Cornerstone Coatings

Concrete cures & sealers

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Concrete cures & sealers

Protec III:

Chem RX Cure

COMPANIES USING PROTEC III: CHEM RX

EAGLE BUILDERS
THE PRECAST CONCRETE CONNECTION

Ford

Protec III: Chem RX
700,000 ft²

GRAHAM

SCOTT BUILDERS INC

LEDCOR GROUP

Wright

LAFARGE

CO-OP

PCL CONSTRUCTION

Cargill

save on foods

Protec III: Chem RX
Brighton - Saskatoon, SK

IKEA

Protec III: Chem RX
700,000 ft²
Victoria, Australia

castle building centres

Volkswagen

Protec III: Chem RX
Red Deer, AB

Mosaic

Protec III: Chem RX
Stadium - Regina, SK

COMPANIES USING PROTEC III: CHEM RX

Holiday Inn & Suites

Protec III: Chem RX
6433 Orr Drive
Red Deer, AB

TADANO

Landmark CINEMAS

Protec III: Chem RX
Brighton - Saskatoon, SK

Brandt TRACTOR LTD.

Tim Hortons

Protec III: Chem RX
#1101 - 20 Thomlison Ave
Red Deer, AB

WILSON'S LIFESTYLE CENTRE

Protec III: Chem RX
Brighton - Saskatoon, SK

ACCEDE FIRE & SAFETY

WINNERS

Protec III: Chem RX
70,000 ft^2 Expansion
Red Deer, AB

RICHARDSON PIONEER

GEF Seniors Housing

NALCO Champion
An Ecolab Company

CONTINENTAL CARTAGE
GROUP OF COMPANIES

DODGE

COMPANIES USING PROTEC III: CHEM RX

Protec III: Chem RX
Red Deer, AB

Protec III: Chem RX
100,000 ft² Saskatoon, SK

Protec III: Chem RX
Red Deer, AB

Protec III: Chem RX
Thomlison Ave
Red Deer, AB

Protec III: Chem RX
440,000 ft² Factory
Red Deer, AB

Protec III: Chem RX
Moose Jaw, SK

Protec III: Chem RX
70,000 ft² Expansion
Red Deer, AB

Protec III: Chem RX
City of DrumHeller
All New Sidewalks

Protec III: Chem RX
All Neighborhoods of
Timberland - Red Deer, AB
Sidewalks, Curbing, Garage Pads

Protec III: Chem RX
Medicine Hat, AB

Protec III: Chem RX
City of Lloydminster, AB
All New Sidewalks

Technical Data Sheet:

Protec III: Chem RX
The Original Chemical Cure, Hardener, and Densifier

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

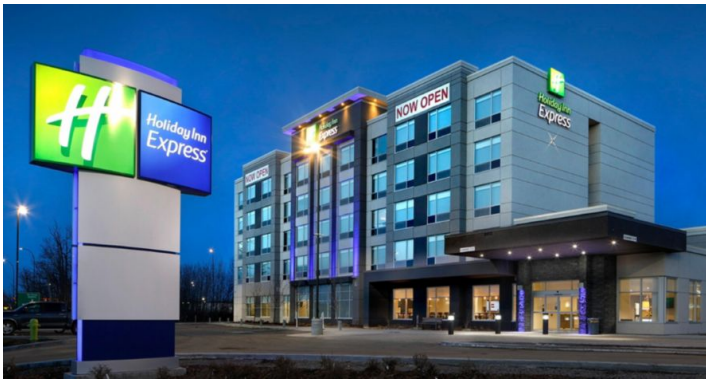
As a cure, Protec III: Chem RX penetrates and reacts with the poor bonds in the concrete called calcium hydroxide which make up approximately 25% of the cement paste. When Protec III: Chem RX chemically reacts with these weak bonds the result is strong bonds called calcium silicate hydrate (CSH). This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

The benefit of Protec III: Chem RX over water curing and membrane forming cures is that the 25% weak bonds that were historically present in these methods of curing are not present with Protec III: Chem RX. 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: Chem RX has no harmful vapors, and it is Agriculture Food Approved for Registered Establishments. Protec III: 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: Densifier + Silicone.

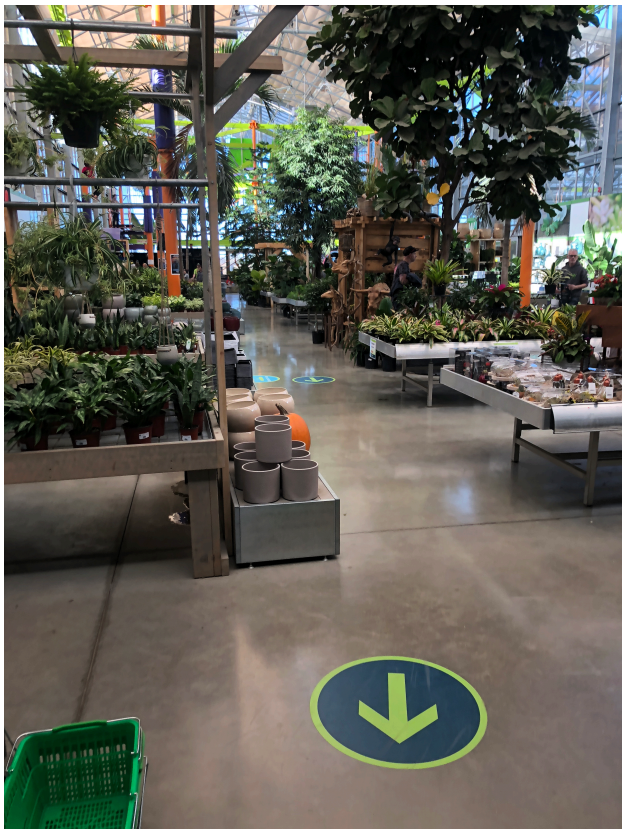
BENEFITS: Meets LEED Requirements. – Compatible with flooring adhesives or sealants.



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.



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 PROCEDURE:
Apply product with a low pressure sprayer, roller, or micro-fiber mop. — Saw cuts need to be coated completely. —Apply a minimum of 2 coats for best results. — Apply 2-3 coats to high traffic floors, or floors exposed to high corrosion. — Apply your next coat around one hour after the 1st coat has dried for green concrete. — Use as a finishing aid if moisture is needed. — Remove any puddles that will form. — For chemical resistance apply 3-4 coats depending on porosity of the concrete at 400 square feet per US gallon.

Normal wear and tear does Not include heavy abrasion from gravel and stones, therefore it is highly recommended to keep your floors clean to avoid unnecessary increased concrete wear.

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.

USES:
All green, existing surfaces, pre-cast concrete, and poured in place walls. — Compatible with any flooring adhesives. — Cures concrete for less money. — Gives a permanent shine with abrasion on concrete floors. — Use as a finishing aid to sustain moisture. — Compatible with flooring adhesives. — Anywhere a non-toxic, and low odor cure is needed.

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 2nd coat one hour after the 1st 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.

BROOM FINISH:
Apply once the bleed water has dissipated. Approximately 200-300 square feet per US gallon. For added chemical/freeze thaw resistance, apply a 2nd coat once the 1st has dried.

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 hard to remove.
— Use a roller, or squeegee to remove any puddles.

POWER TROWEL FINISH:
- Winter Temperatures:
Apply at approximately 500 square feet per US gallon.
- Summer Temperatures:
Apply at approximately 300-400 square feet per US gallon.

MAINTENANCE PROGRAM:
Add 1 part Chem RX to every 5 parts cleaning solution twice a month, or apply 1 coat of product after 1-2 years, then every 4-6 years after cleaning the surfaces of any salts or de-icers apply another coat. — For any commercial entrances: 1 coat every 6 months for the first year, then follow the above maintenance system.

Always clean, and prepare your surfaces before applying any concrete protecting products like Protec III: Chem RX, or Duel-Tech: Densifier + Silicone, etc.
FOR POLISHED CONCRETE:
Apply Protec III: Chem RX at a rate of 300 - 400 ft2 /gallon (7.4-9.8 m2/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.
No waxes or subsequent surface treatments are necessary. It is always recommended to apply 1 coat yearly to maintain durability and protection in high traffic areas. — See maintenance program for more detailed information.

CAUTIONS:
Protect all products from freezing. — Not for colored concrete. — Do not apply to any frozen surfaces. — Protect surrounding permanent structures from over-spray.

We recommend doing a test area to observe any possible reactions. If any reactions are observed, call us at:
+1 (587) 355-2219.

PHYSICAL CHARACTERISTICS:
Dilution: None, use as supplied.
Odor: Mild
VOC's: 0
Clean-up: Water
SHELF LIFE: 3 yrs in original unopened container.
PACKAGING 5 gallon (18.9 Liter) Pails, 55 gallon (205 Liter Drums), Totes (1000 Liters), or Custom Larger Sizes If Needed.

Q&A

Protec III: Chem RX

TESTIMONIALS

" I love this stuff...we have no shale pops or shrinkage cracks, not like we used to have with the curing compounds or cure and seals we used to use."

Harold's Concrete
Saskatchewan

... Protec III: Chem RX slows down the cure and increases the psi, and I don't have to worry about peeling.

LG Concrete
Saskatoon, SK

"... the concrete (warehouse floor) no longer dusts, the product makes the concrete reflect light extremely well, and it is easy to keep clean."

Isaac Hiebert
GrandWest Enterprises Inc.
Saskatoon, SK

..."We are pleased with the results, this is a very good product."

Doug Mitchell Vice President
The Rent-It Store
Saskatoon, SK

..." Protec III: Chem RX has been very successful in halting any further deterioration.."

Michele Cruise-Pratchler, R.M.A.
Administrator

Problem Free Concrete.

