

CHEMREX® CONCRETE FLOOR PRIMER

Low-odor waterborne epoxy primer and abrasion-resistant coating

PRODUCT DATA

3 03360

Concrete Finishes

Description

CHEMREX® Concrete Floor Primer is a two-component, VOC-compliant, waterborne epoxy primer for concrete substrates. It is designed to manage and reduce moisture vapor emission (outgassing) of concrete slabs by controlling the rate of transmission through the permeance of the primer prior to the application of CHEMREX® adhesives.

Features

- Primer and finish coat
- Waterborne
- Fast drying
- Abrasion resistant
- No ozone-depleting solvents
- Eligible for Leed's Points
- Reduces moisture vapor transmission by 50%

Benefits

- Easy-to-use one product system
- Has a low odor; VOC compliant
- Minimizes downtime between coats
- Provides durable floor protection
- Environmentally friendly
- Suitable for use in all 50 states
- Increases chances of successful floor installation

Yield

350 – 400 ft²/gallon (8.58 – 9.82 m²/L) at 4 wet mils (0.1 mm) film thickness, yielding 2 dry mils. Coverage will vary with the texture and porosity of the concrete. Do not overapply.

Packaging

3 gallon (11.36 L) kits in 5 gallon (18.9 L) pails
36 kits per pallet

Color

When used, CHEMREX® Concrete Floor Primer applies milky and dries clear.

Shelf Life

18 months when stored unopened at standard conditions

Storage

Store in unopened containers in a cool, clean, dry area. Do not allow CHEMREX® Concrete Floor Primer to freeze in the container; do not store below 35° F (2° C).

Where to Use

APPLICATION

- Concrete floors and slabs
- Where moisture vapor transmission of substrate exceeds 3 lbs per 1000 ft² over 24 hours
- Where vapor drive of porous concrete surfaces needs to be controlled
- Where low-odor applications are desired

LOCATION

- Interior

SUBSTRATE

- Horizontal concrete floors and slabs

How to Apply

Surface Preparation

1. Ensure that floors are structurally sound and fully cured a minimum of 28 days.
2. Repair concrete and install joint sealants and fillers as necessary. Use patching materials as appropriate.
3. Mechanical surface profiling is the preferred floor preparation method for both new and existing floors. It is the only acceptable preparation method where warranties are issued. Acid etching is not recommended. Mechanically profile the floor to medium-grit sandpaper texture. Remove curing and parting compounds and other surface hardeners and floor coatings in accordance with the manufacturer's instructions.
4. Measure MVT (moisture vapor transmission) after shotblasting by the calcium chloride test via the test method ASTM F 1869.
5. If the test shows that a rate of 3 lb/1000 ft² in 24 hours is exceeded, then CHEMREX® Concrete Floor Primer is needed prior to the use of CHEMREX® CX-941.
6. One coat of CHEMREX® Concrete Floor Primer will reduce MVT by half. Multiple coats of CHEMREX® Concrete Floor Primer may be required. Once the MVT is under 3 lbs, the adhesive installation can begin.



Technical Data

Composition

CHEMREX® Concrete Floor Primer is an epoxy resin in a co-solvent emulsion carrier.

Compliances

- Canadian approval for use in establishments that handle food
- USDA compliant for use in meat and poultry areas

Typical Properties

PROPERTY	VALUE
Viscosity , cps	260
Solid content , % by weight	51
Drying time , hrs	5
Coverage rate , ft ² /gal (m ² /3.8L)	350 – 400 (8.6 – 9.8)

Test Data

PROPERTY	RESULTS	TEST METHODS
Flash point , ° F (° C)	> 200 (93)	ASTM D 93
Water vapor permeability , perms		ASTM D 1653-85 or ASTM D 1653
7 days (dry)	2.80	
7 days (wet)	12.71	
Abrasion resistance , mg lost, (after 7 day cure); CS-17 wheel, 1,000 cycles, 1,000 g load	43	ASTM D 4060-90 or ASTM D 4060
Coefficient of friction , dry, 12 cycles (at standard conditions)	0.65	ASTM D 2047 (minimum of 0.5 to qualify as slip resistant)
Pull-off strength , psi (after 7 day cure)	> 300, depending on substrate	ASTM D 4541
Gloss , at 60°	62	TTS-141C method 6101.1 or ASTM D 523

Testing conditions: 75° F (24° C) and 50% relative humidity.

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

Chemical Resistance

CHEMICAL	1 DAY	1 WEEK
Phosphoric acid, 5%	Passed	Passed
Phosphoric acid, 10%	Passed	Softened
Nitric acid, 5%	Passed	Failed
Hydrochloric acid, 10%	Passed	Failed
Sulfuric acid, 10%	Passed	Failed
Acetic acid, 5%	Passed	Passed
Lactic acid, 10%	Passed	Passed
Ethanol	Passed	Softened
Diesel	Passed	Passed
Jet fuel	Passed	Failed
Gasoline	Passed	Failed
Brake fluid	Passed	Failed
Motor oil	Passed	Passed
Hydrogen peroxide	Passed	Passed
Salt water	Passed	Passed

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

Mixing

Mix ratio by volume:

Part A: 100%

Part B: 95%

Mix ratio by weight:

