FirmeCrete Coatings, LLC

TECHNICAL DATA SHEET

CleanPrime™ Epoxy Primer

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Product Overview

CleanPrime™ Epoxy Primer is a high-performance, two-component epoxy system engineered to permanently bond to properly cleaned concrete without grinding or shot-blasting. Designed to control moisture vapor transmission and strengthen marginal substrates, CleanPrime forms an impermeable barrier with exceptional adhesion and chemical resistance.

When applied over a surface cleaned with CleanPrime™ Detergent, the system achieves a true chemical bond that outperforms mechanical profiling methods—eliminating dust, downtime, and failure points associated with traditional prep. CleanPrime Epoxy serves as a base for nearly all resinous flooring systems and is compatible with any 2-component epoxy, urethane, polyaspartic, and aliphatic polyaspartic coatings (commonly sold as “one-day polyurea” systems).

Key Advantages

- Bonds to cured resinous coatings, tile, wood, vinyl, VCT, and virtually all substrates except silicone — no surface profile required.
- Bonds directly to concrete washed with CleanPrime™ Detergent — no grinding or shot-blasting required.
- Excellent resistance to alkalis, mild acids, and hydrolysis.
- High tensile adhesion strength (>1,100 psi).
- Forgiving recoat window: 2–24 hours at 75°F. Can be sanded, wiped, and properly top-coated after 24 hours with no reinstallation needed.
- Low VOC: actual <50 g/L per ASTM D3960.
- Long open time for roller application: 45–90 minutes at 70°F.
- Forms a continuous film that remains stable under service conditions up to 180°F.
- Although CleanPrime is unlikely to pass ASTM F3010 (due to the E96 component and recommended installation thickness of 3.2 mils WFT), anecdotal evidence from several hundred installed floors shows zero failure from MVT.

Applications

- Moisture mitigation primer for new or existing concrete slabs.
- Adhesion promoter beneath epoxy, urethane, polyaspartic, or hybrid coating systems.
- Compatible with radiant-heated floors (≤120°F loop temperature), metallic epoxies, and resurfacing systems.
- May be used as an adhesion base on ceramic, epoxy, or other non-porous surfaces that are clean and sound.

Coverage

Surface Type	Typical Wet Film Thickness	Coverage Rate
Smooth, dense concrete	2–8 mils	300–550 ft² per gallon
Porous or rough surface	2–8 mils	200–300 ft² per gallon

Shelf Life & Storage

Unopened containers have a shelf life of 24 months when stored under good conditions:

- Keep products sealed, upright, and tightly closed in their original packaging.
- Store indoors at 60–80°F (16–27°C) in a dry, well-ventilated area, away from direct sunlight, heat sources, freezing temperatures, and ignition sources.
- Protect from moisture and solvent vapor loss.
- Re-seal opened containers immediately after use; check for skinning or thickening before reuse.

Product beyond its labeled shelf life may remain usable if inspection confirms normal appearance and viscosity:

- Visual: no crystallization, separation, or skin on the resin; no heavy sediment or gelation in the hardener.
- Viscosity: if it stirs smoothly and rolls normally, performance is typically unaffected.
- Mix test: combine a small sample at the normal 1:1 ratio and observe cure time and hardness within 24 hours.
- If the material cures fully and shows no phase separation, it remains suitable for use. Dispose only if thickened, gelled, or unable to harden after mixing. Mix before disposal—unreacted components are hazardous; cured epoxy is inert.

Environmental Conditions

- Apply only to structurally sound concrete that is 60–85°F (16–29°C).
- Condition the environment to an ambient temperature of 60–85°F (16–29°C), RH ≤80%, with the dew point at 5°F below the temperature of the substrate.
- Note: CleanPrime will cure properly even under high ambient humidity; however, do not apply subsequent topcoats when relative humidity exceeds 80% or when condensation may occur. Elevated humidity during the recoat window can produce amine blush on the primer surface and reduce intercoat adhesion.
- If installing outdoors, schedule to meet criteria above or contact FirmeCrete Coatings for special admixtures permitting installation in more extreme conditions.
- Ventilation: provide continuous air exchange; avoid open flame and ignition sources.
- Slope to drain; avoid design features that trap liquid.
- On older, contaminated, or coastal slabs, verify surface cleanliness with a Bresle soluble-salt test (ISO 8502-9). Readings should be ≤50 mg/m² for chlorides/sulfates before priming. If higher, repeat detergent cleaning and rinse.

Installation Instructions (Roll-Only System)

⚠ SAFETY

USE PPE: ALWAYS PROTECT SKIN FROM CONTACT AND WEAR A FULL-FACE RESPIRATOR WITH VOC CARTRIDGES AT MINIMUM. WEAR A PAPR FOR ENCLOSED SPACES. Read and understand all Safety Data Sheets (SDS) before use. SDS and TDS for all CleanPrime products are available at cleanprimemvb.com/documents.

Surface Preparation

1. Clean the floor with CleanPrime™ Detergent per the instructions on its TDS.
2. Wipe the floor with a white disposable microfiber mop pad saturated with acetone (ULINE product number S-25413).
3. Repair cracks or spalling as needed with the CleanPrime™ Patch & Crack Repair Kit per its TDS.