With the rapid changes in mix designs of concrete, there isn't much predictability for the contractors from one pour to another. The equalizing factor that can ensure the contractors have problem-free concrete every time is by using Protec III: Chem RX. It takes the guesswork out of concrete, and solves the problems before they even appear. Most issues are a result of weak bonds formed within the concrete during the curing process. When these weak bonds are strengthened by using Protec III: Chem RX, high density problem-free concrete is the result.

If you could drastically reduce all the worries and problems of finishing concrete....would you?

Q&A

Protec III: Chem RX

Can Protec III: Chem RX be applied over another coating?

No, it cannot. This product has to penetrate into the concrete so before application of Protec III: Chem RX you need to remove all coatings.

Why am I now having problems with dry shake hardeners?

With the increased use of super plasticizers (water reducers), fly ash, retarders and other additives, todays concrete has become increasingly incompatible with dry shake hardeners. Dry shake hardeners need moisture to work properly. The less moisture required in todays concrete inadvertantly affects the proper incorporation of dry shake hardeners into the surface creating havoc for the contractor.

Do I need certified installers or special equipment for Protec III: Chem RX?

No, you do not. We designed Protec III: Chem RX to be easy to apply without special equipment or training. Protec III: Chem RX keeps the cost down for installation and because it can be applied easily by the concrete contractor, it keeps the subcontractors (certified installers) off your concrete floor. This gives the contractor more control over their projects. If certified installers are required and they are not in your local area or available - project managers, engineers and architects are now dealing with time constraints and increased costs for the project to be completed properly.

I've been told that concrete doesn't need to be sealed, is this true?

All concrete must be sealed. We've heard this statement periodically over the years and then one year later these same people ask how can they fix their shaling and popping concrete. Back 40 to 50 years ago, when they had proper curing practices in place without any of the additives and admixtures currently being used in concrete mix designs, sealers were not as necessary. That was a generation ago and is not today's reality.

Q&A

Protec III: Chem RX

What type of concrete can I put this on?

Use Protec III: Chem RX on new or old concrete. You can apply Protec III: Chem RX to power trowel concrete for warehouse floors, parking aprons, garage pads, sidewalks, driveways, arena slabs, parkades and much more.

What can I do to dust-proof my concrete?

What you will use depends on how badly the concrete is dusting. For lightly dusting concrete, use Protec III: Chem RX. For severe carbonation or dusting, use multiple coats of Protec III: Chem RX.

Will Protec III: Chem RX make my floor shiny?

Initially, on most concrete it will not. Protec III: Chem RX is a penetrable sealer and not a surface membrane like acrylics, urethanes or epoxies. For power trowel surfaces with wear from high traffic, the floor will polish up to a shine.

Can I seal my concrete without it being slippery when wet?

Yes, you can. Protec III: Chem RX will NOT make your floor slippery when wet. Protec III: Chem RX does not create a surface membrane like acrylics, floor paints, urethanes or epoxies which are definitely slippery when wet.

Curing of concrete is important to having good concrete, what is the best product to use?

Most contractors use Protec III: Chem RX as a curing aid because it does not form a membrane on the surface of the concrete which can cause concrete popping in bad aggregate locations. Using Protec III: Chem RX as a curing method slows down the moisture evaporation rate without locking too much moisture into the concrete. This produces stronger more durable concrete. Contractors find that using Protec III: Chem RX on freshly poured concrete will virtually eliminate the popping and surface shaling that used to happen when applying other forms of curing materials such as acrylic cure and seals or green cures.

Cornerstone Coatings
Concrete cures & sealers

Chem RX

Q&A

Protec III: Chem RX

I'm using dry shake hardeners now, and it is getting almost impossible to incorporate them properly into the concrete surface, is there anything better out there that is safe to use?

Protec III: Chem RX is proven to work with all types of concrete mix designs as a surface hardener. Other liquid hardeners and dry shake hardeners are labor intensive and more expensive not only in the initial cost of the product but with the associated costs of health and safety and the disposal of hazardous waste of the liquid hardeners. Contractors are finding that Protec III: Chem RX eliminates the problems they were having with surface delaminations when using dry shake hardeners.

What is safe to use and has 0 VOC's that is readily available for the contractors to use?

Protec III: Chem RX has 0 VOCs, and is safe to use for the contractors without having to deal with the dangerous, highly flammable fumes of the typical cure and seals.

Health and safety inspectors have completely shut down projects because the contractors were not equipped properly when using the flammable cure and seals. This will never happen with Protec III: Chem RX.

Will Protec III: Chem RX work with colored concrete?

Yes, it will. We recommend waiting a minimum of 3 days before applying Protec III: Chem RX to colored concrete to harden and densify it.

What do I use to protect my broom finished driveway?

Protec III: Chem RX is recommended for all new driveways. Apply this product once the bleed water has evaporated for an effective curing aid and hardener. This will make your concrete more resistant to freeze thaw damage and concrete popping. Apply the 2nd coat once the first coat has soaked in.

Q&A

Protec III: Chem RX

How does Protec III: Chem RX compare to other liquid hardeners with ease of application?

Protec III: Chem RX was designed to be easy to apply without the need of certified installers. Other liquid hardeners tend to have a larger molecule size which requires scrubbing, re-emulsifying and removal of excess product which will not penetrate. This is a very costly procedure with labor and disposal of hazardous waste. Protec III: Chem RX has a very small molecule size which does not require scrubbing, re-emulsifying and removal of excess product because it has a high rate of penetration.

What is the price of Protec III: Chem RX per square foot?

Protec III: Chem RX is approximately 6 cents per square foot per coat.

Is Protec III: Chem RX food safe?

Yes, this product is approved food safe by Agriculture Canada.

How do I apply it?

Protec III: Chem RX requires no special equipment, you can either spray or roll the product on. If the product forms puddles, remove them by rolling the product to a dryer area. Concrete floors are not perfectly flat, puddles may form in uneven areas.

How do I maintain a floor treated with Protec III: Chem RX?

Use a neutral to high ph detergent to clean the floor. Clean spills immediately. See the Technical Data Sheet for complete maintenance program.

What is that white powdery stuff on my concrete?

It is likely efflorescence which is a salt which comes from ground water and migrates though the concrete and destroys it. Protec III: Chem RX will help reduce that. Efflorescence is usually associated with water problems.

Cornerstone Coatings
Concrete cures & sealers

Chem RX

Q&A

Protec III: Chem RX

Why do engineers specify Protec III: Chem RX into their projects?

Engineers specify Protec III: Chem RX into their projects because it is an economical trouble-free hardener and curing aid for warehouse floors that has extensive ASTM Test Results. This product meets the LEED requirements for a cure and seal and hardener.

Why do architects specify Protec III: Chem RX into their projects?

Architects specify Protec III: Chem RX into their projects to dust-proof and make the floor easy to clean. With wear and tear this product produces a shine which increases light reflection for warehouse floors.

Does Protec III Chem-RX meet the LEED requirements?

Yes, it does. — This product meets the LEED requirements.

What can I do to make my concrete chemical resistant?

Apply one to two coats of Protec III: Chem RX to concrete for chemical resistance. — Typical application for harsher environments require 3 coats.

Is Protec III: Chem RX VOC Compliant?

Yes. — Protec III: Chem RX has no VOCs.

A common assumption is that water based products are safe to use, but most water based products have VOCs.

VOCs in most water based products are more unsafe to use than solvent based VOCs because they are water soluble and can enter the body more readily through handling.

Cornerstone Coatings
Concrete cures & sealers

Chem RX

Q&A

Protec III: Chem RX

What is your warranty?

Replacement of defective product.

How do I do a simple test to see how hard Protec III: Chem RX makes my concrete?

Apply two coats of Protec III: Chem RX to a 1 square foot area. Let this dry overnight. Use a file to abrade the treated, and untreated concrete to compare the difference in hardness. This will be a quick indication in the increase of hardness.

Can I coat over a surface treated with Protec III: Chem RX?

Yes, you can apply any other floor coatings over top of Protec III: Chem RX You should not apply a floor coating over "Protec III : Acrylic Membrane" because it is membrane forming.

What can I use to stop my concrete from popping?

We have seen a decrease of over 90% as a result with the simple use of one application of Protec III: Chem RX as a curing aid.

What will Protec III: Chem RX do for my garage floor?

Protec III: Chem RX will protect your floor from shaling and peeling from freeze thaw damage. Damage shows up where the overhead door comes down to the concrete pad and where you park your vehicles. Typically, this takes only one winter of freeze thaw cycles to happen. Years ago, when we used to apply the product on garage pads, we found where the overhead door was, Protec III: Chem RX would soak in immediately from the opening and back 5 to 6 feet. The rest of the concrete would take its normal time to soak in. This showed us how fast water and road salt could penetrate the concrete and cause damage and how important it was to apply the Protec III: Chem RX to protect the concrete floor from this environment.

Can I use Protec III Chem-RX on arena slabs?

Yes, all arena slabs should use Protec III: Chem RX. Protec III: Chem RX hardens and densifies the concrete and stops damage from freeze thaw cycles leaving you a nice smooth dust-free surface.

