



ICO HI Guard SL

Product Data Sheet

Product Description

ICO-Hi Guard SL™ is a three part, solvent-free, 100% solids, novolac epoxy flooring resurfacer. Normally applied between 1/16" and 1/8" thick in a single step application, Hi Guard SL™ quickly and economically restores pitted and damaged concrete floors to a smooth and glossy finish. It has excellent chemical resistance to caustics, many concentrated acids and some solvents. The superior toughness of Hi Guard SL™ allows for better resistance to mechanical shock compared to harder, more brittle conventional materials.

Its resin rich mix allows for a single step application without need of a sealer coat. If an anti-slip texture is desired, a thin top coat of Hi Guard Coating™ can be applied and then broadcast with fine silica quartz or aluminum oxide. Hi Guard SL™ has excellent adhesion to damp as well as dry concrete, metal, wood, brick and tile.

Typical Application

ICO-Hi Guard SL™ is an ideal system for restoring lightly or moderately pitted substrates in high corrosion areas, like chemical plants, plating operations, paper and pulp mills, laboratories and mining operations. Its superior adhesion to damp, as well as dry concrete, along with its excellent impermeability to moisture makes it suitable material for outside use, even on slab-on-grades. Applied as a self-leveling/seed system and top coated with Hi Guard Coating™, Hi Guard SL™ can provide an economical, slip resistant, high build flooring system for heavy wear areas.

Chemical Resistance

ICO-Hi Guard SL™ is recommended for such acids as 98% sulfuric, 85% phosphoric, 50% lactic and 20% acetic, as well as concentrated alkalis and many solvents, including ethanol and perchlorethylene. A more complete list of chemical resistance is available in the Milamar Coatings Chemical Resistance Chart or contact Milamar Technical Assistance.

Physical Properties

Tensile Strength (ASTM C-307):	2305 psi	Bond Strength to Quarry Tile:	>1000 psi
Tensile Elongation (C-307D-638):	14%	Vapor Transmissi on Rate (E-96):	.03 perms

Hardness, Shore D (D-2240):	80	60° Gloss:	104
Gardner Impact Strength (D-2794):	120 in./lbs.	Flexural Strength (C-580):	3670 psi
Compression Strength (C-579):	6940 psi	Flammability (D-635):	Self-Extinguishing
Coefficient of Thermal Expansion (D-696):	1.7x10 ⁻⁵ per °F	Water Absorption (D-5790):	0.2% in 24 hours
Taber Abrasion CS17, 1000g., 1000 cycles:	110 mg. loss		

Physical Characteristics

Density, lbs. /gal.		Viscosity @ 77°F, cps	
Part A	10.75	Part A	850
Part B	8.8	Part B	850
A&B Mixed	10.1	A&B Mixed	850
Mixing Ratios			
By Volume		By Weight	
Part A : Part B	2.2:1	2.5:1	
Aggregate : Liquid	1:1.1	1.4:1	

Curing Times @:		40°F	50°F	77°F	90°F
ICO Guard SL	Pot Life:	---	60 min.	50 min.	25 min.
	Work Time:	---	75 min.	60 min.	45 min.
	Tack Free:	---	30 hrs.	16 hrs.	8 hrs.
	Hard, Foot:	---	64 hrs.	30 hrs.	12 hrs.
	Hard, Truck:	---	75 hrs.	36 hrs.	18 hrs.
ICO Guard SL FC	Pot Life:	45 min.	40 min.	20 min.	---
	Work Time:	50 min.	45 min.	35 min.	---
	Hard:	16 hrs.	11 hrs.	4 hrs.	---
	Hard, Foot:	28 hrs.	22 hrs.	10 hrs.	---

	Hard, Truck:	34 hrs.	28 hrs.	14 hrs.	---
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Shelf Life

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

Color Availability

Gray, Dark Gray, Beige, Red, Green, Brown, Black.

Packaging and Coverage Rates

4 gallon Kit 50 SF at 1/8" depth
 100 SF at 1/16" depth

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 or be checked with a rubber mat or plastic sheet to insure adequate curing time has occurred.
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. Cracks 1/8" wide or greater, pour joints and construction joints must be cleaned and filled with ICO-Gel™. Patch all holes over 1/2" deep with ICO-Patch™, smaller holes can be filled with an ICO Primer Slurry mix.
4. ICO-Hi Guard SL is a self-priming mix; however, any substrate of above average porosity should first be sealed with ICO-Primer LV or ICO-Primer LV FC and allow to dry tack free.
5. The three ingredients should be mixed in the prescribed ratios, using a low speed jiffy-style mixer (maximum 750 rpm), until uniform in color and consistency.
6. Do not add solvent to the mix.
7. Apply ICO-Hi Guard SL™ with a gauge rake, notched rubber squeegee or steel trowel. Use porcupine roller to help level the floor and break up air bubbles.
8. For an anti-slip surface, allow ICO-Hi Guard SL™ to dry, apply a top coat of ICO-Hi Guard Coating™ and broadcast in silica sand.

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

Precautions

1. Only apply over a tack free primer to help prevent out gassing.
2. Do not apply below 50°F.
3. Do not apply less than 60 mils thick.
4. Do not apply on a floor sloped > 1/8" per foot.
5. Do not apply in severe thermal shock environments.

Product Specification

The specified area shall receive an application of ICO-Hi Guard SL™ 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, three part, and solvent-free 100% solids novolac epoxy system with moderate resilience to resist thermal and mechanical shock. It should be applied by notched trowel

or squeegee in one application without needing a top coat. It shall be a resin-rich mix ratio of 1:1.1, **ICO-Fill™** aggregate to resin and hardener. It shall have an elongation of 14.0% when tested using ASTM C-307 and Gardner Impact of 120 inch pounds. The compressive strength when tested in accordance with ASTM C-579 shall not exceed 7000 psi and the hardness shall not exceed 80 (Shore D). It shall have excellent adhesion to wood, metal, tile, brick and damp as well as dry concrete. The system shall be unaffected by oils and greases and have high chemical resistance against acids such as 30% chromic, 98% sulfuric, 85% phosphoric and 20% acetic, as well as resist such caustics as 50% sodium hydroxide and 26% ammonium hydroxide.

The data statements and recommendations set forth in this product information sheet are based on testing, research and other development work which has been carefully conducted by us, and we believe such data. Statements and recommendations will serve as reliable guidelines. However, this product is subject to numerable uses under varying conditions over which we have no control, and accordingly we do NOT warrant that this product is suitable for any particular use. Users are advised to test the product in advance to make certain it is suitable for their particular production conditions and particular use or uses.

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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