



DESCRIPTION:

FMJ Full Metal Jacket are clear low VOC innovative one step penetrating silane water repellent cure and seal products that can be applied to new or existing concrete. Available in three grades; matte, regular and high gloss, the products penetrate the pores and capillaries of concrete reacting with the alkali and moisture to form a hydrophobic gel in the pores and a water retentive film on the surface.

This membrane, which meets ASTM curing requirements and the Chloride Ion Penetration requirements of NCHRP 244 forms a film that restricts moisture loss allowing concrete to reach maximum hardness and reduces staining, chloride penetration, prevents intrusion of water, salts, deicer chemicals and acids that can result in costly damage to concrete and masonry. These innovative one-step products eliminate the costly removal of curing compounds and time consuming water curing of fresh concrete when a protective penetrating water repellent sealer is desired. Once applied, the surface is properly cured and water repellent in one application and puts concrete into service weeks sooner.

BENEFITS

- Improved long term protection to exterior concrete from water and salt damage
- Seals out water, oil, grease and other stains. See TN107A
- Available in three grades
- Vexcon breathable technology
- Cures fresh concrete
- Minimizes crazing and shrinkage cracks
- Deep penetration for maximum protection
- Complete projects faster
- Reduced labor and product costs
- Non-yellowing
- Low VOC

RECOMMENDED FOR

Any new and existing horizontal or vertical concrete that requires the long term protection of a penetrating water repellent sealer and a high performance stain resistant protective coating. It may be used also as a water and stain repellent on cast in place and pre-cast concrete or concrete block.

SPECIFICATIONS/COMPLIANCE

- VOC <350 grams/liter or <2.92 #/gal
- Meets:
 - US EPA AIM: Concrete Curing and Sealing Compounds
 - OTC, LADCO/MRPO, CEPA/EC –Waterproofing Concrete Masonry Sealer
- ASTM C1315 Type 1 Class A
- ASTM C309 Type 1 Class A & B
- AASHTO M148 Type 1 Class A & B
- ASTM E96 Water Vapor Permeability - 94%
- ASTM C457 Depth of Penetration - 0.18-0.21
- ASTM C642 Water Absorption Reduction in Hardened Concrete - 89%
- NCHRP 244 Series IV Reduction of Absorbed Chloride into Concrete - Series IV > 85%
- Meets OSHA/ADA non-slip requirements
- USDA approved

APPLICATION NOTES

- Prior to application a test area must be performed to determine proper application rate, techniques and required surface preparation.
- Application of Full Metal Jacket may be done with a short 1/4" nap roller, brush or low-pressure industrial sprayer with neoprene fitting.
- Use a roller pan to take off excess product. Do not dip and roll or pour and spread.
- The product is supplied ready to use, do not dilute.
- Do not apply over free standing water.
- Application to damp surfaces is acceptable.

SURFACE PREPARATION

- The surface must be properly cleaned. Use one of Diamond Decorative Supply's surface preparation and cleaning products to properly clean the surface prior to application.
- The surface must be properly repaired and structurally sound. Use a repair mortar to correct any surface defects.
- Large cracks should be repaired using PowerCoat® Epoxy Flexible Joint Sealant
- All caulking, patching and joint sealants should be installed in accordance with ACI standard specifications.

APPLICATION VERTICAL

- Begin application from the highest point; top to bottom.
- Roll or spray sufficient product to completely absorb and cover the surface.
- Succeeding passes must lap the previous run down. Do not over apply.
- Do not allow excess product to build on surface. Coverage depends on porosity.
- Check dried area for absorption and apply a second coat if necessary. For best coverage, apply the second coat perpendicular/90° to the first coat.

CURING AND SEALING NEW CONCRETE

- Apply in a single saturating application with sufficient material applied so that the surface remains wet for a few minutes before penetration.
- Surface residues, pools and puddles should be evened out until they completely penetrate into the surface.
- Remove efflorescence and laitance with an etch & efflorescence remover.
- Apply Full Metal Jacket three hours after the concrete has received final finishing and all gauging water has been absorbed. See Coverage Section for first coat application rate.

SHORT SPECIFICATION

[03 35 00] [03 39 00] [07 19 13]: Basis of design, low VOC compliant, clear silane/acrylic curing and sealing compound, water and stain repellent. Meet or exceed NCHRP 244 series IV and ASTM C642 tests, reducing water and salt penetration by > 85%. Conforming to ASTM C-1315 type 1 Class A, ASTM C309/AASHTO M148 type 1 Class A & B as manufactured by Diamond Decorative Supply.