Cornerstone Coatings
Concrete cures & sealers

Chem RX

CHEMICAL RESISTANCE CHART

N -No Effect M-Moderate Effect S- Severe Effect

ALCOHOLS
Ethylene Glycol - No Effect
Methyl Ethyl Ketone - No Effect
Benzyl Alcohol - No Effect
Ethyl Alcohol - No Effect
Isopropyl Alcohol - No Effect
Methyl Alcohol - No Effect
Methyl Isobutyl Ketone - No Effect
1-Hexanol - No Effect
Resorcinol - No Effect

ALDEHYDES
Butyraldehyde - No Effect
Furfural - No Effect
Benzaldehyd - No Effect

AMINES
Aniline- No Effect
Triethanolamine - No Effect

DETERGENTS
Lux Flakes - No Effect
Rinse Dry(1%) - No Effect
RinseDry(Concentrate) - No Effect
Tide (1%) - No Effect
Calgonite (1%) - No Effect
Clorox (1%) - No Effect
Clorox (Concentrate) - No Effect
Joy(Concentrate) - No Effect
Lestoil (1%) - No Effect

ESTERS
Amyl Acetate - No Effect
DibutyiSebacate - No Effect
Dioctyl Phthalate - No Effect
Ethyl Acetate - No Effect
Tricresyl Phosphate - No Effect

ETHERS
Dibenzyl Ether - No Effect
Diethylene Glycol Monobutyl Ether - No Effect
Ethyl Ether - No Effect
Ethylene Glycol Monoethyl Ether - No Effect

HALOGENATED HYDROCARBONS
Carbon Tetrachloride - No Effect
Chloroform - No Effect
Ethylene Dichloride - No Effect
Perchloroethylene - No Effect
Benzyl Chloride - No Effect
Bromobenzene - No Effect

HYDROCARBONS
Tert Butyl Acetate - No Effect
Aromatic 100 - No Effect
Aromatic 150 - No Effect
Acetone - No Effect
VM&P Naphtha - No Effect
PM Acetate - No Effect
Ethylene Alcohol - No Effect
Mineral Spirits - No Effect
Methyl Ethyl Ketone - No Effect
Benzene - No Effect
Cyclohexane - No Effect
Ethylbenzene - No Effect
Heptane - No Effect
Hexane - No Effect
Naphthalene - No Effect
Toluene - No Effect
Xylene - No Effect

HYDRAULIC FLUIDS
Granite 8200 - No Effect
Pydraul F9 - No Effect
Pydraul 60 - No Effect
Skydrol - No Effect
Skydrol 5OO - No Effect

INORGANIC ACIDS
Nitric Acid (10%) - Severe
Phosphoric Acid (Concentrate) - Moderate
Sulphuric Acid (10%) - Moderate
Sulphuric Acid (Concentrate) - Severe
Chlorosulphonic Acid (10%) - Severe
Chromic Acid (10%) - Moderate
Chromic Add (Concentrate) - Moderate
Hydrocholoric Add (10%} - Moderate
Hydrochloric Acid (Concentrate) - Severe
Hydrofluoric Acid (Concentrate) - Moderate

INORGANIC BASES
Barium Hydroxide (Concentrate) - No Effect
Calcium Hydroxide (Concentrate) - No Effect
Potassium Hydroxide (10%) - Moderate
Sodium Hydroxide (10%) - Moderate
Sodium Hydroxide (Concentrate) - Moderate

INORGANIC SALTS (25% Solution)
Potassium Chloride - Moderate
Potassium Permanganate - No Effect
Potassium Bisulphate - No Effect
Potassium Dichromate - Moderate
Sodium Borate (Borax) - No Effect
Ammonium Chloride - Moderate
Ammonium Nitrate - Moderate
Barium Chloride - Moderate
Calcium Chloride - Moderate
Calcium Hypochlorite - Moderate
Cupric Chloride - Moderate
Cupric Sulphate - No Effect
Ferric Chloride - Moderate
F erric Nitrate - No Effect
Ferrous Sulphate - No Effect
Magnesium Chloride - Severe
Magnesium Sulphate - No Effect
Nickel Sulphate - No Effect
Sodium Bicarbonate - No Effect
Sodium Chloride - Moderate
Zinc Nitrate - No Effect
Sodium Chloride Saturated - Moderate

MISCELLANEOUS.
Gelatine (sat. sol'n) - No Effect
Glucose (sat. sol'n) - Moderate
Antifreeze - No Effect
Brake Fluid - No Effect
TransmissionFluid - No Effect

FATS & OILS
Castor Oil - No Effect
Cottonseed Oil - No Effect
Lard - No Effect
Oleomargarine - No Effect
Olive Oil - No Effect
White Mineral Oil - No Effect
Butter - No Effect

OILS & FUELS
A.S.T.M. No.1 Oil - No Effect
A.S.T.M. No.2 Oil - No Effect
A.S.T.M. No.3 Oil - No Effect
A.S.T.M. No. Fuel A - No Effect
AS.T.M. No. Fuel B - No Effect
A.S.T.M. No. Fuel C - No Effect
Heating Fuel Oil - No Effect
Jet Aircraft Engine Oil - No Effect

ORGANIC ACIDS
FormIcAcid(10%) - Moderate
LacticAcid(10%) - Moderate
OleicAcid(100%) - No Effect
Oxalic Acid (10%) - Moderate
AceticAdd(10%) - Moderate
AceticAcid(Giacial) - Moderate
CitricAdd(10%) - Moderate
Phenol (10%) - No Effect
Phenol (100%) - Moderate
Picric Acid (10%) - Moderate
Stearic Acid {100%) - No Effect
Tannic Acid{10%) - No Effect
Tartaric Acid (10%) - Moderate

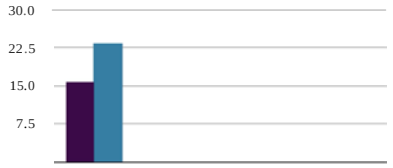
WATER
Distilled Water - No Effect
Seawater - Moderate
Mine Water, Waste - No Effect
Salt Water/75ppm carbonate - No Effect

Chemical mixtures do not necessarily have the same effect or lack of effect on the Protec III Chem RX than those of the individual components within a given blend. Chemical attack can be influenced by temperature, contact time, concentration and composition. The information and recommendations contained In this c h a r t are based on data believed to be reliable, but all such information and r ecommendations are specified without guarantee or warranty.

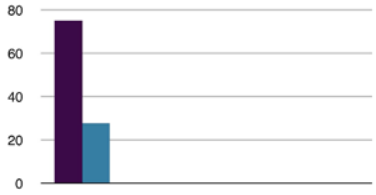
Protec III: Chem RX - ASTM Tests.

ASTM	USE OF TEST	RESULTS
ASTM C418	Increase in Hardness	67% Increase

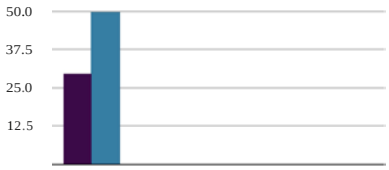
ASTM	USE OF TEST	RESULTS
ASTM C1353	Abrasion Resistance	46% Increase at 1000 Cycles



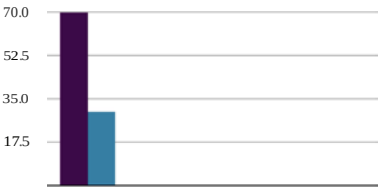
ASTM	USE OF TEST	RESULTS
ASTM C642	Ability to Reduce Absorption	Reduction of 72%



ASTM	USE OF TEST	RESULTS
ASTM C803	Hardness and Compression Values	Increase in 20 MPA



ASTM	USE OF TEST	RESULTS
ASTM 8117	Salt Spray Test	57% decrease in Permeability



ASTM	USE OF TEST	RESULTS
ASTM G53	6000 Hours	No Effect

Standard

Protec III Chem RX

Protec III: Chem RX - Used as a Curing Aid

The Original Chemical Cure

DESCRIPTION

Protec III: Chem RX controls hairline checking and temperature cracking on new concrete slabs. Protec III: Chem RX should be applied to concrete that is properly placed and structurally sound. Protec III: Chem RX works as a curing aid through a combined chemical and moisture retention reaction aiding the complete hydration process.

This curing process does not leave a surface membrane across the concrete surface but allows the concrete to still breathe, eliminating concrete popping in areas that have poor aggregate and where membrane forming products accelerate concrete popping. When Protec III: Chem RX is applied, 92% greater moisture retention is achieved during the critical 24 hour cure period compared to untreated concrete. In the western Canadian provinces using membrane forming curing products such as acrylics or hydrocarbon resin cures are now causing more problems than fixing. Because of their membrane, concrete is not allowed to breathe. The result is a lot of concrete popping and shaling. Protec III: Chem RX still allows the concrete to breath.

Protec III: Chem RX does not leave a surface membrane like an acrylic or chlorinated rubber products. This makes Protec III: Chem RX the choice because it is compatible with all flooring adhesives and does not require stripping of cure and seals that leave membranes.

APPLICATION

- As a cure, apply the product with a low-pressure sprayer or roller at a rate of approximately 400 ft^2/gallon (9.8 m^2/litre) on power trowel concrete. On broom finish concrete expect 300 ft^2/ gallon (7.4 m^2/litre).
- Be careful not to leave puddles. If puddles do form, they should be broomed or rolled out. In cooler temperatures greater care has to be taken in regard to puddling.
- All saw cuts need to be coated thoroughly.
- If the product is not applied properly there is the possibility of staining on colored concrete where the product puddles.
- Special care should be taken on colored concrete floors, do not apply for 3 days after colored concrete has been poured.

CAUTIONS

- Note: In winter applications, concrete is colder and moisture dew points are higher so dry times will take longer.
- Take special care when applying product in cold temperature applications. Dry times is slowed and puddling can form, therefore all puddles need to be brushed out.
- Special care is required for colored concrete, do not apply for 3 days.
- Protect surrounding area from over-spray. In case of accidental contact, rinse thoroughly with water immediately.
- Do not apply to frozen surfaces.
- For surfaces not specified or where concrete may have been previously sealed, and for colored concrete, we recommend testing a small area to observe for possible adverse reactions before applying the product.
- Freeze Harm – 5 Cycles No Damage
- Special care should be taken to use de-icing materials that are compatible with concrete.

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.

