



CHEM-FLOOR 45

100% Solids, Glossy & Heavy-duty Epoxy Floor Coating

PRODUCT DESCRIPTION

CHEM-FLOOR 45 is a two component, 100% solids, high modulus, glossy, heavy-duty, epoxy floor coating system. CHEM-FLOOR 45 exhibits excellent chemical resistant to various chemical reagents.

FIELDS OF APPLICATION

Chem-Floor 45 system is used as a protective floor coating for concrete floors. It has an excellent abrasion and chemical resistance designed for use in the following industries:

- Chemical processing Plants
- Laboratories
- Bottling plants
- Pharmaceutical plants
- Food processing Plants and Slaughterhouses
- Restaurants
- Hospitals
- Nursing Homes
- Schools
- Offices and corridors
- Washrooms
- Commercial kitchens
- Power plants, switchgear rooms, turbine areas, etc.

PRODUCT FEATURES

- Solvent-Free Epoxy System
- Good Chemical Resistance
- High Compressive Strength
- Excellent Abrasion Resistance
- Glossy
- Ready-To-Use Work Pack

PACKAGING

Product	Packaging
CHEM-FLOOR 45	1 Gallon (3.785 Liters) Unit Part A: 0.75 Gal Can, Part B: 0.25 Gal Can
	5 Gallon (18.925 Liters) Unit Part A: 4 Gal Pail, Part B: 1 Gal Can
	25 Gallon (94.625 Liters) Unit Part A: Four 5 Gal Pails, Part B: One 5 Gal Pail

TECHNICAL DATA

Technical Data for Unmixed Parts

Property @ 25°C (77°F)	Resin Part A	Hardener Part B	Test Method
Solids	100 %	100 %	-
Color	Grey	Amber	-
Density Lb/Gal (Kg/L)	13.2 (1.59)	8.0 (0.96)	ASTM D1475
Mixing Ratio, A : B	4:1 (by Volume)		-
Shelf Life	2 year	2 year	-

Technical Data for Mixed Parts

Property (Mixed A & B)	Value @ 25°C (77°C)	Test Method
Mixed Density, Lb/Gal (Kg/L)	12.1 (1.46)	D-1475
Hardness (Shore), D	80	D-2240
Gel time (60 g), minutes	45	C-881
Pot Life (5 kg), minutes	25	-
Compressive Strength @ 7 Days, Psi (MPa)	8530 (58)	D-695
Adhesion Strength to concrete	Concrete Failure	D-4541 Method C
Water absorption, %	0.08	D-570
Final Cure	7 Days	-

Chemical Resistance: Tests are performed according the ASTM D543 –Practice A (Immersion test for 7 days at 25°C). The fully cured product is resistant to:

- Water (Distilled, Tap, chlorinated, sewage, sea)
- Sulfuric acid 50%wt
- Citric Acid, 30% wt
- Caustic Soda, 50%
- Hydrochloric acid, 15%
- Diesel
- Hydraulic Oil
- Diesel Engine Oil

Refer to manufacturer for resistance of other reagents.

APPLICATION OF DATA

Limitations: application at ambient temperature below approx. 5°C is not recommended. Exposure to temperatures exceeding 65°C for prolonged periods is not recommended.

Surface Preparation:

Concrete Substrate: surface of application should be clean and sound. The surface must be free of any dust, oil, grease, laitance, curing compounds or any other contaminants.

New concrete substrate should be 28 days old and must be a minimum of 25 N/mm² concrete. New concrete substrate with CHEM-CRETE SOFIX CCC700 of floors is the preferred method before the application of Chem-Floor 45.

Chlorinated rubber, wax or resin based curing compounds must not be used. CHEM-FLOOR 45 should not be applied on surfaces that have been sealed with a permanent type of form oil, releasing agents, curing agents, etc. Remove these substances before application. The surface temperature must be 5°C and rising.

Acid Etching:

On new concrete surfaces, remove laitance and un-bonded cement particles by acid etching. Dampen the surface with tap water. Dilute Muriatic acid to a 10% solution. Always add the acid to the water. Scrub the acid water solution onto the surface

at the rate of 1.22 m²/lit. Allow the solution to sit for 20 minutes or until the acid bubbling stops. Scrub and flush thoroughly with clean water until all traces of acidity are washed-off from the surfaces. Remove water by squeegee, vacuum or broom and allow the surface to air dry.

