

CHEMPROOF™ RAPID

Epoxy Moisture Mitigation Primer System



TECHNICAL DATA SHEET Section 03 01 37
Edition V.2.3 01/2024



PRODUCT DESCRIPTION

CHEMPROOF™ RAPID is 2:1, 100% solids, 0 VOC, two-component epoxy resin-based primer based on phenolic amine chemistry specifically designed as a moisture barrier for concrete floors with very high residual moisture prior to laying floor coverings, coatings, or parquet. (Up to 25 lbs/1000ft²/24 hr.).

CHEMPROOF™ RAPID is Also suitable on calcium sulphate-based screeds with slightly higher residual moisture.

As a primer for absorbent, non-absorbent as well as smooth surfaces. For interior and exterior use.

Concrete slabs at ground level emit invisible moisture vapor. The permissible moisture emissions for concrete are 3 lb./1000ft² over 24 hours (<4%) based on calcium chloride test. In addition, a relative humidity (RH) test can be performed to test for moisture vapor. Relative humidity test results should be less than 85% per ASTM F2170. If humidity is above this level, blistering and delamination of the coating may occur. A calcium chloride or relative humidity test should be performed to determine the moisture levels of the concrete. If humidity levels exceed 85% for RH test or 3 lbs. for calcium chloride, the **CHEMPROOF™ RAPID** concrete moisture vapor control system is designed to be used before applying the coating system.

CARACTERISTICS

- ☑ Made from 100% solids.
- ☑ Resistant to chemical loadings
- ☑ Good penetration
- ☑ Can be applied to almost all substrates
- ☑ Grip promoting
- ☑ Suitable for application on subfloor heating systems.
- ☑ Resistant to bacteria and moisture
- ☑ Exceeds ASTM F3010 standards
- ☑ 0 VOC
- ☑ Suitable on damp substrates
- ☑ High sealing function
- ☑ For increased residual moisture and single-layer application
- ☑ Magnesite screeds
- ☑ Old sealed/coated surfaces
- ☑ Impermeable and seamless.
- ☑ Up to 25 lbs/1000ft²/24 hr.

TYPICAL USAGE

Where the concrete moisture content exceeds 4% or, 3 lb./1000ft² over 24 hours.

TESTING

All surfaces are not the same. It is recommended that a sample area be done before the start of the project. A sample area should also be done on any existing coatings and/or substrate to determine if any contaminants exist or if delaminating will occur.

PHYSICAL PROPERTIES

As a primer on substrates with high moisture residual

- Up to 10 wt.-% on concrete
- Up to 6 wt.-% on heated concrete (kiln drying testing necessary)
- Up to 5 CM-% on unheated cement screed
- Up to 3 CM-% on cement screed with floor heating
- Up to 0,8 CM-% on unheated calcium sulphate screeds
- Up to 0,5 CM-% on calcium sulphate screeds with floor heating

As a primer to improve adhesion on smooth and sound substrates

As a protective membrane against moisture out of auxiliary products by substrates sensitive to moisture

Vapor Permeance @ 20mils thickness ≤ 0.1% perm. **ASTM E96**
MVER/RH @ 20 mil thickness up to 25 lb./24 hr./1000ft²/24 hr. **ASTM F1869**
Note: Sanding between coats is recommended

PACKAGING

The **CHEMPROOF™ RAPID** kit consists of Resin Part A and Part B Hardener.

	Part A	Part B
3 Gallon Kit	7.56 Liters	3.78 Liters
Volumetric Ratio:	2A:1B	
Solids Content:	100%	
*Coverage:	80 ft ² /Gallon – 240 ft. Kit	
Application Temperature:	32-90°F (0-32°C)	
Min Substrate Temperature:	32°F (0°C)	
Max Substrate Temperature:	86°F (30°C)	
Thinner:	Not required	
**Drying / Curing Time :		
Pot Life @ 21°C (70°F):	5 minutes	
Working Time:	15 minutes	
Tack Free:	45 minutes @ 21°C (70°F)	
Pedestrian:	12 hours @ 21°C (70°F)	
Traffic:	24 hours @ 21°C (70°F)	
Max Recoat Time:	3 hours @ 21°C (70°F) (Shore D 83)	
Viscosity (A+B) @ 70°F / 21°C:	4,995 cps	
Shelf Life:	18 months	
USDA Food & Beverage & CFIA:	Meets the requirements	
LEED V4.	Compliant	

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PROPERTIES

Property	Value	Reference
Compressive Strength:	11,000 psi	ASTM C695
Flexural Strength:	13,900 psi	ASTM D790
Tensile Strength:	9,000 psi	ASTM D638
Bond to concrete:	450 psi	ASTM D4541
	Concrete fails at this point	
Taber Abrasion:	75-80 Mgs	ASTM D4060
Flammability	Self-Extinguishing	ASTM D635
Hardness, Shore D	>88	ASTM D2240
Flash Point:	>200°F (93°C)	ASTM D93

