



METCO HI-MOD EPOXY

*High Modulus, 100% Solids
Epoxy Bonding Agent*

1. Product Description

a. **Basic Use:** Metco Hi-Mod Epoxy is a 2 component, 100% solids, moisture insensitive, high modulus epoxy bonding agent formulated to bond fresh concrete to old concrete and old concrete to old concrete. It is designed to meet the requirements of ASTM C 881 specifications. Metco Hi-Mod Epoxy may also be used as a primer on damp and porous concrete surfaces. It is available in three consistencies; low viscosity, medium viscosity and gel.

b. Features/Benefits:

- Easy clean up with soap and water.
- Contains no volatile solvents permitting interior application with virtually no fire hazard or toxic odors.
- Excellent adhesive properties permit application to most sound surfaces with incredible adhesion including concrete, brick, block, metal and wood.
- Easily mixed in 2 to 1 ratios by volume.
- Gel consistency permits use in vertical and overhead applications as well as sealing cracks and around epoxy injection ports.
- May be used as a coating system to protect floors and other surfaces from chemical attack.
- Moisture insensitive system permits use over damp concrete surfaces.
- Low viscosity consistency is used to grout cracks by pressure injection or gravity feed.
- 100% solids epoxy system conforms to VOC regulations.
- Versatile formulation allows for use with silica aggregate as a repair mortar or floor overlayment.

c. **Typical Applications:** Bonding new concrete to old concrete, old concrete to old concrete, primer for Metalcrete flooring systems, grouting of cracks, anchor bolts and reinforcing steel, crack injection, sealing of dusting and porous surfaces, vertical and overhead repairs.

d. **Limitations:** Metco Hi-Mod Epoxy should not be used as a structural adhesive when temperatures are above 170°F (60°C). Do not use as a coating or primer over concrete less than 30 days old. Do not apply

when ambient and substrate temperatures are less than 40°F (4°C).

e. **Composition:** Metco Hi-Mod Epoxy is a 2-component, 100% solids, moisture insensitive, high modulus epoxy.

f. **Color/Appearance:** Metco Hi-Mod Epoxy is concrete gray after mixing.

2. Packaging

Metco Hi-Mod Epoxy is supplied in two standard units containing the proper proportions of liquid components. Standard packaging information for low viscosity, medium viscosity and gel consistencies is shown below:

Unit Size	Binder	Activator	Shipping Wt.
1 gal. (3.8 liter)	2/3 gal. (2.5 liter)	1/3 gal. (1.3 liter)	10 lbs. (4.5 Kg)
3 gal. (11.4 liter)	2 gal. (7.6 liter)	1 gal. (3.8 liter)	30 lbs. (13.6 Kg)

3. Estimating/Coverage

The recommended coverage rates per gal. (3.8 liter) for each viscosity are shown below:

Consistencies	Primer	Sealer/Coating	Bonding Agent
Low Viscosity	250-350 sq. ft. (23.2 - 32.5 sq. m)	200-300 sq. ft. (18.6 - 27.9 sq. m)	n.a. (23.2 - 32.5 sq. m)
Med. Viscosity	n.a.	150-200 sq. ft. (13.9 - 18.6 sq. m)	50-125 sq. ft. (4.6 - 11.6 sq. m)
Gel Viscosity	n.a.	n.a.	25-100 sq. ft. (2.3 - 9.3 sq. m)

4. Technical Data

a. **Applicable Standards:** Metco Hi-Mod Epoxy conforms to the requirements of ASTM C 881 Types I, II, III, IV, and V, Grades 1, 2 and 3.

b. **Compressive Strength:** ASTM C109, psi (MPa).

Age	Metco Hi-Mod LV	Metco Hi-Mod MV	Metco Hi-Mod Gel
1 day	4,500 (31.0)	8,000 (55.2)	7,800 (53.8)
3 days	6,000 (41.4)	9,000 (62.1)	8,500 (58.6)
7 days	7,800 (53.8)	10,500 (72.4)	10,200 (70.3)
14 days	8,800 (60.7)	11,500 (79.3)	11,400 (78.6)
28 days	10,000 (70.0)	12,300 (84.8)	12,200 (84.1)

c. **Bond Strength:** ASTM C 882 at 7 days psi (MPa).