Part A: 100%

Part B: 90%

1. This product has a limited pot life; complete all preparations before starting the mixing sequence.
2. It is very important to properly mix the components of this product together in the exact manner and sequence specified in the following instructions in order to form a stable emulsion and ensure proper film formation. Before combining Parts A and B, premix each separately. When mixing, wear protective gloves and goggles to avoid injury from splashes.
3. To mix CHEMREX® Concrete Floor Primer, pour the entire contents of Part A from the pail and insert into Part B in the bottom of the pail. Scrape out remaining material in the liner, being careful not to spill any. The Part B container is oversized to allow for easy mixing.
4. DO NOT MIX BY HAND. Mix with a Jiffy mixer blade and an electric drill at very low speed for 3 – 4 minutes. Scrape sides of the container several times to ensure complete mixing. Keep the mixer blades immersed in the material to avoid introducing air bubbles.
5. Pot life: approximately 90 minutes at standard conditions. Using primer beyond pot life will result in diminished product performance.

Application

1. Floor and atmospheric temperature must be between 60 – 80° F (16 – 27° C) during the application of CHEMREX® Concrete Floor Primer.
2. Apply the mixed material from a roller tray using a high-quality 3/8" (10 mm) woven roller at a rate of 350 – 400 ft²/gallon (8.6 – 9.8 m²/L) at 4 wet mils (0.1 mm). Install as evenly as possible and avoid leaving excessive buildup in rougher areas. Complete coverage is required to ensure there are no pinholes or voids in the finish. For colors, multiple coats may be required for the desired color density.

NOTE: The CHEMREX® CX-941 Adhesive should be applied 24 hours after the last CHEMREX® Concrete Floor Primer but no longer than 48 hours.

3. CHEMREX® Concrete Floor Primer can be applied when the floor is damp but surface dry. No puddles or surface water should be present. No need to broadcast aggregate when using CHEMREX® CX-941 Adhesive.

4. Install as evenly as possible, and avoid leaving excessive build-up in rougher areas. Complete coverage is required to ensure there are no pinholes or voids in the finish.

RECOAT TIME

Recoat time is 4 – 6 hours at 75° F (24° C) and a relative humidity of 50%. Lower temperatures and a higher relative humidity will extend the drying time to as much as 48 hours due to a reduced evaporation rate. Cure times beyond 48 hours at standard conditions will make abrading of the coating necessary for proper adhesion; consult Technical Service for recommendations. Provide adequate forced air movement and ventilation during application and cure to facilitate water evaporation from the system.

Drying Time

Drying times assume 75° F (24° C) and 50% relative humidity.

Tack free: 4 – 6 hours

Foot traffic: 6 – 8 hours

Lower temperatures and a higher relative humidity will extend the drying time because of reduced evaporation rate. Provide adequate forced air movement and ventilation during application and cure to facilitate water evaporation from the system.

CHEMREX® Concrete Floor Primer is suitable for use as a finish coating for light pedestrian traffic.

Clean Up

Clean tools and equipment immediately with soap and warm water. Cured material must be removed mechanically.

For Best Performance

- Always apply a test patch in an inconspicuous area to ensure compatibility with substrate and that the application meets the owner's expectations.
- Apply with adequate ventilation.
- For interior use only; will yellow under UV exposure.
- Using CHEMREX® Concrete Floor Primer beyond pot life will result in improper curing.
- Not designed for vertical applications.
- Do not use where moisture can reach the underside of the coating or where MVT exceeds 12 lbs; a vapor barrier may be required.
- Do not use with Gypcrete or low-density concrete
- Higher temperatures and higher humidity will shorten working time
- Do not subject to continuous water immersion.
- CHEMREX® Concrete Floor Primer film may crack if applied directly over elastomeric sealants.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by Degussa personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Troubleshooting

Problem—likely causes:

Fish eyes, separation—contamination of substrate; improper substrate cleaning.

Peeling—improper preparation; "green" concrete; hydrostatic water pressure; oil impregnation.

Intercoat adhesion failure—improper mixing; past critical recoat time; improper tack solvent; other contamination between coats.

Coating soft, dulling—improper mixing; thinned product; extreme weather conditions.

Slow cure—low temperatures; high humidity; use of thinners in product; improper mixing of product; product applied too thin.

Fast cure—high temperatures.

Bubbling—high temperatures; working past product pot life; no primer used (top coat); out-gassing from concrete.

Health and Safety

CONCRETE FLOOR PRIMER PARTS A AND B

Warning

Concrete Floor Primer Part A contains benzyl alcohol and methoxypropanol.

Concrete Floor Primer Part B contains ethyl-3-ethoxy propionate and aliphatic polyamine solution.

Risks

May cause skin and eye irritation. Potential skin and/or respiratory sensitizer. Repeated or prolonged contact with skin may cause sensitization. May be absorbed through skin. Repeated or prolonged exposure increases the risk of absorption.

Inhalation of vapors may cause irritation and intoxication with headaches, dizziness and nausea.

Ingestion may cause irritation. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. Avoid breathing vapors. Use only with adequate ventilation. Keep container closed. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or if used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations. Empty container may contain hazardous residue. All label warnings must be observed until the container is commercially cleaned or reconditioned.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains materials listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

VOC Content

When combined this product contains 118 g/L or 0.99 lbs/gal less water and exempt solvents.

**For medical emergencies only,
call ChemTrec (1-800-424-9300).**

Degussa Building Systems

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Customer Service 800-433-9517

Technical Service 800-243-6739

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