

ICO-FLOOR 51

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 **International Coatings Chemical Resistance Chart** under "ICO Floor" for more detailed information.

Physical Properties

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 (Unless otherwise noted, all figures are for ICO Floor 51, regular cure)

Density, lbs/gal.	ICO Floor 51		ICO Floor 51 FC		
	Mixing Ratios Pt. A : Pt. B	By Vol	By Wgt	By Vol	By Wgt
Pt. A : 9.7		2.3:1	2.7:1	2.1:1	2.5:1
Pt. B : 8.5	Aggregate:Liquid	3.3:1	5:1	3.3:1	5:1
A&B Mixed : 9.2	Curing Times@		50°F	70°F	90°F
Viscosity@77°F, cps	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
A&B Mixed : 550	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

Color Availability

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

Shelf Life

1 year at 77°F in unopened containers.

Packaging and Coverage Rates

Basic Kit	: 27 SF at 1/4" depth
Bulk Pack	: 270 SF at 1/4" depth
Drum Pack	: 2700 SF at 1/4" depth

Installation

Please refer to our Installation Guide 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 **ICO 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.
9. Do not apply below 50°F

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

Precautions

Avoid skin contact with liquid Part A and Part B as they may cause skin irritation to some people. Protective hand cream and/or gloves should always be used. No special ventilation is needed as there are no solvents. Clean up can be done with toluene, xylene, or MEK. Once the material has set it can be removed with a paint stripper. **Always consult the MSDS sheets prior to use.**

Product Specification

The specified area shall receive an application of **ICO-Floor 51** as manufactured by **International Coatings, Franklin Park, Illinois**. 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.

Technical Assistance

Our many years of installation experience enable us to provide valuable input on not only proper material selection but also installation techniques that will help assure your satisfaction. We have qualified personnel to inspect your floors, analyze the cause of the problems and design procedures and specifications to prolong the useful life of your floors. We furnish detailed application specifications including drawings of necessary details to be used. We are prepared to offer job site instruction for your in-house maintenance crews or to work closely with your preferred applicator. We can also furnish a list of a network of **ICO** trained certified contractors.

Mission Statement

Our mission is to provide our customers the highest possible quality products and services and by so doing, build long term relationship based on mutual trust and respect.