SHALING AND POPPING

BROOM FINISH CONCRETE

Pressures on the Concrete Industry

With the concrete industry being under siege from government regulations over the last 10 years and especially over the last 5 years from the green house and global warming lobby, concrete mix designs have been going through some big changes. The days of pouring and placing concrete and putting a curing aid or cure and seal on and thinking that was all you had to do, if you even had to do that for your concrete, are over. There may have been the odd concrete pop after a year or two, which was pretty acceptable and normal. Can we still say that today? The problem is not the pouring and placing practices, the problem is the government regulation pressures that have been put on the Portland cement industry.

Where is the Problem Showing Up?

Overall concrete compression strengths are just fine. Where the problem is showing up is in the finished concrete surface in the form of concrete shaling on broom finish concrete. This is more specifically showing up in climates that are exposed to cold weather in winter and freeze thaw cycles. In the worst case scenarios, even with the use of curing aids and acrylic cure and seals, the benefits of using these products is starting to be minimal and sometimes no benefit at all. These government regulations are resulting in a weak concrete surface resulting in concrete popping and surface shaling and delaminations. Even with cure and seals, these problems are showing up in the spring.

Protec III Chem RX Replacing Cure and Seals

Using Protec III: Chem RX will greatly strengthen the surface of the concrete. Protec III Chem RX works as a curing agent, but where it excels is in the ability to penetrate the concrete surface easily and chemically react with the weak bonds in the concrete paste. Once this reaction has completed the concrete surface in now highly resistant to concrete popping and surface shaling. Applications typically for broom finish concrete is to pour and place the concrete, if this occurs in the morning, come back in the afternoon and apply two coats of Protec III Chem RX.

If you pour and place the concrete in the afternoon, return the next morning and apply two coats of Protec III Chem RX. Making the concrete surface strong using Protec III Chem RX gives peace of mind from call-backs.

Conclusion

Protec III Chem RX is an inexpensive solution to a huge problem for the concrete industry. When pouring and placing concrete with a water curing method, concrete will still leave up to 25% weak bonds in the concrete, called calcium hydroxide. Today's concrete has considerably more weak bonds because of the changing regulations put on the concrete industry, fortunately this is where Protec III Chem RX can help. Protec III Chem RX is an inexpensive solution. In areas where climate does not include freezing and thawing, this is not much of an issue, but if you are in Canada and the Northern US states this is a problem. The freeze thaw cycles place all kinds of pressure on the concrete surface and if the concrete is not treated correctly with Protec III Chem RX, the results will show up after only one winter.

Preventing New Barn Syndrome:

Protec III: Chem RX

Prevents Tail Biting, Ear Biting, and Lameness

Veterinarians describe New Barn Syndrome as affecting the sows, growers, and finishers.

SOWS: Hip, ankle, and hoof problems

When concrete is wet, the hydrated lime in the concrete dissolves and is brought to the surface.
This creates caustic concrete and causes a skin reaction on the bottom of the foot pads.
As the hydrated lime dissolves it opens the pours of the concrete, and creates ideal conditions for bacterial growth.
Small cracks in the foot pad occur, allowing bacteria to enter into the animal's body causing joint infection in the knees, ankles, and hips.
With this lameness, producers suffer losses in terms of increased sow culling rate, breeding problems, and other management difficulties.

GROWING AND FINISHING HOGS:

New Barn Syndrome has been reported to also cause tail biting, and ear biting in growing and finishing hogs. Producers suffer losses from New Barn Syndrome in the growing and finishing stages due to increase culling of animals because of:
Tail Biting
Ear Biting
Lameness
Experts agree that the chemicals in new concrete may cause ear biting and tail biting in growing pigs. This lameness in growing pigs is caused by the same reason as mentioned earlier with the sows.
New and existing gestation barns sealed with Protec III Chem RX will help prevent bacteria buildup in the pores of the concrete. Protec III Chem RX reacts and neutralizes hydrated lime forming a glass membrane inside the concrete.
By filling the pores, bacteria have nowhere to grow inside the concrete.
Because the foot pad skin is protected from the caustic effects of the concrete, lameness problems can be prevented.
Protec III Chem RX hardens the concrete making it more durable for this environment.
Protec III Chem RX leaves a non-slip surface for further protection of the animal.

Protec III: Chem RX CUSTOMER TESTIMONIALS

Newly poured concrete is protected from physical damage

"Protec III: Chem RX is a high quality densifier/sealer.

I use it on most concrete slabs I do. It hardens the surface to a high degree, so much so, that when we sealed a floor with Chem RX it actually wore steel off the corner of a beam that had been dragged across it (newly poured concrete) and it didn't gouge the concrete!

Economical way to harden and protect your floor!"

Rick Cole, General Contracting
Williams and Associates
Calgary, AB

2015

Greatly reduces callbacks from concrete popping and shaling

"We Promote and sell Cornerstone Coating's Protec III: Chem RX and
Protec III (with Acrylic Membrane) because it greatly reduces problems and call backs associated with concrete popping and shaling.

Protec III: Chem RX works very good as a cure and hardener for all of our concrete.

We are very happy to recommend these products to all of our customers"

LAFARGE

Terry Peterson
Grande Prairie, AB

2015

Product works great for 5 years now

"I like the Protec III: Chem RX, It works great on the concrete we have sealed. I like how your product line is very versatile.
The Advance Acrylic sealer for decorative concrete works great as well.

We have been using your sealers for 5 years now with no problems."

Carbrook Concrete
Kevin Rye
Grande Prairie, AB

2015

"We like that we can apply this right away..-"

"We have been selling and using Protec III: Chem RX since 2002 and we love this product. Protec III: Chem RX is very versatile, we can use it on new concrete, old concrete, broom finish and power trowel. We like that it is Water-Based and very safe to use.
We find that it is very easy to use on new concrete, you simply apply it after the bleed water is off. We like that we don't have to come back after 28 days of curing to apply a sealer compared to other products. This product is excellent for reducing salt and freeze thaw damage to concrete.

We have 10 year old concrete driveways side to side, one with nothing on it and the other with Protec III: Chem RX. The driveway with Protec III: Chem RX is easily twice as good as the non-sealed driveway.
We have one customer who applies a coat of this sealer every 2 years and after 8 years the driveway is in perfect condition. This sealer is affordable and we recommend it to all of our customers."

Littles Redi Mix
Tisdale, SK
2015

Pressure sensitive glues and adhesives work perfect on Protec III cured concrete

"We love Protec III ChemRx as a cure for all of our concrete slabs, I recommend it to everyone. The product is easy to apply and very economical, it is nice to see it soak into the concrete, not like some of the other products that leave a mess.
We love the curing properties of Protec III ChemRx. The product is applied right after power troweling, it soaks in nicely, darkens the concrete, the concrete stays dark for a long time, making a great cure.
Flooring adhesives have no problem adhering to the concrete that have been treated with Protec III ChemRx, the beauty of the product is that it cures the concrete while leaving no surface membrane. Because its penetrates the concrete fully, pressure sensitive glues and adhesives work perfect on concrete that has been cured with Protec III ChemRx.
From our many years of experience Protec III cures concrete better than water curing, and at the fraction of the cost, plus we can get a project completed sooner over water curing. In fact, we did a field test on a project with seven engineers, comparing water curing to Protec III ChemRx on its own. The test was to pour two concrete pads with thermometers imbedded into the concrete, the concrete pads were in the direct sun, one pad water cured and the other pad treated with Protec III. The result was significant, the temperature of the pad treated with Protec III was on average 2 degrees lower than the water cured pad.
Protec III was slowing down the cure better than water curing, needless to say we cure everything now with Protec III. Like I said Protec III is a great product, you have a winner here."

LEDCOR GROUP

Ryan Cox 2016

Does not plug the sprayers

"What we like about Protec III is it doesn't plug up the sprayers, a super treat to push through the sprayer.

We have used the product for one year now so we don't know how good it works, but the indications are good so far, it is spring and we have had no call backs with the driveways we treated with Protec III, so very good news.

We like the concept of the product and how it strengthens the surface of the concrete while still letting it breathe, which is very important for our concrete nowadays.

We have used everything out there, and this is the most user friendly product by far and we have been doing concrete since 1972."

Rubicon Construction Ltd.

Edmonton Area **April 2016**

Use as a cure on all flatwork inside and out

"We have been using Protec III: Chem RX on all our design build projects to cure all of our flat work for the past 5 years without issues. It's a great product for curing concrete and leaves a great looking floor."

Miners Construction

Saskatoon, SK **April 2016**

We see no advantage to watercuring anymore compared to Protec III: Chem RX

"We have been using Protec III: Chem RX for at least 8 years now as a cure for all of our concrete, including office space areas, warehouse floors and exterior concrete sidewalks and aprons.

We have treated over 1 million ft^2 of concrete with no issues. This product has met all of our needs over the years and we are pleased with the results. We are known for doing quality work and with Protec III ChemRX it fits in perfectly.

Historically, where we would have water cured the concrete in the past, we now use Protec III ChemRX instead, because it works, we see no advantage to water curing anymore compared to using Protec III ChemRX. Using Protec III does not slow down the project like water curing, it is very inexpensive and easy to use.

We have had no problems in areas of flooring where Protec III has been used as a cure. Flooring such as carpet, VCT or vinyl have no problems adhering to the concrete, because Protec III ChemRX does not leave a membrane when curing. We are very happy with your product."

CONTECH General Contractors

Saskatoon, SK **April 2016**

Works great where flooring goes down

"We have been using Protec III ChemRX for over 4 years now as a cure and we love it!We put it on right after we do our final trowel so we don't have to come back later. If we cut, we do it the next morning. We will first chalk our lines, spray on the Protec III and let it dry. Usually one hour later we will cut the lines.

We have treated over 1 million ft^2 so far in the last 4 years with no problems. When we use Protec III we have never had a call back or deficiency because of the product, for this reason we push this product everywhere we can, this product should be used everywhere.

