



# CHEM-FLOOR S

## 100% Solids Heavy Duty Epoxy Coating System

### PRODUCT DESCRIPTION

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

### FIELDS OF APPLICATION

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

### PRODUCT FEATURES

- Solvent-Free Epoxy System
- Good Chemical Resistance
- High Compressive Strength
- Excellent Abrasion Resistance
- High Gloss Retention
- Ready-To-Use Work Pack that ensure correct mixing and ease of application

### PACKAGING

Product	Packaging
CHEM-FLOOR S	21 LB (9.63 KG) KIT* Part A (Resin): 7.21 LB (3.271 kg) In 1 Gal Can Part B (Hardener): 0.98 Lb (0.446 Kg) In Pint Can Part C (Sand): 12.8 Lb (5.8 Kg) In 5 Gal Steel Pail 64 LB (29 KG) KIT Part A (Resin): 21.98 LB (9.97 kg) In 2 Gal Pail Part B (Hardener): 3.0 Lb (1.359 Kg) In Gal Can Part C (Sand): 39.0 Lb (17.7 Kg) In 5 Gal Pail

\*All parts are packaged together inside 5 Gallon Steel 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*	Clear	Amber	-
Density, Lb/Gal (Kg/L)	13.27 (1.142)	< 8.01 (0.96)	ASTM D1475
Mixing Ratio A : B	≈1.02 : 1 By Volume		-
Shelf Life	2 years	2 years	-

#### Technical Data for Mixed Parts

Property (Mixed A & B)	Value @ 25°C (77°C)	Test Method
Mixed Density, Lb/Gal (kg/L)	12.18 (1.46)	ASTM D1475
Gel Time @ 60 grams, minute	30	ASTM D2471
Pot Life @ 11.02 Lb (5 Kg), minute	25	-
Shore Hardness @ 7 Days, D	80	ASTM D2240
Compressive Strength @ 7 Days, Psi (MPa)	7092 (48.9)	ASTM D695
Bond Strength to concrete @ 7 Days, Psi (MPa)	Concrete Failure	ASTM D4541, Method C
Abrasion Resistance (CS-10 Wheels/1000 grams load / 1000 cycles), mg loss	42	ASTM D4060
Elongation (Average), %	10.44	ASTM D522, Method A
Water Absorption 24 hrs, %	0.015	ASTM D570
Final Cure, day	7	-

**Chemical Resistance:** Tests are performed according the ASTM D543 – Practice A (Immersion test for 7 days at 77°F/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

**Limitations:** Application at ambient temperature below approximately 41°F (5°C) is not recommended. Exposure to temperatures exceeding 149°F (65°C) for prolonged periods is not recommended. Substrate temperature must not be lower than 41°F (5°C) during installation and during the full 3 to 5-day cure of the floor

#### 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 3625 Psi (25 N/mm<sup>2</sup>) compressive strength concrete. Chlorinated rubber, wax or resin based curing compounds must not be used. CHEM-FLOOR S should not be applied on surfaces that have been sealed with a permanent type of form oil, releasing agents, etc. Remove these substances before application of CHEM-FLOOR S. The surface temperature shouldn't be below 41°F (5°C).

**Acid Etching:** On new concrete surfaces, remove laitance and un-bonded cement particles by acid etching. Dampen the

surface with tap water. Use Chem-Crete's CONCLEAN CCC070 or dilutes 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 50 ft<sup>2</sup> / Gal (1.22 m<sup>2</sup> / liter). 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.

**Product Preparation:** Store product at 70°F (21°C) during application and for at least 2 days prior to use. Low temperature will increase the viscosity of the product causing poor coverage and retarded cure.

**Mixing:** CHEM-FLOOR S is supplied in two pre-weighed parts resin and hardener. No additions or omissions are required. Stir each part separately. Mix part 'A' with part 'B' in a clean mixing container. Mix both parts using slow speed hand drill fitted with a mixing paddle attachment. Carefully scrape the sides and bottom of the pail during mixing. Blend for 3 minutes until achieving a uniform color and consistency. 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 (Non-slip Aggregate Flooring System):**

- a) Surfaces that are damp, porous or have a rough concrete finish should be primed with CHEM-FLOOR Clear or CHEM-PRIME at an average coverage of 200 ft<sup>2</sup> / Gal (5 m<sup>2</sup> / liter). This is equivalent to approximately 0.553 Lb / yard<sup>2</sup> (300 grams / m<sup>2</sup>)
- b) Apply the CHEM-FLOOR S at an average coverage of 100 ft<sup>2</sup> / Gal (2.5 m<sup>2</sup> / liter) with a squeegee and then back roll with a short napped mohair roller with a solvent resistant core. Let the epoxy level out on the substrate for 5 minutes.
- c) While the epoxy resin coat is still wet, the aggregate or silica sand 0.3-0.8 mm grade is sprinkled onto it by hand or by any suitable broadcasting method at a rate of 1.84 Lb per yard<sup>2</sup> (1 kg / m<sup>2</sup>). 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. CHEM-FLOOR S 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.

- d) 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 Base coat and aggregate as described above.
- e) The finish coat of CHEM-FLOOR S is applied to the surface at a rate of 200 ft<sup>2</sup> / Gal (5 m<sup>2</sup> / liter) with a squeegee. Draw down the finish coat until the desired surface texture is obtained.

#### **CLEANING**

Remove uncured CHEM-FLOOR S 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 S 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.

**DISCLAIMER:** The information contained herein is included for illustrative purposes only and, to the best of our knowledge, is accurate and reliable. International Chem-Crete Inc. is not under any circumstances liable to connection with the use of information. As International Chem-Crete Inc. has no control over the use to which others may put its products, it is recommended that the products be tested to determine the suitability for specific applications and/or our information is valid in particular circumstances. Responsibility remains with the architect or engineer, contractor and owner of the design, application and proper installation of each product. Specifier and user shall determine the suitability of the product for specific application and assume all responsibility in connection therewith. AM250311

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