

## GSP 1603-86

### POLYURETHANE POTTING SYSTEM

Medium Speed, Low Viscosity

#### GENERAL DESCRIPTION

**GSP 1603-86** is a two-component polyurethane potting system developed for use as an economical potting encapsulant.

#### FEATURES

Low Viscosity

Excellent Hydrolytic Resistance

Medium Speed Cure Profile

Contains No Solvents

9 Month Shelf Life

#### COMPONENT PROPERTIES

PROPERTY	GSP 1603-86 PART A	GSP 1603-86 PART B
Shelf Life	9 months	9 months
Density (lb/gal)	10.30	12.88
Viscosity (cps)	200	8,000
Color	Amber	Black

#### HANDLING PROPERTIES

PROPERTY	GSP 1603-86
Mix Ratio by Weight	20 A : 100 B
Mix Ratio by Volume	1 A : 4 B
Gel Time	30:00 – 40:00
Cure Time	Overnight at R.T.
Mix Ratio by Weight	20 A : 100 B

#### NOTICE TO USER:

The following is made in lieu of all warranties, expressed or implied. It is the customer's responsibility to determine fitness of use for all GSP products by directly testing the materials first-hand for each application. Please fully evaluate the materials so as to convince yourself of appropriate and adequate performance. Before using, customer shall determine the suitability of the product for the intended use, and customer assumes all risks and liability whatsoever in connection therewith. The only obligation of the seller or manufacturer shall be to replace such quantity of product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. The foregoing may not be altered except by an agreement signed by officers/owners of G.S. Polymers, Inc.

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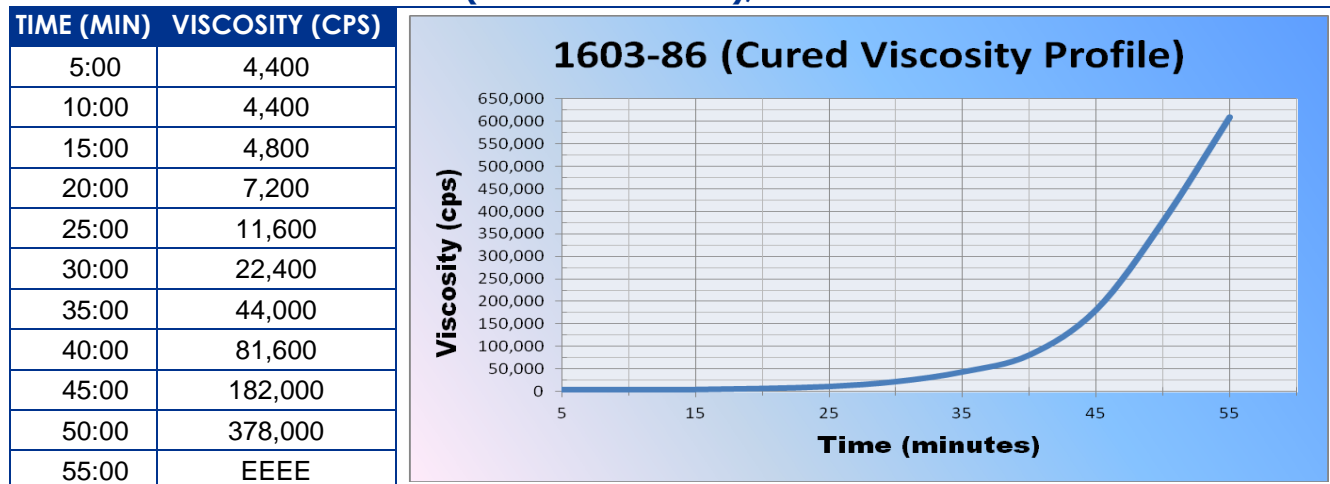
Revised: 02/05/19 AK

## PHYSICAL PROPERTIES

PROPERTY	GSP 1603-86
Hardness	87 Shore A +/-5
Color	Black
Water Absorption at 24 hour exposure*	< 0.1%
Dielectric Strength (V/mil)*	323 (ASTM D149-97a Method A)
Dielectric Constant (k)*	3.83 (ASTM D150-98)

\*Figure is an estimate based upon typical values of similar chemistry

## VISCOSITY VS TIME PROFILE (RV-#7 @ 10RPM), TYPICAL



## INSTRUCTIONS FOR USE

### SIDE-BY-SIDE (SBS) CARTRIDGE:

The recommended method of application for this product is with prepackaged, side-by-side (SBS) ratio tubes using a dispenser and a static mix nozzle. To ensure an accurate mix ratio when dispensing material from a SBS tube through a static mixer nozzle, follow the steps below:

1. Remove the nozzle tip/cap. Do not discard tip/cap unless all the material in SBS tube is to be used.
2. Extrude enough material until there is an even flow of material from both openings. Discard this material.
3. Attach mix static nozzle. Extrude about ~2-3 cm (~1 inch) of material. Discard this initially extruded material. Cartridge pistons will now be precisely aligned and material on ratio.
4. Apply material from the cartridge directly to the work area.
5. To preserve leftover material in the SBS tube after application, remove and discard the static mix nozzle.
6. Clean the tip/cap thoroughly to prevent cross contamination of the tip openings.
7. Reinsert or reattach tip/cap back onto the SBS tube.

### TO MIX BY HAND:

**Mix Ratio: Parts by Volume (pbv):** .....**20 parts** GSP 1603-86 Part A to **100 parts** GSP 1603-86 Part B

**Mix Ratio: Parts by Weight (pbw):** ..... **1 part** GSP 1603-86 Part A to **4 parts** GSP 1603-86 Part B

**Pot-Life:** Do not mix more than can be applied in 20 minutes. Gel time is about 40 minutes but will vary depending on the mass mixed and the ambient temperature.

**Mixing:** Proportion out components according to the parts by weight (pbw) or parts by volume (pbv) ratio into a non-reactive container (e.g. polyethylene, polypropylene, or metal de-rimmed can). Select a container about five times larger than the volume of material mixed to allow for expansion while de-airing under vacuum. Mix components very thoroughly, preferably with a metal spatula, scraping the sides and bottom of container to incorporate all material.

**De-Air:** Remove air bubbles entrapped while mixing by placing mixed material in a vacuum chamber. (Vacuum should be able to achieve 29 in Hg.) Liquid level should rise and then fall with some bubbling. Break vacuum partially and reapply as

necessary to avoid overflow. De-air material until bubbling is minimal. Do not leave material under vacuum longer than one minute as catalysts may be stripped from the system and effect curing.

**Transfer and Application:** If working time allows, pour mixed material into a clean container without further scraping the sides and bottom (in case unmixed material is still present). Discard the residual material left behind in the mix container. If working time does not allow transfer to a clean container, dispense material taking care to avoid further scraping material from the sides and bottom of the mix container. Apply mixed material to the work area immediately.

**Containers:** After using materials, blanket remaining components under nitrogen gas (N<sub>2</sub>) and securely reseal the containers. This will reduce the likelihood of contamination from atmospheric moisture and extend shelf life.

#### **CURING PROCEDURES:**

**GSP 1603-86** cures overnight at room temperature. Properties will develop gradually over several days of room temperature cure. Full properties develop after 7 days at ambient temperature.

#### **STORAGE:**

Store both Part A and Part B components between 65°F /18°C – 86°F/30°C in a clean, dry area. If stored below 68°F/ 20°C, allow the material to reach room temperature in the closed/sealed container prior to use. Both components should be blanketed with nitrogen after use to extend shelf-life and minimize moisture contamination during storage.

**READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET (MSDS) PRIOR TO USING THIS PRODUCT.**