

## Technical Data Sheet

LAST UPDATE: ( January 2016)

### PROTEC III LSF CHEM RX

The Original Chemical Cure, Hardener, and Densifier

Protec III LSF Chem RX is a waterbased highly reactive penetrating concrete treatment, which produce a permanent density change within the micro-structure of the concrete.

As a cure, Protec III penetrates and reacts with the poor bonds in the concrete called calcium hydroxide which make up approximately 25% of the cement paste. When Protec III Chem RX chemically reacts with these weak bonds the result is strong bonds called calcium silicate hydrate (CSH). This chemical cure process also fills the pours of the concrete holding moisture in the concrete.

The benefit of Protec III Chemical Cure over water curing and membrane cures is that the 25% weak bonds that were historically present in these methods of curing are not present with Protec III Chemical Curing. Overall hardening, tensile strength, low porosity and high chemical resistance is achieved. Protec III Chem RX is a non-membrane forming cure, which is a major benefit where flooring is to be installed.

Protec III LSF Chem RX has no harmful vapors, and it is Agriculture Food Approved for Registered Establishments. Protec III LSF Chem RX easily penetrates the concrete and is used to reduce vapor transmission in concrete. It is very effective in reducing radon gas by blocking the internal pores of the concrete.

Protec III Chem RX does not leave a membrane on the surface of the concrete, if additional stain resistance is required use Dual-Tech.

### BENEFITS

#### Meets LEED Requirements

Compatible with flooring adhesives or sealants

ASTM C418 – 67% increase in hardness of the concrete wear surface

Curing Aid: 92 % greater moisture retention during critical 24 hour cure period.

Decreases permeability of the concrete

Restricts water migration through concrete

VOC's - Zero

Eliminates dusting of concrete

Reduces Tire Squeel

Compatible with dry shake hardeners

Increases chemical resistance

Environmentally Safe and Permanent

Produces a permanent shine with use

FOOD SAFE: APPROVED

Reduces Vapor Transmission

Reduces Radon Gas Emissions

More Effective Than Water Curing

Stops Concrete Popping and Shaling That

is Associated with Membrane Cure and

Seals

### USES

All new and existing interior power trowel surfaces, pre-cast concrete, and poured in place walls.

All exterior concrete.

Anywhere a non-toxic low odor cure is needed to meet LEED Requirements.

Compatible with flooring adhesives.

### PHYSICAL CHARACTERISTICS

Dilution: None, use as supplied

Odor: Mild

VOC's: 0

Clean-up: Water

Freezing Point: -6C

**SHELF LIFE:** 3 yrs in original unopened container

### PACKAGING

5 gallon (18.9 Litre) Pails

55 gallon (205 Litre Drums)

Totes (1000 Litres)

**COVERAGE:**

EXISTING BROOM FINISH – Approx. 200  
ft<sup>2</sup>/gal (4.9 m<sup>2</sup>/litre)

CURE-BROOM FINISH - Approx. 300 ft<sup>2</sup>/gal  
(7.4 m<sup>2</sup>/litre)

EXISTING POWER TROWEL - Approx. 300  
ft<sup>2</sup>/gal (7.4 m<sup>2</sup>/litre)

CURE-POWER TROWEL - Approx. 400 ft<sup>2</sup>/  
gal (9.8 m<sup>2</sup>/litre)

**CAUTIONS**

Protect surrounding area from over-spray. In case of accidental contact, rinse thoroughly with water immediately.

Do not apply to frozen surfaces.

Do not apply to colored concrete for a minimum of 3 days after finishing operations.

For surfaces not specified, or where concrete may have been previously sealed, we recommend testing a small area to observe for possible adverse reactions.

Freeze Harm: 5 Cycles No Damage

For cool temperatures applications on power trowel surfaces, apply at 400 ft<sup>2</sup>/gal (9.8 m<sup>2</sup>/litre) minimum, specifically take caution to roll out any puddles that form. Dry time is slower in cool temperatures, which may cause more puddling. If heavy puddles dry, they can leave a white residue on the surface of the concrete, which is very difficult to remove.

FOR HEAVY ABRASION FLOORS (ie. Tracked in gravel and dirt that is being ground into the floor by vehicles) FOLLOW THESE

INSTRUCTIONS: Use 2 coats of Protec III LSF Chem RX making sure the 1<sup>st</sup> coat dries before applying the 2<sup>nd</sup> coat. Normal wear and tear does not include heavy abrasion from gravel and dirt, therefore it is highly recommended to keep your floors clean to avoid unnecessary excessive wear.

