GS POLYMERS
Polyurethane & Epoxy Products

Product Data Sheet

GSP 1329, GSP 1329-1

EPOXY ADHESIVE AND POTTING COMPOUND

General Purpose, Variable Mix Ratio

GENERAL DESCRIPTION

GSP 1329 and **GSP 1329-1** are two-component epoxy systems used for potting and adhesive applications. The cured products exhibit good impact strength and very good general adhesion. These systems have about a 2-hour work/pot life allowing for longer fixture times. The systems can be utilized with variable mix ratios to tailor specific physical properties. The cured system develops very good adhesion on a wide variety of substrates.

Mix ratios may vary between from 1A:1B up to 3A:1B by volume depending on the properties desired. Most common are 1A:1B and 2A:1B mix ratios. A 1A:1B mix ratio yields a cured system with more impact strength, flexibility and peel strength. A 2A:1B mix ratio may be used for better chemical & thermal resistance, hydrolytic stability, higher shear strength . Greater flexibility can be further achieved with a 3A:1B ratio.

COMPONENT PROPERTIES

PROPERTY	PART A	PART B
Color: GSP 1329 GSP 1329-1	 Black Clear to Light-Yellow	Translucent Amber
Density (lb/gal)	9.67	8.10
Viscosity, cps	11,000-15000	9,000-13,500
Flash Point, ASTM D 3278 (°F/°C)	> 480 / 250	> 230 / 110
Shelf Life	6 months	6 months

HANDLING PROPERTIES, TYPICAL AT 25°C (77°F)

PROPERTY	1A:1B RATIO	2A:1B RATIO
Mix Ratio by Volume (pbv)	1A:1B	2A:1B
Mix Ratio by Weight (pbw)	100A: 85-90B	100A: 42-45B
Mixed Viscosity	9,500 — 10,500	11,000 — 12,000
Working Time / Pot life (hours)	1.5	2
Gel Time (100 gram), hours	2.0 — 2.5	2.5 — 3.0
Fixturing Time, (100 gram), hours	8 — 16	8 — 16
Exotherm, 100 gram, °F/°C	97 / 36	92 / 33
Full Cure: Room Temp (days) Elevated Temp (hours)	7—14 RT Gel + 2hrs @ 212 °F/100 °C	7—14 RT Gel + 2hrs @ 212 °F/100 °C

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PHYSICAL PROPERTIES, TYPICAL AT 25°C (77°F)

PROPERTY	100A:90B PBW	100A:45B PBW
Color, cured	Black or Translucent-Amber	Black or Translucent-Amber
Mixed Viscosity	9,500-10,500	11,000-12,000
Heat deflection Temp (HDT)	158- 167°F (70-75°C)	203-212°F (95-100°C)
Ultimate Tensile Strength, psi	7200 - 7600	8,300 - 8,700
Tensile Elongation, %	11.5 -12.0	4.2 - 4.7
Tensile Modulus, psi	320,000	420,000
Flexural Strength, psi	10,000 – 14,000	12,000 – 16,000
Flexural Deflection, inches (mm)	> 0.60 (15)	0.44 (11)
Flexural Modulus, psi	340,000	310,000
Compressive Strength, psi	32,000 – 36,000	31,000 – 35,000
Notched Izod Impact (ft-lb / inch)	0.88	0.51
Durometer Hardness, Shore D	80-84	82-86
% Water Absorption, 24 hours	0.33	0.18
% Weight Loss 24 hours at 302°F (150°C)	0.05	0.02
Electrical Properties		
Dielectric Constant (k)	3.41	3.61
Dielectric Strength(V/mil)	N/A	378 (ASTM D149-97a Method A)
Dissipation Factor, 1 megacycle	0.018	0.021
Volume Resistivity (Ω•cm)	N/A	5.172E+15 (ASTM D257-99)

INSTRUCTIONS FOR USE

DOUBLE-BARREL CARTRIDGE: The recommended method of application for this product is with prepackaged, side-by-side ratio cartridge using a dual-piston dispenser and a static mix nozzle. To ensure an accurate mix ratio when dispensing material through a static mixer, discard the first material extruded from the mixer. Product can now be applied directly to the bonding surface. Static mixers and dispensers are available from GS Polymers. Contact the sales department for further information.

TO MIX BY HAND: Proportion out components according to parts by weight or volume ratio into a non-reactive container (polyethylene, polypropylene, or metal de-rimmed can). Container should be about five times larger than the volume of the mixed material. Mix components very thoroughly, preferably with a metal spatula, scraping the sides and bottom of container to incorporate all material.

Remove the air entrapped during mixing by placing the container of mixed material into a vacuum chamber. Under vacuum, the level of mixed material will rise and than drop with strong bubble breaking action. Do not allow the contents to rise over the top of the container. Allow the material to de-gas (de-air) until the liquid level drops and bubbling is minimal. Release vacuum. If working time allows, transfer material to a clean container without scraping sides or bottom before applying. If working time does not allow transfer, material should be used immediately.

Note: During application, do not scrape sides or bottom of the container used for mixing. Residual amounts of poorly mixed material may be incorporated. Such material may fail to cure completely, and may not achieve full physical properties.

CURING INSTRUCTIONS

Mix Ratio by Volume:
Higher peel strength, flexibility & toughness: Mix 1 part of Part A to 1 part Part B.
Higher Temp and Chemical Resistance: Mix 2 parts of Part A to 1 part Part B.

Pot Life: Do not mix more than can be applied with pot life. Pot life will vary depending on the mass mixed and the ambient temperature.

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

NOTICE TO USER:

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