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FirmeCrete Coatings, LLC
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TECHNICAL DATA SHEET

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Product Overview – CleanPrime™ MVB Epoxy Primer

CleanPrime™ MVB 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 MVB 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 directly to concrete washed with **CleanPrime Detergent** — no grinding or shot-blasting required
- Stops moisture vapor drive and hydrostatic pressure
- High tensile adhesion strength (>1,100 psi to properly prepared concrete).
- Excellent resistance to alkalis, mild acids, and hydrolysis.
- Rapid recoat time — ready for topcoat in 2–4 hours at 75°F.
- Low odor and low VOC (actual <50 g/L, per ASTM D3960).
- Long open time for roller application (45–60 minutes at 70°F).
- Forms a continuous film that remains stable under service conditions up to 180°F.

Applications

- Moisture mitigation primer for new or existing concrete slabs.
- Adhesion promoter beneath epoxy, urethane, polyaspartic, or hybrid coating systems. Vapor barrier for concrete exposed to high humidity, hydrostatic pressure, or vapor transmission.
- Compatible with radiant-heated floors (≤ 120 °F loop temp), 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



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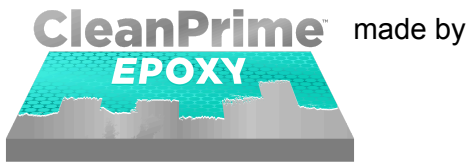
Surface Type	Typical Wet Film Thickness	Coverage Rate
Smooth, dense concrete	2–8 mils	300-550 ft ² per gallon
Porous or rough surface	2-8 mils	200–300 ft ² per gallon

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.
 - Containers that have been opened should be **re-sealed immediately** after use and checked 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 does not 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 temp 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 LLC for special admixtures to allow 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.



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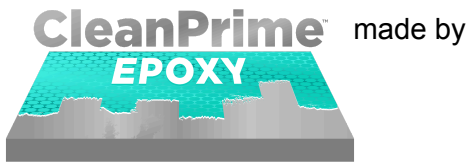
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- On older, contaminated, or coastal slabs, verify surface cleanliness by a Bresle soluble-salt test (ISO 8502-9). Readings should be ≤ 50 mg/m² for chlorides/sulfates before priming. If higher, repeat detergent cleaning and rinse.

Installation Instructions (Roll-Only System)

- 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 Safety Data Sheets (SDSs).
 - Follow QR code for those and Technical Data Sheets (TDSs) for that supporting CleanPrime Products:
- Clean the floor with CleanPrime Detergent per instructions on aforementioned TDS.
- Wipe the floor with white Disposable Microfiber Mop Pad saturated with acetone (ULINE product number S-25413)
- Repair cracks or spalling as needed with CleanPrime Patch & Crack Repair Kit as instructed on TDS for that product.
- The 13-liter bucket holding the jug of resin and the jug of hardener is to be used as your mixing bucket. Have these additional tools ready:
 - Masking of adjacent surfaces
 - Solvent-resistant tape (often green)
 - 6 mil. or greater plastic sheeting
 - Temporary floor protection for the mixing area (RamBoard or equivalent over 6 mil. or greater plastic sheeting).
 - Low-speed mixing drill with fully charged batteries.
 - "Model ES Jiffy Mixer" mixing paddle.
 - 2 qt. measuring container with 32 oz. of acetone to wash mixer.
 - Wooster Polypropylene Paint Bucket, 4 gal, 13 1/2" L, 9" D, 15" W - Mfr # 8616 or equivalent
 - Wooden paint stirring stick.
 - Extension pole (for roller frame)
 - 9" roller frame
 - 9" wide, 1/4" nap Wooster 'Epoxy Glide' roller or equivalent.
 - Wooster Silver Tip Angle Sash (3") – #5224 or equivalent.
 - Disposable wiping rags (paper or cotton).
 - Caution tape and signage to keep other people out of this work area.
 - PPE (seriously - this bears repeating - cover all skin, use a PAPR in confined spaces and at least full face passive mask with VOC cartridges in open spaces)
- Add hardener to the mixing bucket
- Add an equal amount of resin to the mixing bucket.
- Mix with ES Jiffy Mixer at 450-750RPM for 2 minutes
- Allow the mixture to rest for 15 minutes.
- Transfer the mixed material into the Polypropylene Paint Bucket





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- Dip, remove excess from, and apply **thinly (2–6 mil WFT)** by **roller only**; no puddling with 1/4" nap Wooster 'Epoxy Glide' roller or equivalent.
- Visual: continuous thin film with wet sheen; no puddling.
- If the concrete is extremely porous, and a film is not formed (rare), 2-24 hours after installing the first coat, wipe the floor with acetone again and apply another coat.
- Re-coat with a UV-stable, 2-component coating over between 2-24 hours after installation (THIS IS AN INDUSTRIAL PRIMER ONLY).

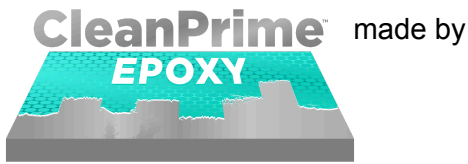
Mixing Ratio, Induction & Pot Life

- Mix ratio: **1:1 by volume** (Resin : Hardener).
- Induction time: **15 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·ft ²
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



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Limitations:

- Design and maintenance should prevent standing water. Per ASTM F3010 use case: 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: 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 the like topcoated with urethanes.
 - Aliphatic polyaspartic coatings (commonly sold as “one-day polyurea” systems)
 - Again, **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.
 - Since topcoating options seem limitless, installers must perform ASTM D3359 cross-hatch or a small D4541 pull on a test with their system to confirm compatibility.
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