GS POLYMERS
Polyurethane & Epoxy Products

Technical Data Sheet

GSP 1502S

POLYURETHANE POTTING COMPOUND

Good Adhesion and Thermal Conductivity, Low Mixed Viscosity, Long Open Time, Meets UL94 V-0 (6.1 mm thickness).

GENERAL DESCRIPTION

GSP 1502S offers a longer open time for processing compared to parent formulation (GSP 1502). **GSP 1502S**, when fully cured, is a flexible urethane designed to meet UL94 V-0 at 0.250 inches (6.10 mm). Formulation designed to impart low mixed viscosity, good physical strength (toughness), electrical properties, and adequate wet-out. **GSP 1502S** bonds very-well to a variety of substrates and has been formulated for potting applications (electronic encapsulation, etc.).

COMPONENT PROPERTIES*

PROPERTY	GSP 1502S PART A	GSP 1502S PART B
Shelf Life (from D.O.M.)	6 mos.	6 mos.
Density (lbs./gal.)	10.20	12.70
Viscosity (cps)	96.0	8,000 - 16,000
Color	Dark Amber	Off-White

HANDLING PROPERTIES*

PROPERTY	GSP 1502S
Mix Ratio by Weight, A : B	15.0A:100.0B
Mix Ratio by Volume, A : B	18.7A:100.0B
Mixed Viscosity (cps)	7,500 cps
Pot Life (minutes)	< 45:00 (min:sec)
Gel Time (minutes)	95:00 (min:sec)
Room Temp Cure Time and Conditions	24 Hours (90% of physicals), 5-7 Days (full cure)
Heat Cure Temp and Conditions	140-180°F for 1 to 3 Hours

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.

Revision: FMr1 AK - Printed: 1/3/2019

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CURED PHYSICAL PROPERTIES*, TYPICAL, 25° C (77° F)

PROPERTY	GSP 1502S
Color	Off-White
Cured Hardness/Durometer	78-89A
Service Temperature (Operating Limits)	< 200F
Tensile Strength, psi	1,500
Dielectric Strength, volts/mil (125 mils thick)	1,150
Thermal Conductivity [(Cal)(cm)/(sec^2)(C)]	11.0 x 10^4

* Values not intended for use in specification preparation

INSTRUCTIONS FOR USE

SIDE-BY-SIDE (SBS) CARTRIDGE:

GSP 1502S is not available in Side-by-Side packaging. Contact GS Polymers technical department for recommendations if your application requires a cartridgeable system.

TO MIX BY HAND:

Mix Ratio: Parts by Volume (pbv):..... 18.7 parts GSP 1502S Part A to **100 parts** GSP 1502S Part B

Mix Ratio: Parts by Weight (pbw):..... 15.0 parts GSP 1502S Part A to **100 parts** GSP 1502S Part B

Pot-Life: Do not mix more than can be applied within the Pot Life of the system. Pot Life is approximate and may 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 inHg.) 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.

CURING PROCEDURES:

Most physical properties develop to 90% within the first 24 hours of cure. Full properties continue to develop over a period of 5 to 7 days at ambient temperature. Cure may be accelerated with the application of heat. To heat cure system, allow material to gel at room temperature then apply moderate heat 140-180°F for 1 to 3 hours.

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 material to reach room temperature in the closed/sealed container prior to use. After using materials, blanket remaining components with Nitrogen gas and securely reseal containers. This will reduce the likelihood of contamination from atmospheric moisture and extend shelf life.

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