



# ICO HI Guard Coating GF

## Product Data Sheet

### Product Description

**ICO Hi Guard Coating GF™** is a 100% solids glass flake-filled epoxy novolac coating specifically designed for primary containment conditions. As an odorless material, it can be applied by brush roller or spray without need for special ventilation equipment even in confined spaces (see MSDS for specific details). It has excellent chemical resistance to a wide selection of concentrated chemicals, including caustics and most inorganic acids, making it an ideal substitute for conventional glass flake-filled vinyl ester linings

**ICO Hi Guard Coating GF™** can be applied up to 20 mils per coat on vertical or overhead surfaces at 70°F. For optimal permeation resistance, a two-coat, 40 mil application is normally recommended. It has excellent damp as well as dry adhesion to concrete and most metal surfaces. No primer is required, except over rusted metal. It is available in pre-measured 4 gallon kits in all our standard colors. Application temperatures range from 50° to 90°F.

### Product Application

**ICO Hi Guard Coating GF™** is formulated for immersion situations where high chemical resistance is required. Such applications would include metal tank linings, masonry chests in paper mills that store spent acids, pickling lines, pits in plating operations and chemical plants where constant spillage is the norm. Reagent temperatures should not exceed 140°F.

Spalled or badly pitted concrete can be pre-treated with our **ICO Gel** epoxy patch material to smooth surface prior to application of the coating. For severe conditions, such as trenches, sumps and pits, our 1/8" thick, trowel applied novolac liner, **ICO Hi Guard Liner**, should be used. Do not apply below 50°F.

### Chemical Resistance

**ICO Hi Guard Coating GF™** is suitable for immersion use for chemicals rated as "I" in our Chemical Resistance Chart (see "Hi Guard" listing).

### Physical Properties

<b>Tensile Strength (ASTM D-638):</b>	4200 psi	<b>Bond Strength to Quarry Tile:</b>	>1000 psi
<b>Tensile Elongation (D-638):</b>	13%	<b>Vapor Transmission Rate (E-96):</b>	.02 perms

<b>Hardness, Shore D (D-2240):</b>	75	<b>60° Gloss:</b>	104
<b>Gardner Impact Strength (D-2794):</b>	80 in/lbs.		

Density, lbs. /gal.		Viscosity @ 77°F, cps	
<b>Part A</b>	9.1	<b>Part A</b>	20,500
<b>Part B</b>	9.0	<b>Part B</b>	4,500
<b>A&amp;B Mixed</b>	9.05	<b>A&amp;B Mixed</b>	8,000
Mixing Ratios			
By Volume		By Weight	
<b>Part A : Part B</b>	1.5:1		1.9:1

<b>Curing Times @</b>	<b>50°F</b>	<b>77°F</b>	<b>90°F</b>
<b>Pot Life:</b>	30 min.	25 min.	10 min.
<b>Work Time:</b>	30 min.	30 min.	20 min.
<b>Hard:</b>	24 hrs.	16 hrs.	5 hrs.

**Maximum chemical and physical properties achieved after 7 days at 70°F**

### Color Availability

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

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

### Packaging and Coverage Rates

4 gallon kit: 320SF

### 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 for 28 days. If not possible, then test with plastic sheet for rate of vapor transmission to surface and consult ICO Tech Service for recommendations.
2. Old concrete should be sand blasted to remove all old coating, down to a clean, abraded (40 to 50 grit minimum) surface.
3. Metal surfaces must be blasted to achieve a white metal finish (SSPC-SP-5) with a 2 to 3 mil angular profile. Coating should be applied within 8 hours of completion of prep.
4. No primer is necessary.
5. On worn, spalled concrete, pre-fill with ICO Gel epoxy patch and allow to dry tack free.
6. Mix Part A contents first for at least 30 seconds to ensure uniformity, then add Part B and mix with a slow speed (<

750rpm) jiffy style mixer, or until uniform in color. To prolong pot life, pour out into rolling pans.

7. Apply by brush or ¾" adhesive roller at a coverage rate of 80SF/gal at 70°F (=20 mils DFT). Allow to dry tack free.

8. Material may also be applied with an airless spray apparatus with a 40:1 pump ratio, 3500psi fluid pressure, 0.021" fluid tip and a minimum ¾" I.D. air input line.

9. Apply a second coat at the same coverage rate as the first. Note that if curing time for first coat exceeds 16 hours at 70°F, it must be sanded prior to applying second coat.

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

#### **Precautions**

**1. Recoat windows without sanding at 70°F: 16 hours**

**2. Do not apply below 50°F**

**3. Mix Part A thoroughly to ensure glass flakes are distributed uniformly**

#### **Product Specification**

The specified area shall receive an application of **ICO Hi Guard Coating GF™** 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 epoxy novolac 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 a vapor transmission rate of .02 perms as measured by ASTM E-96. The system shall be unaffected by oils, greases and have adequate chemical resistance against such acids as 30% chromic, 98% sulfuric, 85% phosphoric and 80% lactic, as well as resist such caustics as 50% sodium hydroxide and 20% 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, 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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