GS POLYMERS
Polyurethane & Epoxy Products

Technical Data Sheet

GSP 4050

POLYURETHANE CASTING COMPOUND

40 Shore A Hardness

GENERAL DESCRIPTION

GSP 4050 is a two-part polyurethane casting system with a cured hardness of 40 – 50 Shore A. The mixed system has a viscosity of 2200 cps and is easily pourable for part casting. The cured polymer exhibits excellent strength and flexibility.

FEATURES

Easily mixed and poured for casting applications
Resists foaming
Good hydrolytic (water) stability

COMPONENT PROPERTIES

PROPERTY	GSP 4050 PART A	GSP 4050 PART B
Shelf Life	6 months	6 months
Density (lb/gal)	10.2	8.6
Viscosity (cps) @ 70° F	200	4000
Color	Clear – Light Yellow	Natural: Clear – Yellow Pigmented: Various Colors Available

HANDLING PROPERTIES

PROPERTY	GSP 4050
Mix Ratio by Weight	16 A : 100 B
Viscosity , mixed (cps)	2200
Pot Life	5 minutes
Cure Time	1 hour at 150°F or 24 hours at Room Temperature

PHYSICAL PROPERTIES

PROPERTY	GSP 4050
Hardness	40 - 50 Shore A
Color	Natural: Cloudy White - Yellow Pigmented: Various Colors Available

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INSTRUCTIONS FOR USE

GSP 4050 PART B COMPONENT MAY SOLIDIFY AT COLDER TEMPERATURES. If this occurs, gently heat the component in a warm over set at 140 – 170° F. Gently stir the melted component. Allow the material to cool to 80 – 90°F before using.

SIDE-BY-SIDE (SBS) CARTRIDGE:

GSP 4050 is not available in Side-By-Side packaging because the parts-by-volume ratio of the system is incompatible with standard SBS cartridges. Contact our technical sales department for system recommendations if your application requires a cartridgeable system.

TO MIX BY HAND:

Mix Ratio: Parts by Weight (pbw): ..... **16 parts** GSP 4050 Part A to **100 parts** GSP 4050 Part B

Pot-Life: Do not mix more than can be applied in 5 minutes. Gel time is 10 - 20 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 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.

Containers: After using materials, blanket remaining components under nitrogen gas (N_2) and securely reseal the containers. This will reduce the likelihood of contamination from atmospheric moisture and extend shelf life.

CURING PROCEDURES:

Properties will develop gradually over several days of room temperature cure. Full properties develop after 7 days at ambient temperature. Cure may be accelerated with the application of heat. To heat cure the system, allow product to gel at room temperature overnight. Then apply moderate heat 85 °C (185° F) for 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 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.

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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