SEALING EXISTING CONCRETE

- Apply in a single saturating application with sufficient material applied so that the surface remains wet for a few minutes before penetration.
- Surface residues, pools and puddles should be evened out until they completely penetrate into the surface.
- To determine that the concrete is penetrable perform a water absorbency test by applying water to a representative portion of the prepared concrete floor. A properly prepared surface when dry will immediately absorb clean water without any surface beading effects.
- If required use Etch & Efflorescence Remover to improve penetration.
- The concrete should be coated at coverage rate described below and allowed to completely penetrate the surface with no puddles, ponding or wet spots.
- If a liquid membrane curing compound has been used to cure the concrete, the surface can be power washed to remove the coating and any dirt, dust, contaminants or use Concrete Stripper to remove old sealers, grease, dirt and curing compounds. If the concrete has been water cured, the concrete must be free of any dirt, dust and contaminants and power washing is recommended prior to the application.

SECOND COAT

- A second coat is recommended if the initial first coat is damaged or a higher gloss protective top coat is desired.
- Before applying a second coat, the concrete surface should be cleaned free of dust, surface dirt and contaminants.
- Concrete that has become heavily contaminated with surface dirt, tire marks, oil, etc., during construction may require thorough cleaning for best performance of the second coat.

COVERAGE/ESTIMATING

Porosity and texture of the surface will affect the amount of material necessary for effective treatment. The following is a guide for estimating material requirements for concrete. Perform a test area to determine proper application rate.

	New	Existing
First Coat (sq.ft/gal)	125 -150	250 -300
Second Coat (sq.ft/gal)	300 -400	400 -500

MAINTENANCE

Spills should be removed promptly and cleaned with a super degreaser. Floors should be cleaned regularly. Periodic reapplication may be required as the sealer wears off.

PACKAGING

FMJ Full Metal Jacket by Diamond Decorative is available in 55-gallon drums and 5-gallon pails.

HEALTH AND SAFETY

- Use only with adequate ventilation.
 - Use of gloves, goggles and other protective clothing is advised when using this product.
 - If swallowed, do not induce vomiting.
 - Use of respirators is advised when using in confined areas.
- FMJ Full Metal Jacket is an integral part of the safety and application of our product. A short synopsis is provided in this product data sheet. Before using product, obtain a copy of the SDS at DiamondDecorative.com.

PHYSICAL PROPERTIES

Matte Regular High Gloss (HG)

- Gloss - Clear None Medium High
- Dry Time <4 hours <4 hours <4 hours
- Solids >30% >25% >37%

SPECIAL NOTES

- The product should be stored in sealed containers and kept away from extreme heat.
- Protect application area from rain for 4 hours.
- May show rubber burns.
- May cause bleeding on bituminous surfaces.
- May cause mottling of colored surfaces.
- Not gasoline resistant. Use Vexcon PowerCoat Epoxy LD
- Equipment clean up: Use Certi-Vex Equipment Cleaner.
- Can apply when surface temperatures are 20°F - 85°F (-6°C - 29°C). When below or above these ranges review Full Metal Jacket's Weather Application Guides. Available at DiamondDecorative.com
- Do not topcoat without consulting Vexcon Chemicals.
- Shelf life: If properly stored in its original sealed container, three years from date of manufacture. Rotate your Stock.
- For use by experienced contractors.
- Adjoining glass, metal and painted surfaces should be protected from over spray. Inadvertent splashes should be removed using Equipment Cleaner before the solution has dried on the surface.
- Proper application of Full metal Jacket material is the responsibility of the installer or user. Telephone consultation and/or field visits by Full Metal Jacket personnel are for the sole purpose of making technical recommendations only, and not for providing quality control or supervision on location.
- Warranty: All products are sold subject to Full Metal Jacket's published materials Limited Warranty and Terms and Conditions of Sale and can be changed without notice. You may view our Warranty's and Terms and Conditions of Sale at DiamondDecorative.com.

TEST RESULTS - CTL PROJECT NO.: 105869

Final results for Full Metal Jacket submitted for testing for Utah Department of Transportation Concrete Sealer Freeze/Thaw Wt Loss. Pass 3.1% WT. Loss vs. 6.0% Allowed Weight Monitoring of Specimens Subjected to Utah DOT concrete sealer freeze/thaw tests oven dry weights in grams after indicated freeze/thaw cycles.

	Specimen #	0	304 Cycles
Full Metal Jacket #73F16	A	276.7	268.8
	B	273.6	264.5
	C	274.0	265.3
Controls	A	272.4	Failed**
	B	274.6	Failed**
	C	275.5	Failed**

Notes:

Controls failed and turned into rubble after 118 F/T cycles. After 47 cycles, controls were in poor condition.

PERFORMANCE DATA

Water absorption after soaking in 15% sodium chloride solution: 14 days

WT/GAIN %	FMJ	Commercial Control	Siloxane
1 coat @ 125 Sq.ft. /gal			
Average of 5 blocks	1.09%	8.2%	.95%
	Minimum Req.	FMJ	Siloxane
% Reduction in water absorption	75%	86.7%	88.4
% Reduction of Chloride Ion Content	75%	85.7%	70.3%
Water vapor transmission	100%	104%	116%

CONTACT US@ Additional product information, technical assistance and customer service are available by contacting Diamond Decorative Supply.

DiamondDecorative.com

info@DiamondDecorative.com

Voice: 330.992.0022