Other methods may be adopted if the acid etching method is not feasible, such as shot blasting, sand blasting or mechanical grinding.

Mixing: stir each component separately. Mix part 'A' with part 'B' in a clean mixing container. Mix both components with a slow speed drill with a mixing paddle attachment. Carefully scrape the sides and bottom of the pail during mixing. Blend for 3 minutes. Mix only the amount of material that can be used within the pot life. Mixed epoxy must be processed within the pot life. Mixed epoxy will cure much faster in hot weather. Large batches of mixed epoxy will cure much faster than small batches.

Application:

- a) Apply the mixed material by roller at an average coverage 300 grams per m². A minimum of two coats is required in order to achieve 400 microns.
- b) Apply the 2nd coat after the first coat is tack-free, but within 36 hours. If the first coat cures longer than 36 hours, the surface must be roughened up by light brush grinding or with sandpaper.
- c) 5 kg work pack covers approximately 8.5 m² of 400 microns thickness.

Non-slip Aggregate Flooring System:

- a) Surfaces that are damp, porous or have a rough concrete finish should be primed with Chem-Mortar 2 epoxy system at an average coverage of 5 m²/lit (Other primers/sealers are also available).
- b) Apply the CHEM-FLOOR 45 at an average coverage of 300 g per m² with a short napped mohair roller.
- c) While the coat is still wet, silica sand 0.3-0.8 mm grade is sprinkled onto it by hand or by any suitable broadcasting method at the rate of 1 kg per square meter. Excess of aggregate must be used to facilitate a good coverage of the substrate, otherwise, sparse areas or voids will be formed which will require an additional coat of aggregate. If a wet or glossy appearance on aggregate is evident, it is an indication that insufficient aggregate has been applied. Use of spiked shoes by the applicator is advised while broadcasting the aggregate.
- d) The epoxy resin base coat with aggregate must be allowed to dry before proceeding with the next step. Always leave a wet edge of about one-foot without ridges to allow for joining the next course of material.
- e) Remove all loose aggregate of sand by either sweeping or preferably vacuum cleaning. Sand-off any imperfections using a floor sander. Sweep and vacuum debris prior to

applying the second broadcast. Apply an additional resin base coat and aggregate as described above.

- f) CHEM-FLOOR 45 coat is applied to the surface at a rate of 300g per m² with a roller. Draw down the finish coat until the desired surface texture is obtained.

CLEANING

Remove uncured CHEM-CRETE E430 from tools and equipment with suitable solvents such as Xylene, Toluene or CHEM-CRETE BLENDED SOLVENT immediately after use. Cured material may only be removed mechanically.

STORAGE

The product can be stored for minimum of twelve months at temperature from 50°F to 95°F (10°C to 35°C) in the unopened original packaging. Protect from direct sunlight.

SAFETY PRECAUTIONS

After hardening thoroughly, CHEM-FLOOR 45 is physiologically harmless. Keep the resin and hardener away from the eyes mouth and skin. Do not breathe in the vapors. The uncured mixture can cause irritation of the skin. For best protection, wear rubber or plastic gloves. In case of contamination, wipe away resin or hardener immediately from the skin using paper towels and then wash with soap and water or hand cleaning detergent. Empty resin and hardener cans must be disposed according to local city code or regulations. Under no circumstances empty cans should be used to store food or drink even if they have been thoroughly cleaned. Follow all cautionary direction as printed on container's labels.

TECHNICAL ASSISTANCE

Please contact International Chem-Crete Corporation for Technical Personnel.

WARRANTY

LIMITED WARRANTY: International Chem-Crete Inc. warrants that, at the time and place we make shipment, our materials will be of good quality and will conform to our published specifications in force on the date of acceptance of the order.

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Manufactured By:



International Chem-Crete Inc., 800 Security Row, Richardson, TX 75081, U.S.A

Tel: (972) 671-6477, Fax: (972) 238-0307

contactus@chem-crete.com

www.chem-crete.com