Tools & Materials Required

The 13-liter bucket holding the resin and hardener jugs serves as the mixing bucket. Have these additional items ready:

- Masking of adjacent surfaces: solvent-resistant tape (often green) and 6-mil or thicker plastic sheeting.
- Temporary floor protection for the mixing area: RamBoard or equivalent over 6-mil or thicker plastic sheeting.
- Low-speed mixing drill with fully charged batteries.
- Model ES Jiffy Mixer mixing paddle.
- 2-quart measuring container with 32 oz of acetone for mixer cleanup.
- Wooster polypropylene paint bucket: 4 gal, 13½" L × 9" D × 15" W (Mfr #8616 or equivalent).
- Wooden paint stirring stick.
- Extension pole for roller frame.
- 9" roller frame.
- 9" wide, ¼" nap Wooster Epoxy Glide roller or equivalent.
- Wooster Silver Tip angle sash brush, 3" (#5224 or equivalent).
- Disposable wiping rags (paper or cotton).
- Caution tape and signage to keep other personnel out of the work area.
- PPE — bears repeating: cover all skin, use a PAPR in confined spaces and at least a full-face passive mask with VOC cartridges in open spaces.

Mixing & Application

1. Add hardener to the mixing bucket.
2. Add an equal amount of resin to the mixing bucket.
3. Mix with the ES Jiffy Mixer at 450–750 RPM for 2 minutes.
4. Allow the mixture to rest for 5 minutes (induction time).

5. Transfer the mixed material into the Wooster polypropylene paint bucket.
6. Dip, remove excess, and apply thinly (2–6 mil WFT) by roller only — no puddling — using a ¼" nap Wooster Epoxy Glide roller or equivalent.
7. Visual confirmation: continuous thin film with a wet sheen; no puddling.
8. If the concrete is extremely porous and a film does not form (rare), wipe the floor with acetone again 2–24 hours after the first coat and apply a second coat.
9. Re-coat with a UV-stable, 2-component coating between 2 and 24 hours after installation. THIS IS AN INDUSTRIAL PRIMER ONLY.

Mixing Ratio, Induction & Pot Life

- Mix ratio: 1:1 by volume (Resin : Hardener).
- Induction time: 5 minutes after mixing to initiate crosslinking.
- Pot life: 50–60 minutes at 75°F.

Typical Physical Properties

Hydrostatic Pressure Test: No loss of adhesion or moisture wicking observed at 50 psi applied hydrostatic pressure (ASTM D4541, modified). Key physical properties follow:

Property	Test Method	Result
Adhesion to Concrete	ASTM D4541	>1,100 psi (cohesive concrete failure typically 300–500 psi; CleanPrime exceeds substrate strength)
Adhesion to Ceramic Tile	ASTM D4541	>1,100 psi (tile fracture before bond loss)
Vapor Permeance	ASTM E96 (Proc. B)	0.011 gr/hr·ft²
Water Absorption	ASTM D570	<0.10%
Compressive Strength	ASTM D695	16,000–18,000 psi
Tensile Strength	ASTM D638	3,200 psi
Shore D Hardness	ASTM D2240	88–90
Impact Resistance	ASTM D2794	>320 in·lbs
Elongation	ASTM D638	3–5%
Recoat Window	—	2–24 hours at 75°F
Full Cure	—	72 hours at 75°F

Limitations

Design and maintenance should prevent standing water. Per the ASTM F3010 use case, CleanPrime is intended for moisture mitigation beneath floor systems, not continuous immersion or ponding. CleanPrime Epoxy controls moisture-vapor transmission beneath resinous floor coatings but is not a waterproofing membrane for decks, pools, or other submerged service. For washdown or immersion areas, shot-blast the concrete and install an immersion-rated 100% solids novolac lining.

Not intended for steam cleaning or hot caustic wash environments exceeding 160°F. For thermal washdown areas, shot-blast concrete and use a urethane-cement flooring system designed for high-temperature service.

This is a primer only and must be used with a low-permeability, UV-stable topcoat. These include but are not limited to:

- Polyaspartic coatings.
- 100% solids epoxy with metallic colorants, flake broadcast, quartz broadcast, or similar — topcoated with urethanes.
- Aliphatic polyaspartic coatings (commonly sold as “one-day polyurea” systems).

Reminder: do not apply subsequent topcoats when relative humidity exceeds 80% or when condensation may occur. Elevated humidity during the recoat window can produce amine blush on the primer surface and reduce intercoat adhesion.

Single-component (1K) coatings may not achieve sufficient chemical bond and should only be used after full cure and light mechanical abrasion. Compatibility testing is recommended before large-scale use.

Because topcoating options are virtually limitless, installers must perform an ASTM D3359 cross-hatch test or a small ASTM D4541 pull test with their chosen system to confirm compatibility before full-scale application.

Technical Support & Emergency Contact

Technical Support	24-Hour Chemical Emergency
FirmeCrete Coatings, LLC 320 N. Ridge Rd., Suite 2D Marble Falls, TX 78654 **cory@firmecrete.com** **cleanprimemvb.com**	**InfoTrac** **1-800-535-5053 (US/Canada)** 1-352-323-3500 (International) *Account #: [InfoTrac Account ID]* *For spills, leaks, fires, exposure, or accidents involving CleanPrime products.*

Document Library

Technical Data Sheets and Safety Data Sheets for all CleanPrime™ products are available online:

cleanprimemvb.com/documents

Disclaimer

The information in this Technical Data Sheet is based on laboratory testing and field experience and is believed to be accurate as of the revision date. FirmeCrete Coatings, LLC makes no warranty, express or implied, regarding suitability for a particular application. Users should verify product suitability for their specific use through compatibility testing as outlined in this TDS. FirmeCrete Coatings shall not be liable for incidental or consequential damages arising from product use. This TDS supersedes all prior revisions.