



# ZeraDur™ 100 FC

## 100% Solids Fast-Cure Epoxy Floor Coating

### DESCRIPTION

ZeraDur™ 100 FC is a fast curing, two-component, 100% solids epoxy coating that provides an aesthetically pleasing durable finish for interior concrete floors.

### WHERE TO USE

ZeraDur™ 100 FC is recommended for fast-turn around projects. It is suitable for light to medium-duty traffic including show rooms, hospitals, laboratories, locker rooms, washrooms, institutional buildings, office floors, residential garage floors, fire stations, warehouse facilities, storage areas, recreational complexes, studios, autobody, and workshops, etc.

### BENEFITS

- 100% solids, with low odor, zero VOCs
- Fast cure for quick turnaround projects
- Attractive high gloss finish
- Excellent bond to concrete
- Good wear resistance
- Resistance to battery acid (providing it is to be cleaned within 24 hours)
- Excellent water-spot resistance
- Does not support the growth of bacteria or fungus
- Available in wide range of standard colors.

### HANDLING PROPERTIES @ 23°C (74°F)

Mix Ratio, by volume .....2 parts A: 1 part B  
 Viscosity (Mixed) ..... 900 cps  
 Solids Content ..... 100 %  
 Mixed Weight (Density ..... 1.2 kg/L (10 lb./US gal)  
 Pot Life (working time) ..... 15 minutes  
 Thin Film Set Time ..... 3-4 hours  
 Foot Traffic (re-coat time)..... 4-6 hours  
 Light Vehicular Traffic ..... 8-10 hours  
 Full Cure and Maximum Resistance ..... 4 days

### CURING PROPERTIES @ 23°C (74°F)

Tensile Elongation ..... 10% @ break (ASTM D638-86)  
 Tensile Strength..... 20 MPa (2900 psi)

(ASTM D638-86)

Hardness (Shore D) ..... 80 (ASTM D2240-86)

Abrasion Resistance (ASTM D4060) .....68 mg loss Taber Abrasion, C-17 Wheel, 1000 cycles

### SURFACE PREPARATION

ZeraDur™ 100 FC should be applied over clean, sound dust-free surfaces. For best results, the surface should be prepared as follows.

#### Existing Epoxy Floor:

Make sure the floor is clean and free from oil or grease. The floor must be sanded with 80-100 grits to provide a profile for adhesion. Ensure that the existing floor is sound and adhered well to the concrete. The epoxy coating would not adhere to alkyd or oil-based coated floors.

#### Concrete (New):

Shot blast or equivalent to remove surface laitance, curing compounds, or form oils. Concrete should be a minimum of 28 days old and have 3% or less moisture content. Moisture content can be determined using the test method ASTM D4263.

#### Concrete (Old):

Remove oil, grease, dirt, and any unsound concrete using a combination of commercial de-greasers, alkaline wash, shot blasting, or diamond grinding. A combination of acid-etching and power washing can also be used. Cracks and surface defects should be repaired prior to the application of coating.

#### Steel:

Remove greases, oils and contaminants from surfaces and sandblast to white metals. Prime using ZeraPrime™ 100FS or ZeraPrime™ 95DS.

## AREA PREPARATION

For optimal performance, both the coating and substrate should be maintained at 18 to 30° C (68 to 86°F) for 24 hours prior to beginning work. The same temperature range should be maintained during mixing, application, and cure.

Application in direct sunlight and rising surface temperatures may result in the blistering of materials due to the expansion of entrapped air or moisture in the substrate. Concrete that has been in direct sunlight must be shaded 24 hours prior to application and remain shaded until after the initial set.

## OFF-GASSING

The off-gassing is not a by-product of the epoxy coating, but of the displacement of air in the concrete. It depends on the density/PSI (compressive strength of the concrete); the lower the psi and/or water added to the concrete during pouring, the more off-gassing in the concrete. If the concrete is spongy or very porous, it is recommended to apply an epoxy primer first (refer to the product data-sheet or call Zeraus for recommendations). Alternatively, add 2% of **xylene** to **ZeraDur™ 100FC** to facilitate the penetration, the priming coat must be very thin and be pulled tight with a flat squeegee. If you need to have a thicker film to smooth the concrete, it is recommended after the first pass, apply wet on wet within 30 minutes at 8 mils film thickness.