SUITABLE SUBSTRATES

- ✓ Concrete
- ✓ Cement and rapid cement screeds
- ✓ Calcium sulphate-based screeds.
- ✓ Old substrates such as ceramic tiles, natural stones, and terrazzo
- ✓ Magnesite screeds

RECOMMENDED USES

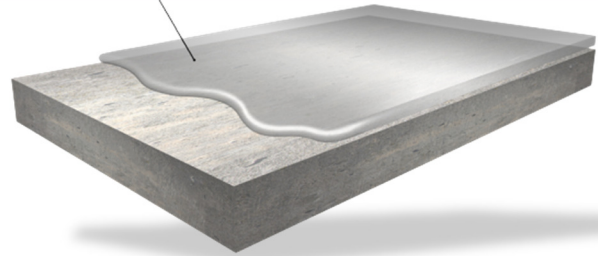
- ✓ Concrete Surfaces
- ✓ Decorative Chips/Flakes
- ✓ Decorative Quartz
- ✓ Metallic Coating System
- ✓ High/Thin Build Systems
- ✓ Mortars
- ✓ Cementitious Overlays
- ✓ Polymeric Flooring

REQUIREMENTS OF SUBSTRATE

- Adequate dryness, strength, bearing strength, evenness, and dimensional stability.
- Recommended maximum level of residual moisture should not be exceeded.
- Free of residues which reduce adhesion, e.g., dust, dirt, oil, and loose particles.
- Separation layers, sinter layers, and other similar contamination should be removed through appropriate measures, such as sanding, brushing, abrasive blast cleaning, milling or thorough cleaning.
- Old adhesive residues and levelling layers with no sufficient hardness should be removed completely by suitable mechanical means.
- Layers of water-soluble adhesives, e.g., sulphite-waste-adhesives, are to be mechanically removed.
- Old water-resistant adhesives are to be mechanically removed as far as possible.

- As used as a moisture barrier all swellable respectively not water-resistant layers must be removed completely.
- Old floors, such as ceramic tiles are to be thoroughly cleaned and sanded.
- Unheated concrete substrates must be at least 6 weeks old.
- Heated concrete substrates must be at least 3 months old and have been already heated up.

CHEMPROOF® RAPID @ 20MILS THICKNESS



REQUIREMENTS OF SUBSTRATE (CONTINUED)

- Concrete substrates may be present wettish, but free of puddles.
- Smooth and tight concrete substrates should be prepared of with a coarse surface (e.g., Diamond grinding or Shot blasting). To achieve a profile of CSP3-4.
- The requirements of the relevant valid standards, guidelines and data sheets apply.

APPLICATION & CONSUMPTION

ROLLER APPLICATION

1ST LAYER:

Approx. 300 g/m² (7.12 lb/ft²) > 23.56ft²/L

ADDITIONAL LAYER:

Approx. 200 g/m² (4.75 lb/ft²)

QUARTZ SAND (0.2 – 0.8 mm)

approx. 3-4 kg/m² (71-95 lb/ft²)

Toothed trowel application (single-layer, toothing TKB B2)

Approx. 500 g/m² (11.87 lb/ft²).

The applied quantity varies depending on roughness depth and porosity of the subfloor and differs depending on material, and subfloor temperature as well as the applicator. Low temperatures raise viscosity and therefore material consumption.

- Clean – Free of any contaminants, grease, oil, paint, curing agents, dust, loose coating, and laitance removed or any other contaminants that may prevent proper adhesion.
- Profiled – Mechanically prepared to obtain a CSP2-4

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RECOMMENDED METHOD OF APPLICATION

General

- Thoroughly mix **CHEMPROOF™** resin component by volume (2:A) with the **CHEMPROOF™ RAPID** hardener component (1:B) until the material is homogenous and free of streaks.
- Thoroughly mixing the combined parts using a Drill mixer and Heli-mixing paddle for 3 (three) minutes.
- Repot the mixed material and mix shortly again.
- Small amounts can be mixed according to volume stated.
- Material is immediately ready for use after mixing base and activator together; no induction time is required. Do not mix more material than can be used within the working time. Material that has begun to set (thicken) cannot be satisfactorily used and must be discarded.
- Apply the **CHEMPROOF™ RAPID** coat with flat or notched squeegee with EPDM rubber blade and a 10mm microfiber roller evenly on the clean substrate in cross coat. Spread material to uniform thickness.
- The second coat is applied after appropriate drying time of the first coat.
- For two-layer application take care of a minimum consumption of 500 g/m² (11.87 lb/ft²)
- In the fresh phase of the material sand in excess with clean, dry QUARTZ SAND (0,2-0,8 mm). Put forward only as much surface as can be sanded within the wet phase.
- Earliest after 12 hours, respectively after hardening sweep the exceeded sand off. Hereafter vacuum clean with an efficient industrial vacuum cleaner.
- CHEMPROOF™ RAPID** is no substitute to a moisture protection for constructions according to standard.