**FOR BADLY DUSTING/CARBONATED**

**CONCRETE:** *see Protec III Restore Strengthens and Hardens Concrete*

**FOR CURING CONCRETE:** *see Protec III Chem-RX Used as a Curing Aid*

**SURFACE PREPARATION**

New and old dirty concrete should be cleaned and then rinsed with clean water if necessary. After washing allow the surface to dry before application of product.

**APPLICATION**

Apply one coat of Protec III Chem RX.

Because concrete absorbs differently across the entire pad, we recommend a second coat for best results in order to properly coat more porous areas.

Apply product with a low pressure sprayer or roller.

Apply at recommended square foot coverage. Saw cuts need to be coated thoroughly.

Apply 2-3 coats to high traffic floors or floors exposed to high corrosion. Apply the 2<sup>nd</sup> coat one hour after the 1<sup>st</sup> coat has dried.

Roll out any puddles that form.

For proper chemical resistance apply 3 to 4 coats depending on the porosity of the concrete.

**CLEAN-UP:** Water

**For Polished Concrete**

Apply Protec III Chem-RX at a rate of 300 - 400 ft<sup>2</sup>/gallon ( 7.4-9.8 m<sup>2</sup>/litre) by sprayer or micro-fiber pad. Make sure concrete stays wet for 30 minutes by re-applying more Protec III Chem-RX or re-distributing the existing product using a micro-fiber pad. Do not puddle the product. No rinsing of Protec III Chem-RX is needed. Let Protec III Chem-RX dry before polishing the concrete.

**Maintenance for Polished Concrete**

Protec III Chem-RX polished floors require very little maintenance other than scheduled scrubbing with water and a neutral or alkaline cleaner. All spills should be cleaned up in a timely manner. No waxes or subsequent surface treatments are necessary.

It is always recommended to apply one coat yearly to maintain durability and protection in high traffic areas.

**FOR EXTERIOR CONCRETE**

Apply once the bleed water has dissipated. For added chemical/freeze thaw resistance, apply a 2<sup>nd</sup> coat once the first coat is dry to touch.

### **VAPOR TRANSMISSION/RADON GAS**

Moisten the surface with Protec III Chem RX by sprayer or microfiber pad. When spraying use a spray nozzle that produces a flow of .25 gpm under 40 psi is recommended. Spray in a fine fog pattern. Make sure concrete stays wet for 30 minutes by re-applying more Protec III Chem RX or by re-distributing the existing product using a micro-fiber pad. Do not allow the product to form puddles. After 30 minutes let the surface dry, no water flushing is needed. After 1<sup>st</sup> coat has dried for 4 hours apply the 2<sup>nd</sup> coat of Protec III Chem RX. Follow the same procedure as the 1<sup>st</sup> coat.

Typically 2 coats is all that is needed.

### **CURING CONCRETE/POWER TROWEL**

Apply one coat once the final trowel is done and before the pad sweats.

### **DUSTING WARRANTY FOR NEW CONCRETE**

In order to qualify for our 15 year warranty against dusting, the following conditions must be met: Apply one coat at approximately 400 square feet per gallon or greater, once the final trowel is done and before the pad sweats.

Apply the 2nd coat at approximately 400 square feet per gallon within 30 days of concrete placement or on written approval of Cornerstone Coatings.

### **MAINTENANCE**

For Exterior Broom Finish Concrete exposed to freeze thaw cycles, we recommend applying one coat at approximately 200 ft<sup>2</sup>/gal (4.9 m<sup>2</sup>/litre) every two years as part of your regular maintenance program. For Interior Concrete, we recommend applying one coat in high traffic, high abrasion areas. For example, in front of overhead doors, apply at a rate of 300 ft<sup>2</sup>/gal (7.4 m<sup>2</sup>/litre) every 2 years as part of your regular maintenance program.

### **WARRANTY**

We warrant our products to be of good quality and will replace any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. The user shall determine the suitability of the product for the intended use and assume all risks and liability in connection therewith.

Therefore, except for such replacement of product, Cornerstone Coatings makes no warranty or guarantee express or implied including warranties of fitness for a particular purpose or merchantability, respecting its products, and Cornerstone Coatings shall have no other liability with respect thereto. This warranty supersedes all other warranties express or implied.