CHEM100™ FC

Fast cure epoxy coating

DCC Master Format™ 09 67 00

PRODUCT DESCRIPTION

CHEM100 FC™ Epoxy Coating is a two component, fast drying, cycloaliphatic concrete floor coating. Its chemistry provides excellent bonding characteristics and fast dry time. It can be applied as basecoat system or a finish coat over. Color Chips, Colored Quartz, Silica Sand can be broadcast into **CHEM100 FC™** to create a custom look. **CHEM100 FC™** can also be applied direct to prepped concrete. Its design features provide for the highest industrial and commercial demands.

ADVANTAGES:

- ☑ Essentially odorless
- ☑ VOC Compliant
- ☑ High gloss
- ☑ Fast Cure
- ☑ Self-priming
- ☑ High color stability
- ☑ Chemically resistant
- ☑ Seamless flooring system
- ☑ Withstands medium traffic as thin as 8 mil

APPLICATIONS

- Pharmaceutical
- Garage Floors
- Kitchens
- Aisle ways
- Automotive showrooms
- Laboratories
- Food Preparation
- Restrooms
- Manufacturing
- Clean rooms
- Schools

COLORS

CHEM100 FC™ is available in clear, standard premixed colors. Custom colors, and metallic pigments. By broadcasting Color Chips, Colored Quartz or Silica Sand, endless color and texture combinations can be created. (* extra cost may apply)

Available colors:

- Standard Colors
- Liquid Pigment Pods
- Universal Liquid Pigment Pods
- Metallic Pigments
- Tile Red*
- Safety Red*
- Safety Blue*
- Safety Yellow*
- Safety Green*

PACKAGING

CHEM100 FC kits consist of CHEM100 PREMIUM Part A Resin and CHEM100 FC Part B Premium Hardener.

	Part A	Part B
Unit 1 Kit	Pre-Measured	Pre-Measured
3 Gallon Kit	2 Gallons	1 Gallon
15 Gallon Kit	10 Gallons	5 Gallon

TESTING

Not all surfaces are the same. It is recommended that a sampling area be created before the project begins. The test should be carried out on site, using the method proposed by your CHEMTEC™ representative to ensure good adhesion and consistency. A sampling area should also be carried out on existing coatings to determine if contaminants exist or if delamination will occur.

PHYSICAL PROPERTIES

PROPERTY	VALUE	REFERENCE
Compressive Strength	14,000 psi – 96mPa	**ASTM C 579**
Flexural Strength	3,700 psi – 25.5mPa	**ASTM D 790**
Tensile Strength	3,900 psi – 26.9mPa	**ASTM D 638**
Bond to Concrete	350psi -	**ASTM D 4541**
	Concrete fails at this point	
Taber Abrasion	75-80 Mgs	**ASTM D 4060**
Flammability	Self-extinguishing	
Hardness, Shore D	84	**ASTM D 2240**
Flash Point	>200°F - >93°C	

PRODUCT DATA

Volumetric Ratio:	**2:1**
Solids:	**100%**
Coverage:	**75 - 200 SF**
Application temperature:	**65-90°F (18-32°C)**
Thinning:	**Not required**
Pot life:	**10-15 minutes**
Working time on floor:	**15-20 minutes**
Cure time:	**4-6 hours (walking)**
	24 hours (traffic)
Critical recoat time:	**24 hours**
Shelf life:	**12 months**
USDA Food & Beverage:	**Meets requirements**

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PREPARATION OF CONCRETE

Before applying the coating, the concrete must be:

- ☑ Dry – No wet zones (<4%)
- ☑ Clean – Eliminate all contaminants, dust, grease, coatings, delaminated coatings, laitance, or any other contaminants that may affect and/or decrease or prevent a good adhesion.
- ☑ Profiled – Machanically profilled surface at a CSP3-6
- ☑ Sound – All cracks and shelled areas must be repaired.
- ☑ Concrete preparation must be done by mechanical means, or any other method approved by CHEMTEC™

Mechanical preparation is the preferred method of preparing concrete for coating application. Shot-blasting, diamond grinding, scarifying and scab-bling are all acceptable methods.

PATCHING & REPAIRS

Cavities, cracks, joints, and imperfections will be visible in the coating if the concrete is not repaired properly. Level and fill the concrete cavities with **CHEM-FILLER™** or **CHEM-FILLER FC™**. Once the material is cured, correct any imperfections by diamond sanding. If a repair material other than **CHEMTEC™** is used, contact a **CHEMTEC™** technical representative for approval of a compatible alternative.

MIXING

The ratio of **CHEM100 FC™** is 2 to 1. That is, two parts A (resin) to one part B (hardener). Generally, three mixed gallons of **CHEM100 FC™** at a time is ideal for application. Mix the following with a drill and mixing paddle. Note: If using a drill mixer, use a low speed (not to exceed 300 rpm) to prevent air entrapment.

1. The Unit 1 kit allows the **CHEM100 FC™** Part A container to be used as the complete mixing container. Add entire contents of **CHEM100 FC™** pre-measured Part B and mix for 2-3 minutes.
2. If using the Bulk 15-Gallon Kit, premix **CHEM100 FC™** Part A for 30-45 seconds. Pour out 2 gallons into an empty 5-gallon bucket, which then becomes the mixing bucket.
3. Or If using 3-Gallon kit, Premix the 2 gallons Part A in its 3.5 Gallon pail.
4. Add 1 gallon of **CHEM100 FC™** Part B into the premixed 2 gallons of Part A and mix for another 2-3 minutes.
5. **CHEM100 FC™** is designed to be immediately poured on the floor. Leaving mixed product in the container will greatly reduce working time. Once poured out on the floor, 15-20 minutes of working time can generally be expected.