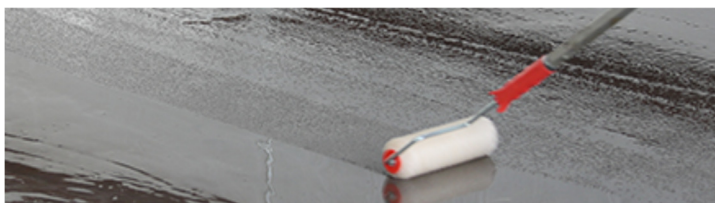
TOOTHED TROWEL APPLICATION

- Use a toothed trowel type TKB B2 to apply **CHEMPROOF™ RAPID** as a single layer.
- Pay attention to apply an even and tight coat. Avoid imperfections.
- Apply within 3 hours to provide adhesion for subsequent levelling compound layers.

APPLICATION AS A BONDING AGENT ON NON-ABSORBENT SUBSTRATES

Single-layer application with roller is insufficient.

- Subfloor should be thoroughly cleaned and afterwards abraded.
- Apply **CHEMPROOF™ RAPID** with a suitable tool, e.g. notched squeegee, roller evenly to the clean and dry substrate.



STORAGE

Store **CHEMPROOF™ RAPID** in cool, dry, frost-free conditions. (Ideal storage temperature 18-20°C/60-68°F). Before working bring up to room temperature.
Storage life of 12 months (in closed sealed original packaging).

DISPOSAL

- Excess material (A and B) should be mixed and allowed to cure. Cured product may be disposed without restriction.
- Uncured materials should be stored in a suitable and sealed container and may be disposed in accordance with provincial, State, municipal, and /or Federal regulations.

GISCODE

RE 1 - Solvent-free sensitising epoxy resin products.

CLEANING

Clean tools immediately after use with a solvent based cleaner. Wear suitable personal protective equipment is necessary in any case. Please, find details on in the safety data sheet.

LIMITATIONS

- Product should be used immediately after mixing.
- Requires ICRI CSP 3 This product requires proper surface profile to perform as expected. Substrate must be mechanically profiled (ASTM 4259-83), clean, sound, and dry.
- Do not use product that has begun to cure.
- Do not mix product longer than three minutes.
- Over mixing will initiate the curing process prematurely.
- Do not use in low-temps.
- Do not use material that has crystalized.
- Do not use over oil-based products.
- If applied at low temperature, the product might not cure properly. We strongly recommend performing tests prior using the product.
- Overheating the product could also create an exothermic reaction.

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EPD - SELF-DECLARATION>>>

CHEMTEC™ COATINGS INC. stands behind the quality of its products, However, **CHEMTEC™** cannot guarantee results since **CHEMTEC™** has no control over outside operations, surface preparation, operating conditions, and application procedures. Clients are solely responsible to test the products to determine if they perform as expected and/or as per their intended projects and/or use.

Contact **CHEMTEC™ COATINGS** for additional information regarding the limitations of this product.

CHEMTEC™ COATINGS INC. declares that the product fulfills the criteria for reactive resins based on epoxy resin, unfilled, solvent free with low content of reactive diluent.

TECHNICAL & SAFETY LITERATURE

Information on the safe handling of chemical products, as well as the essential physical, safety-related, toxicological, and ecological data can be found in the current safety data sheets (MSDS/SDS).

Observe all relevant regulations, e.g., the hazardous substances act. Further instructions and additional information can be found on the internet at www.epoxychemtec.com. To acquire additional information, refer to the technical and safety literature, or contact your CHEMTEC Technical Representative: 1 844.829.1717, or via email at info@epoxychemtec.com.

WARRANTY

CHEMTEC™ COATINGS warrants this product to be free from manufacturing defects. The products are warranted for one year after date of application. Please refer to the **CHEMTEC COATINGS** Limited Material Warranty for additional information.

CHEMTEC COATINGS will replace at no charge the quantity of the Coating that **CHEMTEC COATINGS** determines has failed to perform, as the sole and exclusive remedy for any breach of this warranty and/or any other defect or failure of the coating. Proof of purchase is required. Cost of labor for application of any product specifically is excluded.

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LEGAL DISCLAIMER: All information provided by **CHEMTEC COATINGS INC.** concerning **CHEMTEC COATINGS** products, including but not limited to, any recommendations and advice relating to the application and use of **CHEMTEC COATINGS** products, is given in good faith based on **CHEMTEC COATINGS**'s current experience and knowledge of its products when properly stored, handled and applied under normal conditions in accordance with **CHEMTEC COATINGS**'s instructions.

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(The user of **CHEMTEC COATINGS** product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s)).

CHEMTEC COATINGS reserves the right to change the properties of its products without notice. All sales of **CHEMTEC COATINGS** product(s) are subject to its current terms and conditions of sale which are available by calling TF [844] 829-1717, or via email at info@epoxychemtec.com.

SAFETY

Consult **CHEMPROOF™ RAPID** Safety Data Sheet.

Avoid contact with skin. Some individuals may be allergic to epoxy resin. Protective gloves, facial and ocular protection, proper ventilation, and clothing are recommended.

- KEEP AWAY FROM CHILDREN -
- FOR INDUSTRIAL USE ONLY -

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