Metco Hi-Mod LV	Metco Hi-Mod MV	Metco Hi-Mod Gel
2,300 (15.9)	3,200 (22.1)	3,100 (21.4)

5. Directions for Use

a. **Preparation:** The surface to be coated with Metco Hi-Mod Epoxy must be physically and structurally sound, thoroughly clean, free of oil, curing compounds or other deleterious materials that may prevent adhesion. New concrete must be thoroughly cured for at least 28 days before starting surface preparation. New concrete should be acid-etched with Bitesin. Old or existing concrete should be acid-etched with Bitesin or mechanically roughened by shotblasting or scabbling. An exposed aggregate surface is required for good bonding. All loose particles must be removed by vacuuming or flushing with compressed air and water.

b. **Mixing:** Thorough blending of all components is essential. Use a power drill with a Metco Jiffy mixing paddle. First, mix the binder separately; then, mix the activator separately. Next, add the mixed activator to the mixed binder and thoroughly mix for at least two minutes at revolution speeds that will not entrap air bubbles into the freshly mixed Metco Hi-Mod Epoxy bonding agent.

c. **Priming:** When priming, use Metco Hi-Mod Epoxy LV. Apply with squeegee, roller or airless sprayer. Primer should be tacky before proceeding with subsequent top-coat application.

d. **Bonding:** After surface preparation is completed, use Metco Hi-Mod MV Epoxy to bond fresh concrete toppings to existing concrete. Apply with squeegee, roller or airless sprayer. Place concrete topping before bond coat hardens. Use Metco Hi-Mod Epoxy Gel when bonding two rough and hardened surfaces.

e. **Sealing/Coating:** Apply Metco Hi-Mod Epoxy LV or MV with a squeegee, roller or airless sprayer onto the prepared substrate. Two coats may be required to provide additional protection or insure uniformity.

f. **Overhead/Vertical Repairs:** Mix clean and dry silica aggregate with Metco Hi-Mod Epoxy Gel to a mortar consistency and place onto properly prepared surface. Finish to desired thickness and texture. For very thin applications, place neat epoxy gel without aggregate.

g. **Horizontal Repairs and Floor Overlays:** Mix clean and dry silica aggregate with Metco Hi-Mod Epoxy MV to a mortar consistency and place onto properly prepared surface. Finish to desired thickness and texture. For very thin applications, place neat epoxy compound without aggregate.

h. **Dowel and Anchor Bolt Grouting:** Place Metco Hi-Mod Epoxy MV or Gel into clean and dry hole and then insert dowel, rebar or anchor bolt to proper embedment depth. Twist or rotate dowel, rebar or anchor bolt to insure complete coverage and consolidation.

i. **Injection Grouting:** Seal all cracks and around injection ports with Metco Hi-Mod Epoxy Gel. After gel has hardened, pressure inject Metco Hi-Mod Epoxy LV or MV into the lowest port and proceed until epoxy compound appears at next highest port. Continue injecting procedure until all ports have been filled.

j. **Skidproofing:** Anti-skid aggregate may be broadcasted into the fresh Metco Hi-Mod Epoxy MV coating while it is still tacky. Continue until an excess of aggregate remains standing on the surface. After the coating and aggregate have hardened, remove all excess aggregate by sweeping with a stiff broom. Apply an additional coat to thoroughly lock in place all aggregate and provide a uniform appearance.

k. **Clean-Up:** Either DL Solvent or Waterzall Concentrate and water may be used for cleaning tools and equipment.

l. **Working Time/Pot Life:** All mixed epoxy compounds should be applied within 30 minutes after mixing. Material will remain tacky on the surface for four (4) hours after initial application at 70°F (21°C).

6. Availability

Metco Hi-Mod Epoxy is normally available immediately from your local distributor or it will be shipped within 5 working days upon receipt of order. Please contact your local Metalcrete representative or call Metalcrete directly for more information.

7. Warranty

Metco Hi-Mod Epoxy is manufactured in strict accordance with the quality control standards of Metalcrete Industries. It is guaranteed to perform as indicated on this data sheet when applied by competent applicators.

8. Technical Service

Metalcrete technical service representatives are available to provide on-site assistance with a minimum three day notice.



Metalcrete Industries

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