ICO HI Guard Coating

Product Data Sheet

Product Description
ICO-Hi Guard Coating™ is a two part, 100% solids novolac epoxy coating providing excellent chemical resistance to most concentrated acids and caustics and some solvents. Its unusually high resilience and toughness enables **Hi Guard Coating™** to better withstand thermal shock and mechanical impact compared to more brittle conventional epoxy coatings. Applied by brush, roller or spray. **ICO-Hi Guard™ Coating** is normally applied at about 160 SF/gallon per coat to achieve a minimum 20 mils thickness in two coats. For moderate traffic a 60 mil coat/seed system is the choice.

ICO-Hi Guard Coating™ finishes to an easy-to-clean glossy surface. Anti-slip characteristics are enhanced by the addition of quartz or aluminum oxide. It has excellent adhesion to damp, as well as dry concrete, metal, wood, brick, and tile without need of a primer coat. To enhance its crack bridging characteristics, **ICO-Hi Guard Coating™** can be reinforced with polyester cloth or fiberglass sheeting.

Typical Application
ICO-Hi Guard Coating™ is recommended for areas both inside and outside, requiring excellent protection from strong acids and caustics. Typical end use applications include chemical plants, plating operations, secondary containment, and paper and pulp mills, where light traffic and impact is present for heavy wear areas, our **ICO-Hi Guard SL™** or **Hi-Guard™** trowelled system is recommended. For vertical containment in industrial or municipal waste treatment plants our **ICO Hi Guard Coating GF** is the choice.

Chemical Resistance
ICO-Hi Guard Coating™ is recommended for such acids as 98% sulfuric, 85% phosphoric, 88% lactic and 20% acetic, as well as concentrated alkalis and many solvents. A more complete list of chemical resistances is available in the **Milamar Coatings Chemical Resistance Chart.** As the coatings formula differs slightly from the **Hi Guard** "resin" listed in the chemical chart's we recommend contacting **Milamar Technical Service Department** for specific application recommendation.

Physical Properties

Tensile Strength (ASTM D-638):	5160 psi	**Bond Strength to Quarry Tile:**	>1000 psi
Tensile Elongation (D-638):	6%	**Vapor Transmission Rate (E-96):**	.07 perms
Flexural Strength (D-790):	3670 psi	**Water Absorption (D-570):**	0.2% in 24 hrs.
Hardness, Shore D (D-2240):	80	**Taber Abrasion (D-1044), CS 17, 1000 g, 1000 cycles:**	110 mg
Gardner Impact Strength (D-2794):	80 in/lbs.	**60° Gloss:**	104

Physical Characteristics

Density, lbs. /gal.		Viscosity @ 77°F, cps	
Part A	11.2	**Part A**	1,200
Part B	8.8	**Part B**	1,600
A&B Mixed	10.5	**A&B Mixed**	1,500
Mixing Ratios			
By Volume		**By Weight**	
Part A : Part B	2.2:1	2.8:1	

Curing Times @	50°F	77°F	90°F
Pot Life:	35 min.	25 min.	12 min.
Work Time:	20 min.	40 min.	35 min.
Hard, Foot Traffic:	24 hrs.	16 hrs.	5 hrs.

Shelf Life
1 year at 77°F in unopened containers.
Maximum Hardness achieved after 7 days @77°F.

Color Availability
Standard colors: gray, dark gray, beige, red, green, black, blue.

Packaging and Coverage Rates	
1 Gallon Kit:	160SF (for 10 mil coverage)
4 Gallon Kit:	640 SF
100 Gallon Drum Kit:	16,000 SF

Installation
Please refer to our Application Specs for detailed instructions. Particular care must be taken to follow those instructions precisely to assure proper installation.
1. New concrete should be allowed to cure a minimum of 28 days and be checked with a rubber mat or plastic sheet to insure adequate curing time.
2. All surfaces to be covered should be power washed, shot blasted, acid etched, scarified or sanded to present a clean, sound substrate to which to bond to. The prepared surface should have a ph. of 7.
3. The ingredients should be mixed in the prescribed ratios, using a low speed jiffy-style mixer, (maximum 750 rpm). Mix Part A for 30-60 seconds then add Part B and mix until uniform in color and consistency.
4. Do not mix less than the prescribed amount of any ingredient or add any solvent to the mix.
5. No priming is necessary on concrete of average porosity. On new concrete or old concrete with an open porosity and on wood surfaces apply ICO-Primer LV or LV FC™ to help prevent outgassing, bubbling and pin holing from escaping entrapped air.

6. Allow primer to dry tack free.
7. Apply the mixed material with a fine nap roller, a squeegee or a brush. Apply approximately 160 SF per gallon per coat to achieve 10 mils of coating.
8. Apply a second coat while the first coat is still tacky if using spike shoes or dry enough to walk on, but before 24 hours at 75°F. If more time has elapsed the first coat should be sanded before recoating.
9. A suitable aggregate may be broadcast onto the surface and back rolled to provide more anti-slip profile to the finished surface. It is advisable to test various types and sizes of aggregate to achieve the desired finish profile.

NOTE: Failure to follow the above instructions, unless expressly authorized by a Milamar Technical Service Representative, will void our material warranty.

Precautions
1. Recoat window without sanding at 70°F: 24 hours.
2. Do not apply below 50°F.

Product Specification
The specified area shall receive an application of **ICO-Hi Guard Coating™** as manufactured by **Milamar Coatings LLC. of Oklahoma City, Oklahoma.** The system shall be installed by precisely following the manufacturer's published recommendations pertaining to surface preparation, mixing, and application. The material shall be a low odor, 100% solids, high gloss flexibilized epoxy novolac system with good resilience to resist thermal and mechanical shock. The system must adhere to damp as well as dry concrete, wood, metal, tile, terrazzo, and sound existing epoxy and urethane coatings. It shall have an elongation of 6% in the unfilled form when tested using ASTM D-638. The film hardness shall be a Shore D of 80. The system shall be unaffected by oils and greases and have adequate chemical resistance against such acids as 30% chromic, 98% sulfuric, 85% phosphoric and 20%acetic, as well as resist such caustics as 50% sodium hydroxide and 20% ammonium hydroxide.

LIMITED WARRANTY
Milamar Coatings products are manufactured to be free of defects in material and workmanship in meeting the properties specified on its individual Product Data Sheets. Users and installers of Milamar Coatings products are solely responsible for determining the suitability of the products for specific product applications. Milamar Coatings makes no Warranty or Guarantee, express or implied, including warranties of fitness, design compatibility or merchantability, for any particular use and shall have no responsibility or liability, including direct, indirect or consequential damages, due to injury, delay or third party claims for installation or repair. Likewise, Milamar Coatings assumes no liability of any nature for products that are adjusted in the field or that do not utilize all specified Milamar Coatings components. Should any Milamar Coatings product be proved to be defective within one year from the date of shipment, Milamar Coatings will, at its sole discretion, either replace the material; issue a credit to the customer's account; or provide a cash refund for the initial, paid purchase price of the material. Potential claims regarding product quality must be received in writing by Milamar Coatings within 30 days of the discovery of such potential defect. This Warranty is exclusive of all other warranties, expressed or implied, and may only be adjusted in writing, signed by an officer of Milamar Coatings, L.L.C.

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