



ICO HI Guard Liner

Product Data Sheet

Product Description

ICO-Hi Guard Liner™ is a three-part, aggregate filled novolac epoxy liner material for vertical concrete and masonry surfaces. With an identical resin base to our **Hi Guard** product line, it offers excellent chemical resistance to concentrated inorganic acids, caustics and some solvents. Normally applied in a single pass up to one eighth inch thickness, **Hi Guard Liner** provides an impervious vapor barrier. With excellent damp, as well as dry adhesion, it can be applied on slab-on-grades or even below grade. It is a resin rich mixture and thus, does not require a primer or a top, "sealer" coat. By back rolling the newly applied product, a high gloss, easy-to-clean surface is obtained.

Typical Application

ICO-Hi Guard Liner is particularly suited for use in such highly corrosive areas as trench walls, sumps, pits, waste water treatment tanks and other concrete or masonry surfaces that see a more sustained contact with corrosive chemicals and thus would prove too severe an environment for thin film coatings. It is excellent for smoothing out mildly eroded concrete in a single step. For badly spalled concrete, a first layer of **ICO Gel**, followed by **ICO Hi Guard Liner**, is more practical.

Chemical Resistance

ICO-Hi Guard Liner is recommended for containment of concentrated inorganic acids, such as 98% sulfuric, 85% phosphoric, citric, and lactic, caustics and some solvents. For detailed information, please refer to our **Chemical Resistance Chart** under the **Hi Guard** heading.

Physical Characteristics

Density, lbs. /gal.		Viscosity @ 77°F, cps	
Part A:	9.8	Part A:	450
Part B:	8.8	Part B:	850
A&B Mixed:	9.5	A&B Mixed:	650

Mixing Ratios:	By Volume	By Weight
Part A : Part B	2:1	2.2:1
Aggregate : Liquid	1.5:1	2.1:1

Curing Times @:	50°F	70°F	90°F
Pot Life:	35 min.	30 min.	25 min.
Work Time:	35 min.	45 min.	30 min.
Hard, No Indentation:	24 hrs.	10 hrs.	5 hrs.

Maximum hardness achieved after 7 days @77°F.

Packaging and Coverage Rates

3 Gallon Kit : 40 SF @ 1/8"
Bulk Pack : 400 SF @ 1/8"

Color Availability

All standard colors, except white

Shelf Life: 1 year at 77°F in unopened containers.

Physical Properties

Tensile Strength (ASTM C-307):	1285 psi	Flammability (D-635):	Self-Extinguishing
Tensile Elongation (C-307):	5%	Vapor Transmission Rate (E-96):	.07 perms
Flexural Strength (C-580):	1940 psi	Coefficient of Thermal Expansion (D-696):	5.9x10 ⁻⁵ per °F
Compression Strength (C-579):	6165 psi	Gardner Impact (D-2794):	160 in. lbs.
Bond Strength To Quarry Tile:	>1000 psi	Water Absorption (D-570):	0.1% in 24 hours

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 alternatively, to be checked for moisture with a rubber mat or plastic sheet prior to coating.
2. All surfaces to be covered should be cleaned and abraded by sand blasting, grinding, and/or power washed.
3. Fill any spalled areas deeper than 1/8" with **ICO Gel** and allow to dry.
4. **Hi Guard Liner** is a self-priming material; however, ease of installation can be facilitated by applying **ICO Primer LV** and broadcasting in grit.
5. The liquid Part A resin and Part B hardener should be mixed in a paddle-style mixer, then add **ICO Fill Liner** mix and the bag of **ICO Thickener** and mix for another minute, or until uniform.
6. Back roll the still-wet finished surface with a fine nap roller, dipped in toluene or isopropyl alcohol to obtain a uniform finish. No sealer coat is required.

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

Precautions

1. Do not apply below 50°F.
2. Do not apply greater than 1/8" thick per pass.
3. Prefill bug holes with ICO Gel to help prevent outgassing.
4. Can slump in hot conditions; add more thickener (or cabosil).

Product Specification

The specified area shall receive an application of **ICO-Hi Guard Liner** as manufactured by **Milamar Coatings LLC. of Oklahoma City, Oklahoma**. The material shall be a 100% solids, low odor, three parts Bisphenol F epoxy. It shall have an elongation of 5.0% and a tensile strength of 1285 psi when tested under ASTM C-307. It shall have a Gardner Impact Strength of 160 inch pounds. It shall be a resin-rich mixture with the aggregate: resin ratio not exceeding 1.5:1 by volume. The system shall withstand full immersion in such chemicals as 98% sulfuric acid, 85% phosphoric acid, concentrated citric and lactic acids at room temperature.

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, 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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