



# PLE-100 FC

## 100% SOLIDS FAST CURE EPOXY

### DESCRIPTION AND USES

Citadel® PLE-100 FC is a fast-cure general purpose epoxy that provides outstanding customer value. Its great value, fast dry time, and low odor formulation makes PLE-100 FC ideal as a primer/basecoat for decorative chip and quartz broadcast applications that can be completed in one day.

### PRODUCT FEATURES AND BENEFITS

- Versatile - Direct to Concrete
- Fast recoat
- Low odor 100% solids
- Moisture tolerant
- Chemical resistant
- Compliant nationwide with near zero VOC

### PRODUCTS

| SKU    | DESCRIPTION                     |
|--------|---------------------------------|
| 393811 | Light Gray 3-Gallon Kit         |
| 393812 | Armor Gray 3-Gallon Kit         |
| 393813 | Dunes Tan 3-Gallon Kit          |
| 393814 | Clear 3-Gallon Kit              |
| 393815 | Custom 3-Gallon Kit*            |
| 393838 | Clear 15-Gallon Kit             |
| 393839 | Light Gray 15-Gallon Kit        |
| 393840 | Armor Gray 15-Gallon Kit        |
| 393841 | Dunes Tan 15-Gallon Kit         |
| 393842 | Custom 15-Gallon Kit*           |
| 404443 | Super Light Gray 15-Gallon Kit* |
| 404444 | Dark Gray 15-Gallon Kit*        |
| 404445 | Navy Gray 15-Gallon Kit*        |
| 404446 | Safety Red 15-Gallon Kit*       |
| 404447 | Safety Yellow 15-Gallon Kit*    |
| 404448 | Tile Red 15-Gallon Kit*         |
| 404449 | Safety Blue 15-Gallon Kit*      |
| 404450 | Safety Green 15-Gallon Kit*     |
| 404451 | Silver Gray 15-Gallon Kit*      |
| 404452 | Greige 15-Gallon Kit*           |
| 404453 | Safety Orange 15-Gallon Kit*    |
| 404454 | White 15-Gallon Kit*            |
| 404455 | Black 15-Gallon Kit*            |

\*Made-to-Order only. Contact Rust-Oleum Customer Service for details.

### PRODUCT APPLICATION

#### READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

#### SURFACE PREPARATION

**NEW CONCRETE:** Laitance must be removed by diamond for a minimum of 28 days. The concrete must be structurally sound, dry, and free of grease, oils, dust, curing compounds and other coatings or contaminants. Surface laitance must be removed. The preferred method of surface preparation is to mechanically abrade the floor by diamond grinding or shotblasting to achieve a final CSP-3 according to ICRI. If patching is required, use Fortification Formula concrete repair.

**MOISTURE VAPOR BARRIER:** A suitable moisture barrier must be in place for concrete slabs on-grade. If a moisture barrier is not in place, seasonal variations in ground moisture can cause excessive moisture vapor transmission (MVT) regardless of results measured prior to coating application. For 16 mils of PLE-100 FC, the MVT rate must not exceed 10 pounds per 1,000 square feet per 24 hours, as directed by ASTM F1869. The relative humidity (RH) of the slab must not exceed 80%, as directed by ASTM F2170.

#### SURFACE PREPARATION (cont.)

**MOISTURE VAPOR BARRIER (cont.):** If there is a moisture situation in excess of the above rate, the use of Citadel Ultra Hydro Stop Moisture Vapor Barrier Primer may be required. Consult a Citadel Representative for details.

**PREVIOUSLY COATED:** Previously coated surfaces must be sound and in good condition. Smooth, hard, or glossy finishes should be scarified by sanding or sweep blasting to create a surface profile. PLE-100 FC is compatible with most coatings, but a test patch is suggested.

**NOTE:** Concrete must be visibly dry at time of application.

#### MIXING EQUIPMENT

Low speed drill and spiral mixing wand. Must pre-mix prior to use. **Important:** Hand mixing will produce inconsistent results and is not an approved method.

**Note:** 3-gallon kits are packaged in Citadel's exclusive All-In-One packaging. Both A and B components are shipped together inside an outer 5-gallon pail that can be used for combining both components at the application site. For best results use narrow spiral paint mixer (SKU:388011) to premix individual components within the 3-gallon kits.



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### PRODUCT APPLICATION (cont.)