Protec III works great where flooring goes down because it is a penetrant and leaves no membrane."

Regina, SK 2016

No craze or spider cracking when using Protec III: Chem RX

"What we like about Protec III ChemRX is the ease of application, not like other cures on the market. We apply the product and leave, very simple.

We have been using Protec III ChemRX as a cure for over 2 years now, we have never had a problem, and no call backs when using Protec III: Chem RX.

When we apply the Protec III after the final trowel we have no craze or spider cracking. We use Protec for areas where flooring is to be installed, because it leaves no membrane. The product does not interfere with the adhesion of the flooring. Great Product!"

Nathan Calvert
BRY SAND
Edmonton, AB
2016

Shop floor looks brand new

"I treated my shop floor with Protec III: Chem RX when it was newly poured. I have had no chipping, no cracking, no spalling. It looks brand new! Protec III did a really great job. When snow melts on the concrete, I can just sweep it away and the concrete lightens up right away. Great product!"

Reliable Excavating

2017

The floor remains non-slip when wet

"Protec III: Chem RX was used to polish our concrete floor at the Rent-it Store in Saskatoon, SK. We are pleased with the results, this is a very good product. The floor was polished to a 1500 grit and it still remained non-slip when wet. The floor is also very easy to keep clean."

Doug Mitchell Vice President
The Rent-It Store
Saskatoon, SK

2006

We halted any further deterioraton of our concrete by using Protec III: Chem RX

"Our sidewalks in the town of Govan have been poured in 1999 and due to a number of factors, had rapidly deteriorated. The application of Protec III has been very successful in halting any further deterioration of the sidewalks. Since this sealant has been applied, the condition of the sidewalks have not gotten any worse, even following the winter months during which a significant amount of ice melting products were required to be applied due to freezing rain and other environmental conditions that caused extremely icy conditions. We are very pleased with the results of Protec III. The investment in the application of this sealant has proven to save us a great expense that would have incurred had the sidewalks continued to deteriorate and required replacement."

Michele Cruise-Pratchler, R.M.A.
Administrator

2001

Results are always better when our customers use Protec III: Chem RX on their concrete

"We have been selling and promoting Protec III: Chem RX for over 7 years now for concrete. Results are always better when our customers use Protec III. We recommend Protec III for all our Agriculture projects."

N&R Concrete Ltd.
Melville, SK. 728-5433

Logan
N & R Concrete
Melville, SK

2016

Been using this product since 2001 and we recommend it to everyone

"We have been selling Protec III: Chem RX since 2001 and all of the contractors who use this product say it works great for protecting their concrete.
Our contractors keep coming back to get this product.

We recommend everyone to use Protec III: Chem RX on all of their concrete."

Watrous Concrete
Watrous, SK
2016

No shale pops or shrinkage cracks when we use Protec III: Chem RX

" I love this stuff, Protec III: Chem RX. We have no shale pops or shrinkage cracks, not like we used to have with the curing compounds or cure and seals we used to use. It also give the concrete that blue-grey look when it is curing, like it is supposed to be."

Harold's Concrete
Saskatchewan
2010

Protec III: Chem RX slows down the cure and increases concrete psi

"Protec III: Chem RX is a really good product, it gives me peace of mind. I have no problems with my driveways. Protec III slows down the cure and increases the psi, and I don't have to worry about peeling."

LG Concrete
Saskatoon, SK
2010

Absolutely no maintenance on these floors

"We will definitely look at using Protec III: Chem RX again on our next expansion. Protec III: Chem RX has absolutely no maintenance to the finish, only periodic sweeping to keep it clean. The floor is shiny, the concrete no longer dusts, the product makes the concrete reflect light extremely well, and it is easy to keep clean."

Isaac Hiebert
Warehouse Manager GrandWest Enterprises Inc.
2010

You cannot use cure and seals on green concrete without concrete popping in our area

"We have had very good resuts with Protec III: Chem RX. You cannot use Acrylic Cure and Seals on green concrete in our area without the concrete popping. With Protec III we do not have this problem. We have been selling this product for 14 years and we have had no complaints from our customers."

Holmes Redi-mix
Nipawin, SK 2011

No concrete pops or call backs

"We have been using your Protec III: Chem RX for 2 years now and we love it! We have had no concrete pops or call backs on our Broom Finish Concrete since using Protec III: Chem RX"

Cory Penner
Sunset Concrete
2017

Used as a cure for 9 years now - no chipped edges on our saw cuts

"We always apply Protec III: Chem RX as a cure on our warehouse floors. Since we started doing this, our saw cuts have nice, clean edges. Before we always had chipped edges. We have been using Protec III: Chem RX for 9 years now as a cure and we have never had any issues from any of our floors, great product."

Anderson Construction
Saskatoon, Sk
2017

We've cut our callbacks down to 0

"We have been using Protec III: Chem RX on all of our broom finish driveways and garage pads for the last 2 years, and we are glad to say that we have cut our call backs down to zero, in regards to peeling and shaling issues. It's a great product and is very convenient to use."

GBC GERANSKY BROS CONSTRUCTION

Ryan Geransky
Geransky Brothers
2017

We use it on all our power trowel concrete

"We have been using Protec III: Chem RX as a cure for 8 years now, on all our Power Trowel concrete. Compared to acrylic cure and seals, we virtually have no issues with the concrete surface. Since using Protec III: Chem RX, we could not say the same thing with cure and seals. There are a lot of benefits to using Protec III: Chem RX, it's food safe, has no smell, you don't have to come back 28 days later and best of all, it works."

Dave
Royal Concrete

2017

Been in business for 50 years and we won't warranty our concrete unless Protec III: Chem RX is used as a cure.

"We are a Redi-Mix supply company in Kindersley, SK.
Protec III is a great product, in fact we will not warranty our concrete unless Protec III: Chem RX is used as a cure. We have been in business for 50 years now and we can say that Protec III: Chem RX is one of the best products in the market place. Protec III: Chem RX works great when its windy out, it stops the concrete surface from developing shrinkage cracks from drying out too fast. Protect III Chem-RX has cut down concrete problems dramatically, membrane cures are a terrible idea for concrete, Protec III is the answer."

Rob
Concrete Construction Corp
Kindersley, SK

2017

15 years we have used Protec III: Chem RX to cure all our concrete - Everything has changed, life is good

"It's been 15 years since we first started using Protec III: Chem RX to cure all of our broom finish and power trowel concrete. Before Protec III: Chem RX, we used to use membrane forming cure and seals. It was very frustrating, because of all the concrete popping and shaling issues. Since we have changed over to Protec III: Chem RX, everything has changed, life is good."

Dan General Contractor
Boehr Construction
Watrous, SK

2017

We cure all our floors with Protec III: Chem RX

"Pro-Bilt is a design build company in the commercial light industrial area. We have been using Protec III: Chem RX as a cure on our concrete floors for over 3 years now. We previously used Vo Comp 20 but we changed over because the cure and seal would stay cloudy and discolored for a long time and that did not make our floors look good. We do not have any of these issues with Protec III: Chem RX, this product is nice to work with and the concrete even shines up with cleaning and use."

Jeff
Pro-Bilt Structures Ltd.

2017

We recommend it to everyone who wants a great looking polished floor

"Protec III: Chem RX was used as a cure by Royal Concrete when they placed and finished our floor for our new building in our retail space. We wanted a polished concrete floor without paying the high cost of the concrete polishing people. Murray from Cornerstone Coatings said that if we applied one coat of the Protec III: Chem RX for polishing concrete, with use and cleaning with our floor scrubbers, that the floor would polish up without all the expense. It has been 10 months since our grand opening and the floor looks beautiful, it was a short time before a shine started to develop. Normally we have the floor cleaned one or twice a week, using water and a little soap and a standard red pad on the walk behind scrubber and we now have this beautiful polished concrete floor. Great Product, we recommend it to everyone who wants a great looking inexpensive polished concrete floor. This floor is easy to take care of and looks great."

Melody
Castle Building Centre
Kindersley, SK

2017

We like that we can apply the product while we are still on site

"We have been using Protec III: Chem RX for over 3 years now. We like the price, we like that it is easy to use and we like that we can apply the product while we are still on site, while the floor is still clean.

We look forward to using Protec III: Chem RX on all of our floors."

KAEWEST CONCRETE INC

Kent
Kaewest Concrete
Bow Island April 2017

Stops shrinkage cracking and definitely makes the concrete harder

"Each year we pour and place at least 20,000 linear meters of curb and gutter and 20,000 sq/ meters of sidewalks in southern Alberta.

We find that Protec III: Chem RX is the best product for our concrete.
Protec III stops shrinkage cracking and definitely makes the concrete harder from our tests.

We were using a white curing compound before. We did a side by side test with Protec III: Chem RX. When I went back to see the results, the concrete under the white curing compound could still be easily scratched with your fingernail - but not with Protec III, it definitely set better and would likely hold up against rain but not so with the white curing compound.

Protec III: Chem RX increased the hardness of concrete. Protec III was used as a cure and then the next day we applied another coat. The next day we tried to cut the concrete, we went through a number of blades to cut the concrete, so make sure you do your saw cuts before the application of the second coat, it will be much easier on the concrete blades."

MUDRACK CONCRETE LTD.

Dave
Mudrack Concrete
April 2017

Protec III: Chem RX is a good insurance program against wrecked concrete

"We haven't had any complaints since we started using Protec III: Chem RX and it has been 2 years now.
We wanted a better product and we are very particular with what we use. Protec III: Chem RX does the job, we always carry Protec III with us.
We look at it this way, it is a good insurance program. It is easier to do something easy, such as use Protec III as a cure, than having to deal with wrecked concrete if it isn't used."

WESTERN FOUNDATIONS & CONSTRUCTION SERVICE INC.

