



**Resilient
Epoxy
Flooring
and
Grouting
Systems**

PRODUCT DATA SHEET

ICO-GUARD 51™

Product Description

ICO-Guard 51™ is a three-part, odor free 100% solids, Bisphenol A epoxy flooring system. It is USDA approved for installation in food plants. Because of its resin-rich characteristics, it is ideally suited for hand or power troweled applications in one pass in any thickness down to 3/16", without need of a primer or top sealer coat. Such a one-step application enables the floor to be installed in one day and returned to service the next.

Its high gloss finish facilitates cleaning. Anti-slip characteristics are enhanced by addition of silica quartz, or in extremely heavy wear conditions by aluminum oxide, broadcast in during application of the floor. ICO-Guard 51™ is available in fast cure version (ICO-Guard 51FC™) that enables full cure at application temperatures as low as 32°F. ICO-Guard Cold Cure™ is the choice for temperatures down to 20°F. For coving, it is available in a coving grade, ICO Guard Cove mix.

Typical Application

ICO-Guard 51™ is particularly recommended for the food, dairy and beverage industries where its high chemical resistance, resilience and resin-rich formulation provides extra security against premature failure due to chemical attack, thermal or mechanical shock, as well as heavy wear. Normally applied over concrete, ICO-Guard 51™ also has excellent adhesion to most metal, wood and wood block, brick and tile, and vinyl tile surfaces. It has especially good bonding characteristics to damp surfaces.

Chemical Resistance

ICO-Guard 51™ is recommended for areas subjected to such chemical solutions as 50% sulfuric, 30% nitric, 30% phosphoric, 50% sodium hydroxide, and most C.I.P. cleaners. A more complete list of chemical resistance is available in the International Coatings Chemical Resistance Chart under the "ICO-Guard" heading.

Physical Properties

Tensile Strength (ASTM C-307)	: 2030 psi	Flammability (D-635)	: self extinguishing
Tensile Elongation (C-307)- filled	: 3%	Vapor Transmission Rate (E-96)	: .03 perms
Flexural Strength (C-580)	: 2550 psi	Coefficient of Thermal Expansion (D-696)	: 1.7 x 10 ⁻⁵ per °F
Compression Strength (C-579)	: 5170 psi	Gardner Impact (D-2794)	: > 160 in- lbs.
Hardness, Shore D (D-2240)	: 75	Water Absorption (D-570)	: 0.3% in 24 hours
Bond Strength to Quarry Tile	: >1000 psi		

Physical Characteristics

	Mixing Ratios	ICO-Guard 51™		ICO-Guard 51 FC™			
		By Volume	By weight	By Volume	By weight		
Density, lbs/gal.							
Pt. A	9.5	2 : 1	2.2 : 1	2.5 : 1	2.9 : 1		
Pt. B	8.6	3.3 : 1	5 : 1	3.3 : 1	5 : 1		
A&B Mixed	9.2	Aggregate : Liquid					
Viscosity @77°F, cps	Curing Times @		32°F	50°F	77°F	90°F	
Pt. A	700	ICO Guard 51	Pot Life	-	60 min.	50 min.	25 min.
Pt. B	300	ICO Guard 51	Work Time	-	50 min.	60 min.	35 min.
A&B Mixed	630	ICO Guard 51	Hard, Foot Traffic	-	24 hrs.	15 hrs.	5 hrs.
		ICO Guard 51 FC	Pot Life	50 min.	45 min.	30 min.	10 min.
		ICO Guard 51 FC	Work Time	5 min.	20 min.	20 min.	15 min.
		ICO Guard 51 FC	Hard, Foot Traffic	28 hrs.	14 hrs.	3 hrs.	2.75 hrs.

Shelf Life

1 year at 77°F in unopened containers.

Maximum Hardness achieved after 7 days @ 77°F.

Color Availability

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

Packaging and Coverage Rates

Basic Kit	27 SF at 1/4" depth
Bulk Pack	270 SF at 1/4" depth
Drum Kit	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. For applications between 32°F and 50°F, use ICO Guard FC 51 or ICO guard Cold Cure.

1. New concrete should be allowed to cure a minimum of 28 days or be checked with a rubber mat or plastic sheet to insure adequate curing time has occurred.
2. All surfaces to be covered should be power washed, shot blasted, acid etched, scarified or sanded to present a clean, sound substrate to which to bond to. The prepared surface should have a ph of 7.
3. **ICO-Guard 51™** is a self priming floor, however, to help prevent excessive absorption of resin into a porous substrate, application of **ICO Primer LV** or **LV FC** is highly recommended. Allow to dry tack free.
4. The three ingredients should be mixed in the prescribed ratios, using a low speed paddle-type mixer (maximum 750 rpm), until uniform in color and consistency. Mix Part A and Part B and then slowly add the aggregate and pigment (supplied in dry form).
5. Do not mix less than the prescribed amount of any ingredient or add any solvent to the mix.
6. The prepared mix may be spread using screed strips, pin screeds, gauge rakes or notched trowels to insure a nominal 1/4" average depth.
7. Allow the rough spread material to set a few minutes before finish troweling to allow the resin to come to the surface which facilitates the smooth action of the trowel.
8. After finish troweling the surface may be backrolled with a short nap roller to remove blemishes. The roller can be slightly damp with ice water, xylene, toluene or esopropyl alcohol to prevent pickup.
9. A suitable aggregate may be broadcast onto the surface after backrolling to provide more anti-slip profile to the finished surface. It is advisable to test various types and sizes of aggregate to achieve the desired finish profile.

Precautions

Avoid skin contact with liquid Part A and Part B as they may cause skin irritation to some people. Protective hand creams and/or gloves should be used. Cleanup can be done with hot soapy water before the material starts to set. Once the material has set it can be removed with a paint stripper.

Product Specification

The specified area shall receive an application of **ICO Guard 51™** as manufactured by **International Coatings, Franklin Park Illinois**. The system shall be installed by precisely following the manufactures 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 1/4" thick ness in one application without needing a top coat. It shall be a resin-rich mix ratio of 3.3:1, **ICO-Fill™** aggregate to resin and hardener. It shall have an elongation of 3.0% when tested using ASTM C-307 and 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 5200 psi and tensile strength not to exceed 2030 psi as measured against ASTM C-307. The system shall be useable at temperatures down to 32°F by specifying **ICO-Guard 51FC™**. It shall be water wipeable 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, 50% sulfuric, 20% lactic and 10% acetic. It shall resists such caustics as sodium hydroxide and ammonium hydroxide.

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 our network of **ICO**-trained certified applicators.