#### MIXING

**Note:** Before starting, ensure that the material, concrete surface, and the ambient air are all at 40-90°F. Mixing ratio is 2 parts by volume of Part A to 1 part by volume of part B.

Pre-mix both A and B sides prior to combining.

Add part "A" to the mixing container.

Add part "B" to the mixing container and mix for 3 minutes.

#### TINTING (Clear)

Pre-mix Universal Tint Packs prior to adding into floor coatings. Add Universal Tint Packs at 8 oz. per gallon of mixed floor coating material and combine thoroughly via power mix to achieve uniform colorant dispersal.

**Note:** Some colors, including safety colors, may require additional coats if desired coverage is not achieved in the first application.

**\*NOT FOR USE IN WATER BASED COATINGS\***

#### APPLICATION EQUIPMENT

24" notched squeegee

18" short nap lint free roller

#### APPLICATION

Mix only what you can squeegee and back roll within 15 minutes (approximately 1 gallon of mixed material per crew of two applicators wearing spiked shoes). Do not aerate the mix.

Before starting, ensure that the material, concrete surface, and the ambient air are all at 40-90°F. Do not apply in direct sunlight or when temperature is rising. Wearing spiked shoes, immediately pour mixed PLE-100 FC on the floor in ribbons. Spread using a squeegee and then back roll using a short nap lint-free roller.

If priming is required, PLE-100 FC can be thinned up to 10% by volume with xylene and squeegeed tight to help fill small voids. Refer to recoat window below for best practice when abrading and/or applying subsequent coats.

#### CLEANUP

Clean Tools and application equipment immediately after use with active solvent like xylene (in SCAQMD use acetone only). Clean spills or drips while still wet with solvent. Dried product will require mechanical abrasion for removal.

#### LIMITATIONS

Do not apply if water or ice is present. Lower temperatures will slow cure time. Do not store PLE-100 FC at temperatures below 40°F or above 90°F. **PLE-100 FC will yellow upon prolonged exposure to sunlight or high intensity artificial lights and should not be used as a clear coat over decorative quartz or flake.**

### PERFORMANCE CHARACTERISTICS

#### COMPRESSIVE STRENGTH

METHOD: ASTM C695

RESULT: 7,500 psi @ 24 hours and 9,800 psi @ 7 days

#### TENSILE STRENGTH

METHOD: ASTM D412

RESULT: 4500-5200 psi

#### BOND STRENGTH TO CONCRETE

METHOD: ASTM D4541

RESULT: >600 psi

#### TABER ABRASION

METHOD: ASTM 4060, CS 17

RESULT: Loss/1000 cycles = 36 mg.