Brian - Western Foundations
Medicine Hat, AB
April 2017

Pop spills can sit on the floor for up to 2 days before clean-up - floor holds up great

"Super easy floor to take care of, Protec III has kept our cleaning cost down compared to other facilities in Moose Jaw that have concrete floors. $1,000 for us compared to up to $10,000 for other facilities like ours. Its also been holding up to soda pop spills and we get a lot of pop spilled on these arena floors. The spill can sometimes sit on the concrete for up to 2 days before it is cleaned up. We are really happy with the concrete floor, I was really concerned about how a concrete floor would hold up under these conditions, but it has held up well. It has been over 6 years now since we opened in August 2011. A beautiful product."

Mosaic Place

Moose Jaw Arena
Moose Jaw, SK
April 2017

Make sure to always use Protec III: Chem RX, even in the Fall

"We have been using Protec III: Chem RX on garage slabs and broom finish concrete. We have no problems, and no shrinkage cracks.
We always notice when we do 2 coats, the water noticeably sheds off the concrete.
You can't get away with not using Protec III. The one job we didn't do last Fall, was the only concrete we did that popped, lesson learned. Make sure you always protect the concrete no matter what time of year it is."

Jagen Construction Ltd.
Carmel, SK
April 2017

Absolutely stops surface cracking

"Using Protec III: Chem RX absolutely stops surface concrete cracking on windy days, which is pretty much all the time.

Protec III is an amazing product. We have been using it for 10 years now. We always have a pail in our truck, we never leave home without it.

On broom finish concrete, when it is windy, we just spray Protec III: Chem RX on, then steel it in. Protec III: Chem RX works great as a retarder, extremely effectived compared to Confilm. I don't have to worry about my broom finish concrete anymore.

For power trowel concrete in order to get an extremely hard floor, we always spray on a mist coat

before our final trowel and trowel it in. On the final pass of the power trowel, we spray on a cure coat of Protec III: Chem RX and by doing this process you get this amazing, extremely hard floor.

Great product, Great results."

Carman - Caliber
Concrete Swift Current,
SK
April 2017

It has been 2 years now and wished we had done this to all our floors

"We had Caliber Concrete do our concrete in our wash bays. They used Protec III: Chem RX as a cure and then applied Dual Tech 28 days later.

In the wash bays, we clean the outside and wash down the inside of the disposal trucks everyday and the product is keeping the concrete looking new. It has been 2 years now and we wished we had done this to all of our floors. It is an inexpensive product and makes a huge difference for us."

Triways Disposal - Swift Current,
SK April 2017

Dual-Tech:

Densifier + Silicone

Dual-Tech:

Densifier / Silicone

Technical Data Sheet

DESCRIPTION

Dual-Tech is a chemically engineered blend of water-based siliconate and hardener/densifier polymers. Dual-Tech has a two-fold process in one product - it chemically reacts within the the top wear layer of concrete to densify and harden the surface and it produces a surface membrane that seals the surface against spills and stains.

PRIMARY APPLICATIONS

Warehousing, Distribution Centers, Malls, Manufacturing Plants, Parkades.

FEATURES/BENEFITS

Seals and strengthens concrete
Reduces tire marks
Dustproofs the surface
Hardens the concrete
Repels liquids such as water, oil and many chemicals
Excellent freeze/thaw resistance
Environmentally Safe and non-hazardous
Easy Penetration for Ease of Application
No rinsing required
VOC Content - 0.00 g/L
Produces surface gloss with abrasion
Can be Polished

TECHNICAL INFORMATION

VOC Content - 0 g/L
Flashpoint - none
Viscosity - water thin
pH - 11
Color - auburn
Skid Resistance - good Drying
Time at 70°F (21°C) - 1 hr Light
Foot Traffic - 1 to 2 hours
Wheel Traffic - 24 hours
Physical State: Liquid
Odor - None

Densifier / Water Repellent

COVERAGE

Hard Troweled dense concrete 300 ft^2/gal (7.4 m^2/litre)

POLISHING CONCRETE COVERAGE

Typical rate on ground concrete is 400-600 ft^2/gal (9.8-14.7 m^2/litre)
Typical rate for hard trowelled concrete is 300 ft^2/gal (7.4 m^2/litre)

CAUTION

Do Not Freeze.

PACKAGING

55 gallon drums (205 Litre)

5 gallon pails (18.9 Litre)

WARRANTY

We warrant our products to be of good quality and free of defects in material and workmanship. See full warranty upon request.

SHELF LIFE

2 Years in original, unopened container.

SURFACE PREPARATION

Not recommended for colored concrete, unless you are grinding and polishing.
Protect surrounding areas from overspray, spills, tracking and equipment contact. In case of accidental contact, rinse thoroughly with water immediately.

Old Concrete/Existing Concrete

Ensure all surfaces are structurally sound and free of all contaminants such as oil, contaminants and any film forming curing compounds and sealers. Fill and repair all holes, cracks and deteriorated areas before application.

All Concrete should be thoroughly cleaned and rinsed with clean water. After washing allow the concrete to dry completely before application.

New Concrete

Ensure surfaces are clean and free of all contaminants, and any film forming curing compounds or sealers.

Ensure the concrete has been cured for a minimum of 28 days before application.

During cooler temperatures or higher relative humidity conditions, dry times will be increased.

INITIAL GRINDING - for salt & pepper look

Grinding the concrete to an initial surface profile (200-400 grit) is an option if you would like the salt and pepper look of the concrete. Grinding must occur prior to the application of Dual-Tech. Concrete substrates that are contaminated with oil, grease or other substances after grinding to the initial surface profile should be thoroughly cleaned and dried before continuing.

Apply first coat at approximately 400-600 ft^2 / gal (9.8-14.7 m^2/litre) u sing a low pressure sprayer or by spreading evenly with a micro fiber pad. A micro fiber pad gives better even distribution of the product and will minimize puddling. Keep the surface wet for 30 minutes by applying more product where the surface has dried or by redistributing the product with a micro-fiber pad.

Do not allow material to form puddles on the surface as this may cause white residue to form and stain.

When dry, proceed with additional required polishing steps. After the 800 grit level and before the final polishing steps, uniformly apply the 2nd coat at 600-800 ft^2 / gal (14.7 - 19.6 m^2/litre) sp read with micro-fiber pad, keep the surface wet for 30 minutes by re-dispersing product with micro-fiber pad. Do not puddle.

Allow to dry and remove any residue with polishing diamonds. No water-flush is required.

POLISHING CONCRETE / HARDEN AND DUSTPROOF

If you want to polish concrete without the salt and pepper look, use the following procedure.

Apply Dual-Tech to the surface of concrete at a rate of 300-400 ft^2/gal (7.4-9.8 m^2/litre) using a sprayer or micro-fiber pad. Make sure concrete stays wet for 30 minutes by re-applying more Dual-Tech or by re-distributing the existing product using a micro-fiber pad. Do not puddle the product. No rinsing of Dual-Tech is needed. Let Dual-Tech dry before polishing the concrete.

If you are looking to harden and dust-proof the concrete, no other steps are required.

POLISHING

After treatment, continue honing, burnishing, and polishing the treated concrete to the intended final finish profile. Use anywhere from 400-1500 grit using progressively finer polishing disks.

If wet polishing, remove the slurry residue between diamond changes using a wet vacuum or squeegee and rinse thoroughly removing excess water and slurry. After the final finish profile is achieved, allow the polished concrete to dry completely prior to any further surface treatment.

BURNISHING

Dual-Tech can be burnished to a high sheen on steel trowel concrete floors. A high-speed burnisher (2000-2200 rpm) with appropriate maintenance pad is needed.

MAINTENANCE

Dual-Tech polished floors require very little maintenance other than scheduled scrubbing with water and a neutral or alkaline cleaner. All spills should be cleaned immediately.
No waxes or subsequent surface treatments are necessary.
Refer to maintenance sheet for full recommendations.

Testing
ASTM C666 - Resistance to Freeze/Thaw - Excellent

Stain Resistance - After 12 Hours
Coffee - Fair
Beet Juice - Good
Ketchup - Fair
Kerosene - Good
Used Motor Oil - Good
Red Wine - 10 minutes - Good

Densifier / Water Repellent

APPLICATION PROCEDURES

Old Concrete/Existing Concrete

Not recommended for colored concrete, unless grinding and polishing.
Product is ready to use, no dilution is needed. Apply at approximately 250 ft^2/gallon (6.1 m^2/litre) Moisten the surface with product by sprayer or microfiber applicator. When spraying a spray nozzle that produces of flow of 1/4 gallon per minute under 40 psi is recommended. Keep surface moist with product for 20 minutes do not let material stand and puddle. If excess material is still on the surface after 20 minutes, use a microfiber applicator to even out excess material.

New Concrete

Not recommended for colored concrete unless grinding and polishing.
Product is ready to use, no dilution is needed. Apply at approximately 300 ft^2/gal (7.4 m^2/ litre) using a low pressure sprayer or by spreading evenly using a microfiber pad. Do not allow material to form puddles on the surface as this may cause white residue to form and stain. If excess material is still on the surface after 20 minutes, use a microfiber applicator to even out excess material.

FINAL STEPS

MAINTENANCE

Dual-Tech floors require very little maintenance other than scheduled scrubbing with water and a neutral or alkaline cleaner. All spills should be cleaned immediately. No waxes or subsequent surface treatments are necessary.

CLEAN-UP

Clean up equipment and tools with a mild soap and water.

CAUTIONS

Immediately wash off over-spray from glass, aluminum, or highly polished surfaces with water to avoid etching. Product is slippery when wet.
Do not apply product if the temperature of the concrete is less than 40°F (4°C) or above 135°F (57°C)
Keep the product from freezing. Do not allow Dual-Tech to form puddles, broom puddles out before they dry or staining may occur.
Wear skin and eye protection. Wash hands thoroughly after handling.
Do Not apply to colored concrete.
See SDS for complete precautions.
Do Not apply in Autobody Shops where they will be painting automobiles. This product contains Silicone.

