



ICO Iron Guard

Product Data Sheet

Product Description

Iron Guard is a three part, iron reinforced troweled epoxy floor that combines the high chemical resistance and flexibility of our “**ICO GUARD**” resin system with the superior wear resistance of metal fillers. It can be applied in a single pass in any thickness down to $\frac{3}{8}$ ” without need for a primer or top coat. With a fast cure version turnaround time is as little as 8 hours at 70°F and it can be applied at temperatures down to 40°F.

Unlike such commonly used steel-reinforced floors such as “Master Plate”, **Iron Guard** uses specially prepared iron aggregate that will not rust and will withstand harsh chemical reagents, including most inorganic acids, caustics and some solvents. It is a 100% solids, zero odor material and with recycled material, qualifies for Leeds points.

Typical Application

Iron Guard is particularly suited for corrosive, wet environments when wear and/or impact are severe. Typical applications would include dairy milking parlors, food plants seeing continuous wash-downs and constant or intermittent steel abrasion, drum storage areas, truck wash-down areas with high metal impact, and loading docks subjected to chemical spills and constant wash-downs.

For less corrosive areas, our general service iron-filled troweled material, Iron Guard GS, can be used.

Chemical Resistance

Iron Guard is highly chemical resistant to most inorganic acids, caustics and some solvents. Refer to our Chemical Resistant Chart under “**ICO Guard**”.

Physical Properties

Tensile Strength (ASTM C-307):	987 psi	Flammability (D-635):	Self-Extinguishing
Hardness, Shore D (D-2240):	85	Vapor Transmission Rate (E-96):	.03 perms
Bond Strength To Quarry Tile:	>1000 psi	Water Absorption (D-570):	0.3% in 24 hours
Compression Strength (C-579):	5790 psi	Gardner Impact (D-2794):	>160 in. lbs.
Flexural Strength (C-580):	2550 psi		

Physical Characteristics

Density, lbs. /gal.		Viscosity @ 77°F, cps	
Part A:	9.5	Part A:	700
Part B:	8.6	Part B:	300
A&B Mixed:	9.2	A&B Mixed:	630

Mixing Ratios:	Iron Guard		Iron Guard FC	
	By Volume	By Weight	By Volume	By Weight
Part A : Part B	2:1	2.2:1	2.5:1	2.9:1
Aggregate : Liquid	2.8:1	6:1	2.8:1	6:1

Curing Times @		40°F	50°F	70°F	90°F
Iron Guard	Pot Life:	---	60 min.	50 min.	25 min.
	Work Time:	---	2 hrs.	100 min.	80 min.
	Tack Free:	---	14 hrs.	6 hrs.	4 hrs.
	Hard, Foot:	---	60 hrs.	20 hrs.	10 hrs.
	Hard, Truck	---	72 hrs.	28 hrs.	14 hrs.
Iron Guard FC	Pot Life:	50 min.	45 min.	30 min.	---
	Work Time:	60 min.	50 min.	35 min.	---
	Tack Free:	12 hrs.	9 hrs.	4 hrs.	---
	Hard, Foot:	26 hrs.	18 hrs.	8 hrs.	---
	Hard, Truck	32 hrs.	24 hrs.	12 hrs.	---

Shelf Life

1 year at 77°F in unopened containers.

Color Availability

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

Packaging and Coverage Rates

Basic Kit 16 SF at $\frac{3}{8}$ ” depth
 Bulk Pack 160SF at $\frac{3}{8}$ ” depth
 Drum Kit 1600 SF at $\frac{3}{8}$ ” 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 for 28 days; however, if shorter times are necessary, a plastic sheet test and calcium chloride test should be taken. Call ICO Tech Service when data obtained.
2. Floor must be free of grease, oils and other contaminants and should be mechanically abraded, by shot-blasting, scarifying or diamond grinding to remove old poorly bonded coatings and obtain a minimum texture of 30 to 40 grit.
3. **Iron Guard** is a self-priming floor; however, on porous substrates, a prime coat of **ICO Primer LV** is highly recommended to minimize out-gassing. Allow to dry tack free.
4. The three ingredients should be mixed in the prescribed ratios using a low speed (<700rpm) paddle style mixer, first with A & B components for at least 30 seconds followed by addition of aggregate and tint and mixed for another 30 seconds or until uniform in color and consistency.
5. Do not mix less than the prescribed amount of each component and do not add any solvent.
6. The prepared mix may be applied by a screed box or bar at about 16SF/basic kit and allowed to set for several minutes, before finish trowelling with a power trowel or by hand. Do not over trowel. Trowelling may be enhanced by using isopropyl alcohol (IPA) sprayed **lightly** on the trowel.
7. After finish trowelling the surface can be back-rolled with a short nap roller dipped in IPA to remove light trowel marks and to obtain a more uniform appearance. No top coat necessary. For anti-slip properties we recommend aluminum oxide broadcast into the still wet surface – the size and amount dependent on desired texture.

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

Precautions

1. **Do not apply fast cure version, Iron Guard FC, much above 65° to 70°F as it is very fast reacting.**

Product Specification

The specified area shall receive an application of **Iron Guard** as manufactured by **Milamar Coatings LLC of Oklahoma City, Oklahoma**. The system shall be installed by precisely following the manufacturer published recommendations pertaining to surface preparation, mixing and application. The material shall be a low odor, three part, solvent-free 100% solid, epoxy system with moderate resilience to resist thermal and mechanical shock. It should be trowel applied normally at 3/8" thickness in one application without needing a top coat. It shall be a resin-rich mix ratio of 6:1 by weight, **Iron Guard Fill** aggregate to resin and hardener. It shall have a Gardner Impact greater than 160- inch pounds when tested under ASTM D-2794. The compressive strength

when tested in accordance with ASTM C-579 shall not exceed 5790 psi and tensile strength of 987 psi as measured against ASTM C-307. The system shall be useable at temperatures down to 40°F by specifying **Iron Guard FC**. It shall be water wipe able and have excellent adhesion to wood, metal tile, brick and damp as well as dry concrete. It shall be self-priming except on surfaces with extreme porosity. The system shall be unaffected by oils and greases and have high chemical resistance against such acids as 36% hydrochloric, 30% nitric, 80% sulfuric, concentrated lactic and 10% acetic. It shall resist such caustics as sodium hydroxide and 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.

Milamar Coatings, L.L.C.

311 NW 122nd St, Suite #100
Oklahoma City, OK 73114
800.459.7659
www.milamar.com