#### FLAMMABILITY

METHOD: ASTM D635

RESULT: Self-extinguishing

#### WATER ABSORPTION (24 HOURS)

METHOD: ASTM D570

RESULT: <0.5%

#### KÖNIG HARDNESS

METHOD: ASTM D4366

RESULT: 120

#### TENSILE ELONGATION %

METHOD: ASTM D638

RESULT: 20-30%

#### MONOLITHIC SURFACING

METHOD: ASTM C722

RESULT: Pass

#### IMPACT RESISTANCE

METHOD: ASTM D2794

RESULT: Pass



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### CHEMICAL RESISTANCE

| CHEMICAL                            | RESULT |
|-------------------------------------|--------|
| Acetic Acid 100%                    | Y      |
| Acetone                             | N      |
| Ammonium 30%                        | Y      |
| Ammonium Hydroxide 30%              | Y      |
| Animal Urine                        | S      |
| Antifreeze                          | Y      |
| Benzyl Alcohol                      | S      |
| Brake Fluid                         | Y      |
| Calcium Hypochlorite (Chlorine)     | Y      |
| Chromic Acid 10%                    | Y      |
| Citric Acid 10%                     | Y      |
| Clorox                              | Y      |
| Ethyl Acetate                       | N      |
| Gasoline                            | Y      |
| Glycol Ether                        | N      |
| Hydraulic Fluids                    | N      |
| Hydrochloric Acid 35%               | Y      |
| Hydrofluoric Acid 40%               | N      |
| Hydrogen Peroxide 30%               | S      |
| Iodine 2%                           | Y      |
| MEK                                 | N      |
| Methanol                            | N      |
| Methyl Cellosolve                   | N      |
| Methylene Chloride                  | N      |
| Mineral Spirits                     | S      |
| Motor Oil                           | Y      |
| Mustard                             | N      |
| Nitric Acid 20%                     | S      |
| Nitric Acid 40%                     | N      |
| Orange Juice                        | Y      |
| Phosphoric Acid 10%                 | Y      |
| Phosphoric Acid 30%                 | S      |
| Phosphoric Acid 50%                 | S      |
| PM Solvent                          | Y      |
| Silver Nitrate 20%                  | Y      |
| Skydrol                             | S      |
| Sodium Hydroxide 50% (Caustic Soda) | Y      |
| Sodium Hypochlorite 15% (Bleach)    | Y      |
| Sodium Hypochlorite 50% (Bleach)    | N      |
| Sulfuric Acid 10% (Battery Acid)    | Y      |
| Sulfuric Acid 50% (Battery Acid)    | Y      |
| Toluene                             | N      |
| Trichloroethylene (1, 1,1)          | S      |
| Trichloroethylene                   | N      |
| Windshield Wiper Fluid              | Y      |
| Xylene                              | S      |

#### Chemical Resistance: Chart Key

Y= Resistant

S= Splash &amp; Spill

N=Not recommended

|                                                                                                  |                                                         |               |
|--------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------|
| <b>EPOXY</b>                                                                                     | <b>TECHNICAL DATA</b>                                   | <b>CDL-31</b> |
|  <b>CITADEL</b> | <b>PLE-100 FC</b><br><b>100% SOLIDS FAST CURE EPOXY</b> |               |

## PHYSICAL PROPERTIES

|                                                           |                         | PLE-100 FC 100% SOLIDS FAST CURE EPOXY                                        |
|-----------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------|
| <b>Resin Type</b>                                         |                         | Amine cured Epoxy                                                             |
| <b>Pigment Type</b>                                       |                         | Varies depending on color                                                     |
| <b>Weight</b>                                             | <b>Per Gallon</b>       | 8.4-10.4 lbs.                                                                 |
|                                                           | <b>Per Liter</b>        | 1.0-1.3 kg                                                                    |
| <b>Solids</b>                                             | <b>By Weight</b>        | 100%                                                                          |
|                                                           | <b>By Volume</b>        | 100%                                                                          |
| <b>Volatile Organic Compounds*</b>                        |                         | <50 g/l                                                                       |
| <b>Recommended Dry Film Thickness (DFT) Per Coat</b>      |                         | 8-16 mils                                                                     |
| <b>Recommended Wet Film Thickness (WFT) Per Coat</b>      |                         | 8-16 mils                                                                     |
| <b>Practical Coverage (assume 15% material loss)</b>      |                         | 100-200 sq. ft./gal.<br>Coverage rates will vary based on application method. |
| <b>Mixing Ratio</b>                                       |                         | 2A: 1B                                                                        |
| <b>Working Time</b>                                       |                         | 15 minutes (Mix and empty bucket immediately)                                 |
| <b>Re-Coat Window (Min./Max)</b>                          |                         | 3 hours/8 hours, scuff sand after 8 hours                                     |
| <b>Dry Times at 77°F (25°C) and 50% Relative Humidity</b> | <b>Tack Free/Recoat</b> | 3 hours                                                                       |
|                                                           | <b>Vehicle Traffic</b>  | 24 hours                                                                      |
|                                                           | <b>Full Cure**</b>      | 7 days                                                                        |
| <b>Shelf Life</b>                                         |                         | 2 years                                                                       |
| <b>Flash Point</b>                                        |                         | >200°F (93°C)                                                                 |
| <b>Safety Information</b>                                 |                         | <b>PROTECT FROM FREEZING</b><br>For additional information, see SDS           |

\*EPA Method 24 Floor Category

\*\*Coating achieves its full physical and chemical resistant properties.

Calculated values are shown and may vary from the actual manufactured material.

The technical data and suggestions for use contained herein are correct to the best of our knowledge and offered in good faith. The statements of this literature do not constitute a warranty, express, or implied, as to the performance of these products. As conditions and use of our materials are beyond our control, we can guarantee these products only to conform to our standards of quality, and our liability, if any, will be limited to replacement of defective materials. All technical information is subject to change without notice.



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Form: EJ-181  
Rev.: 070626