



# CHEM-PRIME

## Two-component High Performance Solvent-Free Epoxy Primer

### PRODUCT DESCRIPTION

CHEM-PRIME is a two component, solvent-free epoxy resin-based primer. Both resin and hardener components are formulated to promote an excellent adhesion.

### FIELDS OF APPLICATION

CHEM-PRIME is used extensively in the following applications:

- ☐ As a primer for repairs of concrete when using epoxy-based repair mortars.
- ☐ As a primer for epoxy Mortar Screed, Self-leveling Screed, epoxy overlays, coatings, etc.

### PRODUCT FEATURES

- ☐ Ready to use work packs ensure correct mixing and ease of application.
- ☐ Solvent-free, does not shrink.
- ☐ Moisture tolerant and can be applied to slightly damp substrates.
- ☐ High strength and stress-free bonding.
- ☐ Correctly designed pot life permits efficient work progress.

### PACKAGING

Product	Packaging
CHEM-PRIME	2 Gallon (7.57 Liters) Unit Part A: 1 Gal Can, Part B: 1 Gal Can

### 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	Clear	-
Density, Lb/Gal (Kg/L)	9.65 (1.16)	< 8.2 (0.98)	ASTM D-1475
Mixing Ratio A: B	1: 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)	8.92 (1.07)	ASTM D-1475
Gel Time @ 60 grams, minute	25	ASTM D-2471
Pot Life @ 11 Lb (5 Kg), minute	22	-
Shore Hardness @ 3 Days, D	80	ASTM D-2240
Compressive Strength, Psi (MPa)	8702 (60)	ASTM D-695
Bond Strength to Concrete, Psi (MPa)	Concrete Failure	ASTM D-4541 Method C
Bond Strength to concrete (Slant Shear), Psi (MPa)	2582 (17.8) Concrete Failure	ASTM C-882
Water Absorption 24 hrs, %	0.09	ASTM D-570
Final Cure, day	7	-

**Chemical Resistance:** Tests are performed according to ASTM D-543 – 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 70%wt
- ☐ Sulfuric acid 50%wt
- ☐ Citric Acid, 30% wt
- ☐ Caustic Soda, 50% wt
- ☐ Hydrochloric Acid, 38% wt
- ☐ Phosphoric Acid 85% wt
- ☐ Diesel
- ☐ Hydraulic Oil

Refer to manufacturer for resistance of other reagents.

**Compatibility:** CHEM-PRIME provides permanent adhesion to clean and sound substrates such as concrete, cementitious systems, timber, granolithic screeds, masonry pavings, mild steel, etc.

### APPLICATION DATA

#### Limitations:

Minimum substrate temperature	41°F (5°C)
Maximum permissible moisture content of concrete substrate	5 %
Minimum temperature of product for mixing	50°F (10°C)
Minimum temperature for curing	41°F (5°C)
Minimum adhesion strength of Pre-treated substrate	1.5 N/mm <sup>2</sup>

**Consumption:** It is recommended to apply CHEM-PRIME at a rate of approximately 160 to 240 ft<sup>2</sup> / Gal (4 to 6 m<sup>2</sup> / Liter). This coverage may slightly vary depending on the substrate condition.

#### Surface Preparation:

**New Concrete Surface:** New concrete or cementitious substrates should be at least 28 days old and moisture content of the substrate should be less than 5%.

Concrete to receive high performance over lay systems should be designed, mixed and placed in accordance with internationally accepted practice. Sufficient compressive and tensile strengths to withstand dynamic loading is required. Good surface is essential, too dense surface caused by over trowel ling or finishing with steel floats can lead to adhesion failure.

All laitance and loose materials must be removed from the concrete surfaces. If the concrete is good, crack-free and sound with light laitance, surface preparation may be achieved by acid etching followed by thorough water washing using high pressure water jetting ensuring all traces of acids are removed. Areas or deeply penetrating contaminations by oil, greases and fats should be flame cleaned by hot compressed air or

thoroughly washed by good industrial detergent. The cleanly washed substrate is then allowed to dry completely.

Cracked or damaged concrete or heavy laitance should be removed and prepared by grit blasting, scabbling or mechanical grinding until a solid surface is reached showing exposed aggregate.

**On Existing Concrete Surfaces:** Remove all surface laitance, loose particles, dust and all contaminations exposing a clean sound substrate. Mechanical means of preparations are preferred followed by industrial vacuum cleaning. In areas of deeply penetrating contaminations of oils, greases and fats should be cleaned by hot compressed air or thoroughly washed by good industrial detergent.

The cleanly washed substrate is then allowed to dry completely. The substrate can be considered sufficiently dry only when the relative humidity at the surface falls to 75% or less when measured with a hygrometer to BS 8201:1987 Appendix A.

**Product Preparation:** prior to application, the product should be stored under cover in dry conditions and protected from extremes of temperature, which may cause inconsistent workability, finish and curing times of the mixed material. Ideally, at least 24 hours before mixing, the product should be maintained at approximately 77°F (25°).

**Mixing:** CHEM-PRIME is supplied in two pre-weighed parts resin and hardener. No additions or omissions are required. Stir each part separately. Pour part B (hardener) into the container of part A (resin). 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 1 to 2 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. Always keep the mixing time the same for all batches to ensure a uniform consistency when the product is applied.

**Application:** the mixture of CHEM-PRIME is applied evenly across the whole surface with a short bristled paintbrush or roller. Work well with paintbrush in areas where concrete is porous and rough, ensuring all the area is primed. Avoid over application or puddles.

- ☐ Epoxy **Mortar Screed, epoxy overlays**, should be applied immediately whilst the CHEM-PRIME is still tacky (at least within the specified pot life). If the primer hardens, re-prime the surface within 24 hours.
- ☐ Applicator can walk on wet primed substrate with the aid of spiked shoes to overlay primed surfaces with epoxy screeds.

## CLEANING

Remove uncured CHEM-PRIME 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 41°F to 95°F (5°C to 35°C) in the unopened original packaging. Protect from direct sunlight.

## SAFETY PRECAUTIONS

After hardening thoroughly, CHEM-PRIME 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 in 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. AM270311

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