



ICO Floor 51

Product Data Sheet

Product Description

ICO Floor 51 is a low odor, 100% solids trowelled epoxy flooring system. It is our most economical “resin-rich” system with a 5:1 ratio by weight or 3.3:1 by volume of aggregate to liquid. As such, it is applied in a single step application, either by hand or power trowel, down to a 3/16 inch minimum thickness. No top coat is required. It can also be applied in a slurry system, whereby it is seeded to excess, then top coated with ICO Floor Coating for ease in cleaning. As a resin-rich system it resists liquid penetration throughout the entire thickness.

ICO Floor 51's lack of odor, single step application ability, and quick drying capabilities make it an ideal floor resurfacer in existing facilities. Its “as-trowelled” finish is relatively smooth, however, with addition of suitable aggregate it can provide virtually any texture. With its outstanding toughness, as indicated by impact strengths greater than 160 inch pounds, it resists mechanical impact far better than conventional, more brittle epoxy floors. For more rapid curing, it is available in a fast cure version, **ICO Floor 51 FC**.

Typical Application

ICO Floor 51 is particularly suited for industrial environments where heavy traffic and liquids, in the form of oils, grease, lubricants, water, caustic cleaners, or moderately aggressive acids, are present. Typical applications include metal fabrication plants, machine shops, wineries and bottling plants, some food establishments, and auto service centers.

Chemical Resistance

ICO-Floor 51 is recommended for areas seeing oils, greases, most lubricants, caustics, moderate concentrations of acids and a few solvents. Consult the Milamar Coatings Chemical Resistance Chart under “ICO Floor” for more detailed information.

Physical Properties

Unless otherwise notes, all figures are for ICO Floor 51, regular cure.

Tensile Strength (ASTM C-307):	1910 psi	Flammability (D-635):	Self Extinguishing
Tensile Elongation (C-307):	1.3%	Vapor Transmission Rate (E96):	.03 perm
Flexural Strength (C-580):	2350 psi	Coefficient of Thermal Expansion (D-696):	1.7 x 10 ⁻⁵ per °F
Compression Strength (C-579):	8320 psi	Gardner Impact (D-2794):	>160 inch pounds
Hardness, Shore D (D-2240):	80	Water Absorption:	0.2% in 24 hours
Bond Strength to Concrete:	>400 psi (concrete failure)		

Physical Characteristics

Density, lbs./gal		Viscosity @ 77°F, cps	
Part A:	9.5	Part A:	750
Part B:	8.5	Part B:	850
A&B Mixed:	9.2	A&B Mixed:	800
Curing Times		50°F	70°F
Pot Life:	30 min	20 min	10 min
Working Time:	35 min	25 min	10-15 min
*Tack Free:	8 hrs.	1 hr.	30-60 min
*Hard, Foot Traffic:	12 hrs.	2-3 hrs.	1-2 hrs.
*Hard, Truck Traffic:	16-18 hrs.	4-6 hrs.	2-3 hrs.
*Assumes aggregate filled systems			

Curing Times		50°F	70°F	90°F
ICO Floor 51	Pot Life	60 min	50 min	25 min
	Working Time	40 min	30 min	20 min
	Tack Free	22 hrs.	8 hrs.	5 hrs.
	Hard, Foot Traffic	40 hrs.	15 hrs.	10 hrs.
	Hard, Fork Truck	50 hrs.	30 hrs.	20 hrs.
ICO Floor 51 FC	Pot Life	40 min	25 min	12 min
	Working Time	25 min	20 min	10 min
	Tack Free	12 hrs.	4 hrs.	2 hrs.
	Hard, Foot Traffic	16 hrs.	8 hrs.	5 hrs.
	Hard, Fork Truck	30 hrs.	16 hrs.	10 hrs.
Maximum hardness and chemical resistance are achieved after 7 days at 77°F				

Mixing Ratios	ICO Floor 51		ICO Floor 51 FC	
	By Volume	By Weight	By Volume	By Weight
Part A:Part B	2.3:1	2.7:1	2.2:1	2.5:1
Aggregate:Liquid	3:1	5:1	2.7:1	4.5:1

Color Availability	Packaging and Coverage Rates	
Standard Colors: Gray, Dark Gray, Beige, Blue, Red, Yellow, Green, Brown & Black	Basic Kit:	27 SF at ¼" depth
	Bulk Pack:	270 SF at ¼" depth
	Drum Pack:	2700 SF at ¼" depth
Shelf Life: 1 year at 77°F in unopened containers.		

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/or be checked with a polyethylene sheet (ASTMD4263) or by the RMA Test (using calcium chloride granules). Check with Milamar Technical Services when results are obtained.
2. All surfaces to be covered should be power washed, shot blasted, acid etched, scarified or sanded to present a clean, sound abraded surface (minimum profile 20-30 grit sandpaper).
3. Priming is not necessary with this resin-rich mix; however, to help minimize out-gassing out of a porous substrate, it is recommended especially on new concrete. Apply ICO Primer LV or LVFC at a coverage rate of about 200SF/gal, depending on porosity, and allow to dry tack free. Re-prime any dry appearing areas. Do not allow to dry hard (no indentation) without sanding first.
4. The three ingredients should be mixed in the prescribed ratios, using a low speed, paddle-type mixer. Mix Part A and Part B first for 1 minute then add ICO Fill Hand Trowelled aggregate and dry pigment and mix for an additional 1-2 minutes until uniform in color and consistency. Do not mix less than the prescribed liquid ingredients or add solvent.
5. The prepared mix is normally applied to the desired thickness by means of screed box, gauge rake, pin screeds or screed bar.
6. Allow the rough spread mix to set a few minutes before finish trowelling to allow the resin to come to the surface, thereby facilitating the smoothing action of the trowel. The floor may either be hand trowelled or power trowelled.
7. After trowelling, the surface maybe back rolled with a short nap roller lightly lubricated with isopropyl alcohol to remove light trowel marks and bring the resin to the surface.
8. A suitable aggregate may be broadcast into the surface after back-rolling to provide a more anti-slip texture. It is advisable to test various types and sizes of aggregate to achieve the exact profile desired.

NOTE: 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, either in regular or fast cure versions.
2. The Fast cure version is quite sticky as application temps approach 50°F.

Product Specifications

The specified area shall receive an application of ICO-Floor 51 as manufactured by Milamar Coatings, LLC of Oklahoma City, Oklahoma. The material shall be installed by precisely following the manufacturer's published recommendations pertaining to surface preparation, mixing and installation. It shall be a resin-rich mixture of no more than a 3.3:1 (by volume) ratio of aggregate: liquid. It should be trowel applied normally at 1/4 inch thickness in a single application without need of a "sealer coat". The compressive strength shall not exceed 8320 psi when tested in accordance with ASTM C-579. The Gardner Impact shall exceed 160 inch pounds. The system shall be unaffected by oils, greases, gasoline, 50% sodium hydroxide, 50% sulfuric acid, 10% nitric acid, and citric acid for 7 day immersion.

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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