Densifier / Water Repellent

Cornerstone Coatings
Concrete cures & sealers

Pro-Pel:

Lithium Silicate

Pro-Pel:

Lithium Silicate

Technical Data Sheet

DESCRIPTION

Pro-Pel is a VOC-free Lithium Silicate densifier and chemical hardener used for polishing concrete. Pro-Pel Lithium is chemically activated by the alkali in concrete to solidify and fill the voids. This chemical reaction produces a smooth, denser surface for easy grinding and polishing techniques. Pro-Pel 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.

Pro-Pel works as a curing aid through a combined chemical and moisture retention reaction aiding the complete hydration process.
Pro-Pel controls hairline checking and temperature cracking on new concrete slabs. Pro-Pel should be applied to concrete that is properly placed and structurally sound.

Pro-Pel does not leave a surface membrane like an acrylic or chlorinated rubber clear products. This makes Pro-Pel the choice because it is compatible with all flooring adhesives and does not require stripping before applying floor adhesives or paints.

FEATURES/BENEFITS

Hardens and Densifies Concrete
Curing Aid for Green Concrete
No flushing or rinsing required
Does not yellow or discolor
Hardens the surface against damage
Easy Penetration for ease of application
Improves Light Reflectivity
Reduces Hairline Checking
Environmentally Safe and non-hazardous
VOC Content - 0.00 g/L
Produces surface gloss that improves with abrasion
Reduces vapor transmission
Reduces Radon Gas emissions
Improves Freeze Thaw Resistance

TECHNICAL INFORMATION

VOC Content - 0 g/L
Type Solids - Lithium Silicate
Flashpoint - none
Viscosity - water thin
pH - 10.9
Specific Gravity - 1.10
Color - Clear
Odor - None
Surface Breathable - Yes
Skid Resistance - Fair
Drying Time at 70F (21C)
Light Foot Traffic - 2 to 3 hrs
Wheel Traffic - 24 hours
Physical State: Liquid

COVERAGE

Typical rate on ground concrete is 400-600 ft^2/gal (9.8-14.7 m^2/litre)

Typical rate for hard trowelled concrete is 300-400 ft^2/gal (7.4-9.8 m^2/litre)

Typical Rate on broom finish concrete is 300 ft^2/gal (7.4 m^2/litre)
For best results we recommend 2 coats.

SHELF LIFE

3 Years in original, unopened container.

Protect from Freezing.

PACKAGING

55 gallon drums (205 Litre)

5 gallon pails (18.9 Litre)

10 Litre Jugs

*Product comes in Concentrate and Ready to Use Formulations

WARRANTY

We warrant our products to be of good quality and free of defects in material and workmanship. See full warranty upon request.

MIXING INSTRUCTIONS

Concentrated Formulation - Dilute 1 part potable water to 1 part Pro-Pel. Stir for 1 minute. Product is now ready to use.

Ready to Use Formulation - no dilution is required.

PRIMARY APPLICATIONS

Warehousing/ Distribution Centres/ Malls/ Commercial and Retail Stores/Parkades/ Arenas/Broom Finish Concrete

SURFACE PREPARATION

Protect surrounding areas from overspray, spills, tracking and equipment contact. In case of accidental contact, rinse thoroughly with water immediately.

Old Concrete/Existing Concrete Ensure all surfaces are structurally sound and free of all contaminants such as oil, contaminants and any film forming curing compounds and sealers.

Fill and repair all holes, cracks and deteriorated areas before application.

All Concrete should be thoroughly cleaned and rinsed with clean water. After washing allow the concrete to dry completely before application.

New Concrete/Concrete Polishing Ensure surfaces are clean and free of all contaminants, and any film forming curing compounds or sealers.

Ensure the concrete has been cured for a minimum of 3 days before application.

During cooler temperatures or higher relative humidity conditions, the drying interval should be increased to achieve the level of dryness necessary for good penetration.

Green Concrete Ensure surfaces are clean and free of all contaminants, and any film forming curing compounds or sealers.

On colored concrete, wait 3 days before applying Pro-Pel.

INITIAL GRINDING - for salt & pepper look

Grinding the concrete to an initial surface profile (200-400 grit) is an option if you would like the salt and pepper look of the concrete. Grinding must occur prior to the application of Pro-Pel. Concrete substrates that are contaminated with oil, grease or other substances after grinding to the initial surface profile should be thoroughly cleaned and dried before continuing.

Apply first coat at approximately 400-600 ft^2/gal (9.8-14.7 m^2/litre) using a low pressure sprayer or by spreading evenly with a micro fiber pad. A micro fiber pad gives better even distribution of the product and will minimize puddling. Keep the surface wet for 30 minutes by applying more product where the surface has dried or by redistributing the product with a micro-fiber pad.

Do not allow material to form puddles on the surface as this may cause white residue to form and stain.

When dry, proceed with additional required polishing steps. After the 800 grit level and before the final polishing steps, uniformly apply the 2nd coat at 600-800 ft^2/ gal (14.7-19.63 m^2/litre) spread with micro-fiber pad, keep the surface wet for 30 minutes by re-dispersing product with micro-fiber pad. Do not puddle.

Allow to dry and remove any residue with polishing diamonds. No water-flush is required.

POLISHING CONCRETE / HARDEN AND DUSTPROOF

If you want to polish concrete without the salt and pepper look, use the following procedure.

Apply Pro-Pel to the surface of concrete at a rate of 300-400 ft^2/gal (7.4-9.8 m^2/litre) using a sprayer or micro-fiber pad. Make sure concrete stays wet for 30 minutes by re-applying more Pro-Pel or by re-distributing the existing product using a micro-fiber pad. Do not puddle the product. No rinsing of Pro-Pel is needed. Let Pro-Pel dry before polishing the concrete.

If you are looking to harden and dust-proof the concrete, no other steps are required.

VAPOR TRANSMISSION / RADON GAS

Moisten the surface with Pro-Pel by sprayer or microfiber pad. When spraying a spray nozzle that produces a flow of 1/4 gallon per minute under 40 psi is recommended. Spray in a fine fog pattern. Make sure concrete stays wet for 30 minutes by re-applying more Pro-Pel 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 1st coat has dried for 4 hours apply the 2nd coat of Pro-Pel. Follow the same procedure as the 1st coat.

Typically 2 coats is all that is needed.

FINAL STEPS

POLISHING

After treatment, continue honing, burnishing, and polishing the treated concrete to the intended final finish profile. Use anywhere from 400-1500 grit using progressively finer polishing disks.

If wet polishing, remove the slurry residue between diamond changes using a wet vacuum or squeegee and rinse thoroughly removing excess water and slurry. After the final finish profile is achieved, allow the polished concrete to dry completely prior to any further surface treatment.

For increased stain resistance and water repellency, apply one coat of Repel after the concrete has completely dried.

BURNISHING

Pro-Pel Lithium can be burnished to a high sheen on steel trowel concrete floors. A high-speed burnisher (2000-2200 rpm) with appropriate maintenance pad is needed.

MAINTENANCE

Pro-Pel Lithium polished floors require very little maintenance other than scheduled scrubbing with water and a neutral or alkaline cleaner. All spills should be cleaned immediately.
No waxes or subsequent surface treatments are necessary.
Periodic applications of Repel should be applied as required.
Refer to maintenance sheet for full recommendations.

CLEAN-UP

Clean up equipment and tools with a mild soap and water.

CAUTIONS

Immediately wash off over-spray from glass, aluminum, or highly polished surfaces with water to avoid etching. Product is slippery when wet.
Do not apply product if the temperature of the concrete is less than 40° F (4°C) or above 135°F (57°C)
Keep the product from freezing. Do not allow Pro-Pel to form puddles, remove puddles by moving the product around with a microfibre pad or broom puddles out before they dry as staining may occur.
Wear skin and eye protection. Wash throughly after handling. See MSDS for complete precautions.

TESTING

For Concrete Polished to 800 Grit
Red Wine - 10 minutes - Good
Mustard - Poor
Used Motor Oil - 1 Hour - Very Good

Cornerstone Coatings
Concrete cures & sealers

Protec III:

Acrylic Membrane

Cornerstone Coatings
Concrete cures & sealers

Acrylic

Technical Data Sheet

Protec III With Acrylic Membrane

The Complete Strength Gain Material
for New Concrete Floors

DESCRIPTION

Protec III with Acrylic Membrane is a high-end densifier with Acrylic Membrane used on existing interior concrete to dustproof and to give the concrete an attractive semi-gloss finish.

Protec III with Acrylic membrane works on 3 levels, which give it the clear and distinct advantage for concrete floors. Protec III with Acrylic Membrane is easy to apply, because we use Liquid Silica Fume Technology and not silicates or siliconates, which are highly temperamental and difficult to work with. Protec III with Acrylic Membrane is easily incorporated into the surface to increase the strength, hardness and micro-density of the concrete.

Protec III with Acrylic Membrane incorporates a high-end acrylic component to give a proper cure, virtually eliminating warping and topical cracking. Other products do not have this full cure capability, and the slab will show the tell-tale damaging signs of topical shrinkage cracking and warping. Winter heating environments often produce dusting of the concrete, using Protec III with Acrylic Membrane will protect the surface from exposure to achieve a proper cure and eliminate dusting.

Protec III with Acrylic Membrane is less costly because the easy to use formulation eliminates the need for expensive and overpriced certified installers.