APPLICATION INSTRUCTIONS

Application of CHEM100 FC for a solid color coat system is applied in two coats or in one pass as a topcoat over CHEM100 FC. For estimation purposes, use 150-200 SF per gallon in either case.

1. Always apply in descending temperatures. Concrete is porous and traps air. In ascending temperatures (generally mornings) the air expands and can cause out gassing in the coating. It is safer to apply coatings in the late afternoon, especially for exterior applications.
2. Optimum ambient temperature should be between 65-90°F during application.
3. Mix three gallons of resin using above mixing instructions.
4. Apply approximately 150-200 SF per gallon by immediately pouring out on surface in a ribbon, while walking and pouring at the same time until bucket is empty.
5. Using a squeegee on a pole, pull **CHEM100 FC™** over substrate. As a first coat over bare concrete, pull resin as thin as possible while still wetting out concrete and uniformly covering surface. This allows trapped air to escape more easily. To apply in a single coat over a **CHEM100 FC™**, pull at about 150-200 SF per gallon.
6. Using a 10MM non-shedding roller, roll coating forwards and backwards.
7. Lastly, back roll in the opposite direction as step 6.8. Apply second coat by repeating steps 1-7 the next day.
8. Sweep floor and sand any high spots or defects.
9. Apply Top-Coat at approximately 150 S/F per gallon. Use the same procedure as in Step 4, but without broadcasting.
10. For a 100-125 mil double broadcast system, repeat above steps.
11. If additional chemical and abrasion protection is required, contact your CHEMTEC representative for recommendations.

Chip/Silica Sand Broadcast Instructions

1. Chip Broadcast: After Following Steps 1-4 from Quartz broadcast, Next Broadcast Color Chips/Micro Chips (150-200 SF per 25 lb. box) by tossing them into the air and allowing them to gently rain down into the wet resin.
2. For a random broadcast, use 1 lb. of chips per 100 S/F.
3. Allow to cure. Then scrape the basecoat with a drywall scraper in all directions. Or lightly sand chips using a floor mantainer machine. (sanding will result in smoother finish) Vacuum small pieces and dust well. (Not vacuuming well enough can cause coating to not bond correctly.)
4. Silica Sand Broadcast: Following Step 6 above, gently throw the silica sand up into the air, allowing it to fall without lumping in one spot or moving the resin. Do this until the floor is totally saturated with the silica sand and the resin will not accept any more. This generally requires 1/2 to 3/4 lbs. per S/F. Allow to dry for 4-6 hours.
5. Sweep floor and sand any high spots.
6. Following either method, apply final topcoat **CHEM100™** SERIES, **CHEM1000™** & **CHEM1000 WT™** Polyaspartic, or **CHEM UP™** Polyurethane Coatings.

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PRODUCT LIMITATIONS

Concrete slabs at ground level emit invisible moisture vapor. The permissible moisture emissions for concrete are 3 lb. / 1000 CP over 24 hours (<4%) based on calcium chloride test. In addition, a relative humidity (RH) test can be performed to test for moisture vapor. Relative humidity test results should be less than 85% per ASTM F2170. If humidity is above this level, blistering and delamination of the coating may occur. A calcium chloride or relative humidity test should be performed to determine the moisture levels of the concrete. If humidity levels exceed 85% for RH test or 3 lbs. for calcium chloride, a concrete moisture vapor control system should be used before applying the coating system.

CHEM-PROOF™ System is the recommended system for humidity above acceptable levels. The **CHEM-PROOF™** vapor barrier system Passes the F3010 specification based on E96 test results. Please contact your **CHEMTEC™** representative for details.

Coating systems are susceptible to cracking if the concrete moves or separates under the coating. Therefore, the treatment of joints and cracks should be reviewed prior to coating application. As a general rule, control joints (saw cuts) and random cracks should first be sawn or chiseled and then filled with **CHEM-FILLER™** or **CHEM-FILLER FC™.** Construction / cold joints (two slabs that meet and therefore move) must be treated. After the coating has been applied and cured, saw off the coating over the construction joints and apply elastomeric caulk.

WARRANTY

CHEMTEC™ COATING products are guaranteed for one year from the date of application. Please refer to the CHEMTEC™ COATINGS Limited Warranty for additional information.

SAFETY DISCLAIMER

Avoid contact with the skin. Some people may be allergic to the resin. Protective gloves, adequate ventilation and protective eyewear and protective clothing are recommended.

For more details, consult the CHEM100™ “Material Safety Data Sheet”.

– KEEP OUT OF REACH OF CHILDREN –

- FOR INDUSTRIAL USE ONLY -

The information presented herein are believed to be accurate and reliable but are presented without guaranties or responsibility on the part of CHEMTEC COATINGS™. It is the responsibility of the end user to verify and validate this information and the suitability of this product in their own systems. CHEMTEC COATINGS™. decline all responsibility for the use of this product in any systems.

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