



# Shep Poxy Hi Mod Gel

High Modulus Epoxy Bonding Adhesive

## Description

Shep Poxy Hi Mod Gel is a multi-purpose, 2 component, 100% solids, moisture tolerant epoxy resin compound for load bearing applications.

## Primary Applications

- Bond fresh concrete (plastic) to hardened concrete
- Vertical anchor bolt, dowel bar & re-bar adhesive
- Hardened concrete to hardened concrete adhesive
- Mortar to repair concrete defects

## Features & Benefits

- High strength
- High modulus
- Provides load transfer
- Virtually no odor
- 1:1 mix ratio
- Outstanding adhesion to concrete
- Medium viscosity
- Can contribute to LEED points.

## Directions For Use

### Surface Preparation:

**Concrete:** The surface must be structurally sound, dry, free of grease, oils, coatings, dust, curing compounds and other contaminants. Surface laitance must be removed. The preferred method of surface preparation is abrasive blasting or other mechanical means. Oil contaminated surfaces should be degreased. Remove defective concrete, honeycombs, cavities, joint cracks, voids and other defects by routing to sound material. Following surface preparation, the cleaned surface should pull concrete when tested with a pull tester, or an elcometer (ASTM D 4541).

**Steel:** All oils, greases, dirt, old coatings and chemical contaminants must be removed. The surface should be blasted to a near white metal finish (SSPC SP10) using clean dry aggregate.

**Mixing:** Premix Part A and B with a slow speed motor and "Jiffy" mixer. Pour one part by volume of Part A and one part by volume of Part B into a clean, dry container and mechanically mix for 3 to 5 minutes. Scrape the sides and bottom of mixing container while mixing. Do not whip or aerate while mixing. **Mortar:** Gradually add clean, dry 20/40 mesh silica sand to mixed binder. Blend thoroughly. The mix ratio of aggregate to binder is approximately 3:1 by volume but may vary depending upon the desired consistency of the mortar.

**Application:** Application and surface temperatures should be at least 40°F (4°C) and rising. **Bonding Fresh Concrete (Plastic) to Hardened Concrete:** Apply by brush spray or roller to hardened concrete surface. Place fresh concrete to Shep Poxy Hi Mod Gel while it is still tacky or within the open time. The open time is typically 3 to 4 hours at 75°F (24°C). The open time is reduced at warmer temperatures. If the Shep Poxy Hi Mod Gel loses tackiness or exceeds open time, abrade the surface of the epoxy and re-apply Shep Poxy Hi Mod Gel and proceed.

**Bonding hardened to hardened concrete:** Apply mixed Shep Poxy Hi Mod Gel by spatula, brush or trowel. Ensure the surfaces to be joined have uniform coatings of Shep Poxy Hi Mod Gel. For optimum results the bond line should not exceed 1/8" (3.2 mm). Join surfaces and hold or clamp firmly until adhesive gels. Ideally a small amount of adhesive should exude from the joint. Surfaces must be mated while the adhesive is still tacky.

**Bonding anchor bolts, dowels, pins:** Shep Poxy Hi Mod Gel can be used to anchor vertical bolts. The anchor bolt hole should be free of all debris before grouting. The optimum hole size is 1/4" (6.4 mm) larger diameter than the bar for a 1/8" (3.2 mm) annular space.

**Patching Horizontal (Shep Poxy Hi Mod Gel Mortar):** Prime surface with neat Shep Poxy Hi Mod Gel. While the prime coat is still tacky, trowel the Shep Poxy Hi Mod Gel Mortar to the primed surface.

*Continued on reverse side*

**Clean-Up:** Clean tools and application equipment immediately after use with methyl ethyl ketone, or xylene. Clean overspray or drips while still wet with solvent. Dried Shep Poxy Hi Mod Gel will require mechanical abrasion for removal.

**Technical Data**

Material Properties 75°F (24°C)

Solids .....	100%
Mixing ratio (parts A:B) by volume .....	1:1
Pot life, (2 gal unit), mins .....	15 to 25
Gel time, mins .....	30
Viscosity (mixed), cps .....	4,250 to 4,750
Compressive Strength (ASTM D 695), psi (MPa)	
1 day (neat resin) .....	8,000 (55.2)
7 days (neat resin) .....	10,500 (72.4)
Compressive Modulus .....	330,000 (2275)
Compressive Strength (ASTM C 109),psi (MPa)	
7 days (mortar) .....	11,000 (75.8)
Tensile Properties (ASTM D 638)	
Ultimate strength @ 14 days, psi (MPa)	7,200 (49.6)
Elongation at break .....	2.5%
Modulus, psi (MPa) .....	439,782 (3032)
Bond Strength (ASTM C 882), psi (MPa)	
Hardened to hardened concrete	
2 Day (moist cure) .....	2,075 (14.3)
14 days (moist cure) .....	2,385 (16.4)
14 days (dry cure) .....	3,100 (21.37)
Fresh concrete to hardened concrete	
2 day (moist cure) .....	2,015 (13.9)
14 day (moist cure) .....	2,465 (17.0)
Heat Deflection Temp. (ASTM D 648) .....	124°F(57°C)
Linear Coefficient of Shrinkage .....	0.003
Water Absorption (ASTM D 570)	
7 day, 24 hour immersion .....	0.23%
Flexural Properties (ASTM D 790), psi (MPa)	
Strength, 14 days .....	5,700 (39.3)
Tangent Modulus .....	1x106

**Appearance:**

Color, Part A ..... Lt. Gray  
 Color, Part B ..... Tan  
 Color (Mixed) ..... Lt. Gray  
 Data presented are typical laboratory values.

**Packaging**

Shep Poxy Hi Mod Gel is packaged in 10 gal (37.85 L), 4 gal (15.15 L) cases and 22 oz. (650 ml.) cartridges.

**Compliances**

- ASTM C 881-90, Type I, II, IV & V Grade 3, Class B & C
- AASHTO M 235

**Coverage**

For anchoring, one neat gal yields 231 in<sup>3</sup> of grout. One gal of neat Shep Poxy Hi Mod Gel mixed with 3 gal (11.4 L) of dry 20/40 mesh silica sand will yield approximately 650 in<sup>3</sup> of mortar. As a bonding agent coverage is about 60 to 80 ft<sup>2</sup>/gal (1.47 to 1.96 m<sup>2</sup>/L). Coverage will vary depending on surface texture, porosity and temperature.

**Shelf Life**

Two years in original, unopened package.

**Limitations**

- Store at temperatures between 50°F to 90°F (10°C to 32°C).
- Protect from moisture.
- In all cases, consult the MSDS before use.

**WARRANTY:** CMC Construction Services warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

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