## APPLICATION

The mixing equipment used to mix the coating must be clean and free of any contaminants that may be present in the equipment from previously used products.

Two coats are recommended: one prime coat (either using **ZeraPrime™ 100 FS** or **ZeraPrime™ 95DS**) and one top coat of **ZeraDur™ 100FC**. The first coat must be applied at 5 mils whereas the second coat must be applied at 10-12 mils. **ZeraDur™ 100 FC may also be used as self-priming coating to be applied in a two-coat application. Either way, the primer MUST be dry**

**and firm before applying the second coat to prevent film defects (e.g. fish eyes).**

- Pre-mix component “A” of **ZeraDur™ 100 FC** first to eliminate the possibility of settlement. Pour all of the liquid from Part B into a Part A container.
- Mix thoroughly using a slow speed ½ inch drill motor with a “jiffy” type blade for two minutes (minimum). Scrape the sides of the container and continue mixing until the color is uniform.
- **Immediately** pour **all** mixed coating onto the edges of the prepared floor and spread the material evenly with a flat squeegee. Using a lint-free 6 mm nap roller back roll the applied material to provide an even coat. Care should be taken not to over-roll the material as air may become entrapped in the coating.
- Apply the second coat in the same manner as the first (a notched squeegee may be used in the second coat to produce a thicker film).
- If a non-slip sanded surface is required, a properly graded, dry, contaminant-free grit should be broadcast on the surface of the top coat and back roll to encapsulate the aggregate onto the coating.
- Allow curing thoroughly overnight (16 hours) before exposing to foot or light-duty traffic. It requires 24 hours for vehicular traffic and 7 days for full service. **Keep water & detergent away from the floor until fully cured.**

**Disclaimer: Although ZeraDur 100FC can be made non-slip using the above-described technique, floors may become slippery under certain conditions. Therefore, it is your own responsibility to determine the level and type of slip resistance that suits your specific needs. We recommend the use of additional slip-resistant aggregates in your floor if it will be exposed to wet, icy or oily conditions.**

## LIMITATIONS

- Do **not** apply **ZeraDur™ 100 FC** if the substrate and ambient temperatures are below 10°C (50°F).

- Do not apply the topcoat less than 10 mils as an orange peel finish may appear due to insufficient material to self-level.
- Do not leave mixed material (Part A & B together) in the container for an extended amount of time; it will harden and warm up and smoke.
- Not recommended for areas subjected to steam cleaning, harsh chemicals, or heavy impact.
- Do not use over an existing floor without testing both the inter-coat adhesion as well as the adhesion of the existing floor to concrete.
- Never apply the topcoat over tacky or partially wet primer.
- Not recommended as a water-proofing coating in suspended boiler rooms or commercial parking garages.
- Do not apply in areas where the humidity is greater than 85%.
- Will discolor under direct constant exposure to UV, and due to some chemical exposures.
- Do not use on slab-on-grade without a vapor barrier.

#### **COVERAGE**

Prime Coat: (5 mils): 8m<sup>2</sup>/litre (300 f<sup>2</sup>/U.S. gallon)

Second Coat: (10 mils): 4 m<sup>2</sup>/litre (160 f<sup>2</sup>/U.S. gallon)

#### **PACKAGING**

11 litre/2.9 U.S. gal. units

56.7 litre/15 U.S. gal. units

#### **CLEAN UP**

Clean all equipment and installation tools immediately after use with xylene.

#### **SAFETY PRECAUTION**

Consult Material Safety Data Sheet (MSDS) for specific instructions.

#### **STORAGE**

Store in a heated warehouse. Do not freeze.

#### **SHELF LIFE**

One year from the date of manufacture if kept in original unopened containers under normal heated warehouse conditions.

#### **WARRANTY**

“The recommendations made and the information herein is the result of accurate laboratory and field tests under controlled conditions. We guarantee that the quality and properties of the materials supplied conform to our standards. Zeraus Products Inc. makes no warranties, expressed or implied, as uses and applications are beyond our control. Zeraus Products Inc. shall not be liable for any injury, loss, or damage (direct or consequential) arising from use or inability to use the products. Before using, the user is urged to pre-test the products in his/her own environment to determine the suitability of the products for their intended use, and the user assumes all risk and liability whatsoever in connection therewith.

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