (125-150°F) may resolve issues of shrinkage around surface and corners, due to inconsistent heat distribution. Parts may need to be post cured in mold to retain dimensional stability, especially for thin or top

heavy parts. Parts can then be wheel buffed under 500RPM to prevent burning.

Storage/Shelf Life:

A and B components must be stored in their original, unopened containers at temperatures above 65F. Shelf life of materials when kept in unopened sealed containers, at the recommended storage conditions, is 6 months. Containers should not be opened until ready for use. Once opened, storage life can be extended with the use of a purging gas—Nitrogen. Component A will thicken over time. Warm up material to 100F until fluid and allow to cool before using.

ADDITIVES & ACCESSORIES

RU-575 ACCELERATOR is an additive to speed cure rate of casting. **Addition of 0.5% of total mixed weight (A+B)** will speed up cure significantly but also increase exotherm and shrinkage. Pretest for satisfactory results.

RU- 500R RETARDER is an additive to slow cure rate and reduce exothermic heating when casting thick parts. Additional 1-3% can be added. For every part of RU-500R added, an equal part of A must be added to the mix. An additional 1% will nearly double gel time. Increased cure times will result , depending on size and mass of pour. Pretest for satisfactory results.

UD Dye Red, Yellow, Black, Blue Transparent colors, added at 1-2%.

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