BENEFITS

Cures concrete to help stop shrinkage cracking and curling.
Helps eliminate dusting and stops carbonation of concrete.
Increases the chemical resistance and hardness of concrete.
Environmentally Safe and Permanent
Meets LEED Requirements
Abrasion Resistant (ASTM C418 Increased resistance to abrasion by 67%)
ASTM C309 Curing Type I Class A
FOOD SAFE – APPROVED
Non-Toxic

USES

For Interior Use Only
Use on all new power trowel concrete floors.
Use on interior existing concrete as a hardener and sealer.
Not compatible with flooring adhesives.

PHYSICAL CHARACTERISTICS

Physical State: Liquid
Color: White
Odor: Slight Odor
VOC's: 9.5 grams/litre

SAFETY

Protec III With Acrylic Membrane is not toxic or dangerous to the health of installers or surrounding workers unlike solvent based cures or the carcinogenic dust from dry shake hardeners.

CAUTION

Protect surrounding area from over-spray. In case of accidental contact, rinse thoroughly with water immediately.
Do not apply to frozen surfaces. For best results apply when the substrate and ambient air temperature is above 53°F (12°C). For surfaces not specified, we recommend testing a small area to observe for possible adverse reactions.
DO NOT FREEZE Product.

PACKAGING

18.9 Litre Pail
205 Litre Drum

SHELF LIFE: 2 years in original unopened container.

CAUTION: FOR HEAVY ABRASION FLOORS (ie. Tracked in gravel and dirt that is being ground into the floor by forklifts)

FOLLOW THESE INSTRUCTIONS: Using Protec III: Chem RX apply one coat to the areas that will be affected, let product dry.

For 2nd coat apply Protec III with Acrylic Membrane using the normal application procedure. 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.

STANDARDS

ASTM C418 Abrasion – 67% increase in hardness of the concrete wear surface.
ASTM C309 Curing, Type I, Class A
FLOOR CLASSIFICATIONS ACI 302, Class Numbers (1,3,4,5,6,7,8,9) floors
Exceptions: #3 second course only, #3,4, no if covered surface, #7 second course only, #8 second course only, #9 if topping please consult Technical Support. Works well for super flat floors.
ASTM C642 –72% decrease in absorption.

SURFACE PREPARATION

New or existing concrete should be clean.

APPLICATION

Apply product with a low pressure sprayer or roller within 4 - 8 hours once finishing operations are done.
Apply at recommended square foot coverage.
Saw cuts need to be coated thoroughly.
Apply 1 coat at the recommended rate.
Roll out any puddles that form.
Drytime: 4 hours at 68°F (20°C)
Either roll or spray.
Roll out any puddles that form.

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.

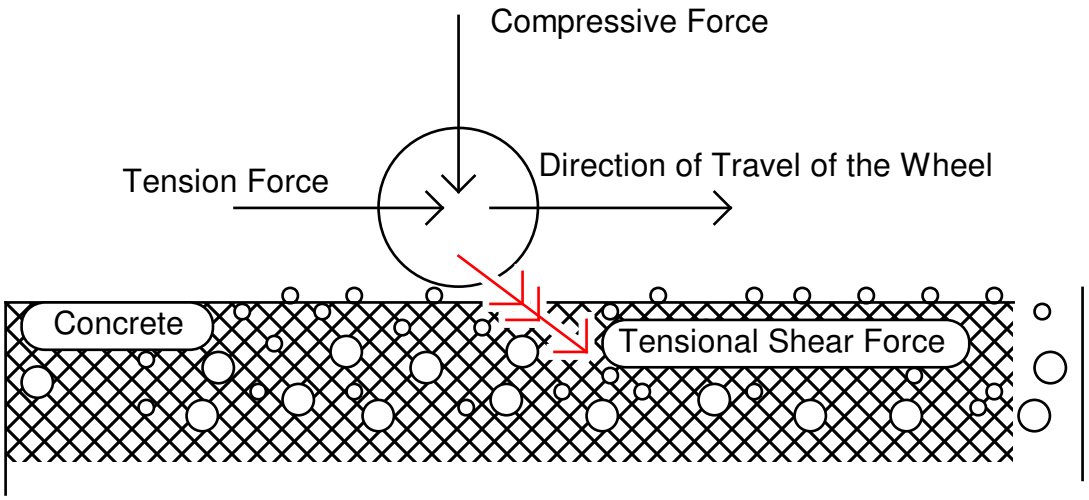
HARDENING, DENSIFYING, CURING, SEALING

Protec III with Acrylic Membrane

The Complete Strength Gain Material for Concrete Floors

Protec III with acrylic membrane is the highest performing curing compound, hardener, shrinkage controller and overall strength gain material on the market today for new concrete floors. Overall strength is a combination of compressive strength, hardness, elimination of shrinkage to its lowest degree and the often overlooked, tensional strength.

ABRASION AS A FORCE



Abrasion resistance in simplified form is a combination of compressive force and tension force. Together these two forces produce a third force, tensional shear (or shear). Tensional shear is a force measured by movement of an object over a stationary (unmovable) object (ie. a wheel moving over a concrete surface). Together the downward force or compression and the horizontal force, tension, create a third force which is not horizontal or vertical, but diagonal and is a combination of these two forces. Tensile strength unlike compressive strength is highly influenced by curing and hydration levels. Plastic shrinkage cracking is a sign that some tensional strength has been lowered and commonly occurs on untreated or ineffectively cured concrete surfaces.

Protec III with Acrylic Membrane increases strengths, especially tensile with its Liquid Silica Fume Technology. This Technology produces very high hydration densities in the top wear layer of a concrete floor.

It is generally known in the industry due to the number of increasing failures that dry shake hardeners are essentially incompatible with modern mix designs. They still produce higher compressive strengths and hardness but now with low water to cement ratios and fly ash they generally do not chemically (and mechanically) combine properly. Tensile strength is often lowered dramatically by using dry-shake hardeners in modern mix designs. This is due to the fact that dry shake hardeners have never increased micro density but used hardness only to increase strength. De-laminations are typically the result of almost total loss of tensile strength (peeling of concrete floors).

Concrete containing fly ash or silica fume requires proper curing, along with the secondary hydration product (Protec III's Liquid Silica Fume Technology), so that its low shrinkage and strength producing properties are fully utilized.

Penetrating sealers that react with the concrete such as silicates, siliconates, and the special formula products that are marketed as liquid hardeners have also been used for curing. Although these products produce denser surfaces, they generally will not eliminate dry shrinkage and plastic shrinkage cracking because of their inability to effectively retain sufficient moisture when curing. This may result in decreased tensile strength and in some instances carbonation, dusting and curling of the concrete.
Acrylic cure and seals do retain moisture adequately, but they do not have strength (either compression or tensile) enhancing properties.

ASTM C157 Shrinkage Test Comparison (by curing type)

Curing Type	% of shrinkage from Control (28 days)	3000 mm Beam Shrinkage
Protec III LSF w/membrane	0 - 8%	1.235 mm
Water (ponded)	0 - 8%	1.286 mm
Acrylic Cure and Seals	30 - 46%	1.732 mm
Silicate and Siliconate Sealers	54 - 72%	1.97 mm
Air (non-cured)	200 - 340%	3.25 mm

Protec III with acrylic membrane when properly applied (within 4 - 8 hours after the new concrete floor has set) can eliminate plastic shrinkage cracking, carbonation, and dusting.

In ASTM C157 Protec III with acrylic membrane has been found to reduce shrinkage cracks equal to that of water curing. Water curing in many instances can carbonate the new slab because water easily takes on carbon dioxide from the environment. Carbon dioxide levels are much higher indoors and in winter heating conditions. Carbonation, caused by the acidic reaction of fresh concrete and C02, breaks down the chemical bonds of the hydrated cement resulting in dusting and an unsound, weak concrete surface. Protec III with acrylic membrane when properly applied virtually eliminates carbonation.

Protec III with acrylic membrane is overall the highest performing strength enhancing material for concrete floors. In fact it can help eliminate the problems that are often experienced in new concrete floors and produces greater chemical resistance. Protec III with acrylic membrane works by retaining moisture to the highest level along with adding an extra hydration product using liquid silica fume technology. This allows for a more controlled cure of the concrete, increases the micro density and produces higher strength concrete with the lowest level of shrinkage.

ASTM TESTS

ASTM	NAME OF TEST	USES OF TEST	RESULTS
ASTM C157	Length Change of Hardened Hydraulic Cement Mortar or Concrete Beam	Determination of length change by curing type.	Shrinkage decrease of 30% - 60% from other curing types. See chart on page 2
	Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.	Evaluates membrane forming compounds for use as curing compounds for fresh concrete. These membranes also have special properties.	In compliance with ASTM specifications with exception to slower drying time in cold temperatures
ASTM C309	Liquid Membrane Forming Compounds for Curing Concrete	This specification evaluates membrane forming compounds for use as curing compounds for fresh concrete. Results include retention properties reflectance, drying time, non-volatile content, flashpoint, and VOC content.	Type I, Class A. In compliance with ASTM specifications
ASTM C418	Standard Test Method for Abrasion Resistance of Concrete.	Increase hardness	67% increase in hardness
ASTM C1353	Taber Abrasion	Abrasion resistance	Increase of abrasion resistance by 46% at 1000 cycles
ASTM C642	Test Method for Density Absorption and Voids in Hardened Concrete	Evaluate products ability to reduce absorption	Reduction of 72%
ASTM C1583 (modified)	Standard Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength Concrete Repair and Overlay Materials by Direct Tension (Pull off Method)	Evaluates tensile and bond strength	55 - 68% increase in Tensile Strength
ASTM C803	Penetration Resistance	Determination of hardness and compression values	In various tests compression of the top wear layer has been measured and calculated to be up to 65 mpa from a 30 mpa mix design.
ASTM B117	Standard Method of Salt Spray	Used as a chloride ion permeability test	57% decrease in permeability to Salt Spray.

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Cornerstone Coatings
Concrete cures & sealers

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