



# Primer CE™

## Ultra Low-Viscosity, Consolidating Epoxy Primer



### DESCRIPTION

*Primer CE* is an ultra low-viscosity, two-component, 100%-solids surface-consolidating epoxy primer. *Primer CE* effectively penetrates and consolidates the surface of weak concrete or gypsum substrates. Applied in a single-coat application, *Primer CE* is designed to restore structural integrity to friable substrates such as weak gypsum-based underlayments or lightweight concretes before the application of underlayments, toppings or floor finishes. Once installed, *Primer CE* is compatible with a wide number of primers and adhesives typically used with flooring installations, such as with tile, vinyl composition tile (VCT), carpet, sheet vinyl, wood and other floor finishing products.

### FEATURES AND BENEFITS

- Ultra low viscosity penetrates into the substrate, consolidating and tightly bonding surfaces to substrates.
- Low odor and VOC compliance for use in interior, occupied environments
- Extended working time allows epoxy to penetrate deeply into the substrate.
- Deep penetration into substrate provides strong, consolidating effect.
- Cost-effective solution to address weak substrates

### INDUSTRY STANDARDS AND APPROVALS

LEED (Version 3.0) Points Contribution

LEED Points

MR Credit 5, Regional Materials\* .....Up to 2 points

IEQ Credit 4.2, Low-Emitting Materials – Paints & Coatings..... 1 point

*\* Using this MAPEI product may help contribute to LEED certification of projects in the categories shown above. Points are awarded based on contributions of all project materials.*

### WHERE TO USE

- Properly prepared sound and stable concrete substrates with a moisture vapor emission rate (MVER) below 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m<sup>2</sup>) per 24 hours
- Sound, stable fully cured gypsum underlayments requiring surface consolidation
- Sound, stable fully cured lightweight concretes requiring surface consolidation

### LIMITATIONS

- Optimum installation temperatures (ambient and substrate) are 55°F to 85°F (13°C to 29°C). Precondition material to 70°F (21°C) for 24 hours before mixing and installation. It is important to precondition the material to ensure a viscosity that permits substrate penetration and effective consolidation. Extreme heat should also be avoided because it will reduce the epoxy's time for penetrating the substrate.
- Test concrete substrates for MVER using a calcium chloride test (ASTM F1869). Do not install on substrates with more than 5 lbs. (2,27 kg) of MVER per 1,000 sq. ft. (92,9 m<sup>2</sup>) per 24 hours.
- Verify substrate is free of bond-inhibiting or bond-breaking materials such as curing compounds, topical and penetrating sealers, oil, oil residue, dust, grease, etc.
- Repair all cracks and treat joints correctly to ensure system performance.
- If used in exterior situations, perform a plastic sheet test (ASTM D4263) to ensure that no moisture vapor emissions are present.
- Do not use on slabs on grade subject to freezing.

- *Primer CE* will penetrate into open hairline cracks, capillaries and pores on the surface of concrete substrates. It will typically strengthen and consolidate the top 1/16" to 1/4" (1,5 to 6 mm), depending on the density of the concrete. *Primer CE* will have no consolidating or strengthening effect beyond the depth it penetrates. *Primer CE* has been designed and formulated to provide a sound, stable surface ideal for subsequent bonding of self-leveling underlayments and toppings.
- Consult MAPEI Technical Services Department for installation recommendations regarding any substrates and conditions not listed.

## SUITABLE SUBSTRATES

- Properly prepared concrete substrates that have been mechanically prepared using dustless engineer-approved methods to an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #2 to #3. Substrates with a profile greater than CSP #3 will realize lower coverage rates. Substrate profile should not exceed CSP #6.
- Sound, fully cured gypsum or lightweight substrates requiring surface consolidation before application of additional flooring systems
- Weak concrete substrates (capable of a direct tensile pull of 60 psi [0,41 MPa] or greater) that require consolidation, or concrete substrates with hairline cracks that require treatment

## SURFACE PREPARATION

- Do not use over substrates containing asbestos.
- All substrates must be structurally sound, dry, solid, stable and free of bond-inhibiting or bond-breaking materials such as curing compounds, topical and penetrating sealers, oil, oil residue, dust, grease, etc.
- Mechanically prepare the surface to obtain a CSP of #2 to #3 by shotblasting. Ensure that all old adhesives, contaminants, etc., are completely removed.
- If outgassing is a concern (which may lead to pinholing in the primer surface), wait 16 to 24 hours after shotblasting before applying *Primer CE*.
- Mechanically prepare cracks, control joints and construction joints.
- Expansion and movement joints must be honored through the finished flooring system.
- Do not acid-etch surfaces before applying *Primer CE*.

## MIXING

Note: Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for more information.

1. Prepare to spread *Primer CE* on the substrate immediately after mixing.
2. Premix Part A to a homogenous consistency (for 1 to 2 minutes) using a low-speed mixer (at 300 to 450 rpm) and a "jiffy" (paint mixer) mixing paddle.

3. Pour Part B into the Part A container and mix thoroughly (for 3 minutes) to a smooth, homogenous consistency. Do not mix at high speeds, which can entrap air within the mixed material.

## PRODUCT APPLICATION

1. After mixing, immediately spread the *Primer CE* on the substrate to maximize working time.
2. Spread using a 1/8" to 3/16" (3 to 4,5 mm) squeegee and back-roll with a caged roller with a short nap (1/4" to 3/8" [6 to 10 mm]). Roll material to achieve consistent film coverage across the surface and around the perimeter of any restrained surfaces.
3. Apply the entire contents of the mixed unit onto the substrate to cover the substrate entirely with a wet film thickness (WFT) of about 8 mils. Use a quality paintbrush for the hard-to-reach areas.
4. Absorbent, porous substrate will quickly draw the low-viscosity *Primer CE* below the surface.
5. Keep the surface covered with a wet film for 15 minutes, applying additional material where required to maintain a uniform wet, glossy film on the surface.
6. Allow to dry until tack-free (typically 5 to 6 hours at 73°F [23°C] up until 24 hours). Apply a MAPEI primer suitable for bonding to epoxy before installation of a self-leveling underlayment, or *Primer CE* using the sand-broadcast method before installing a self-leveling topping.
7. Floating or non-adhered floor systems can be installed directly over the cured *Primer CE* per the manufacturer's recommendations.
8. Appropriate adhesives may be bonded directly to *Primer CE*. Water-based adhesives require application of a cement-based self-leveler before use. Due to the wide variety of adhesives, always complete a mockup and test to ensure bond.
9. Within 48 hours, a second coat of *Primer CE* may be applied over the first application of *Primer CE*.
10. In cases where the desired finish is a decorative topping (such as *Ultraplan™ M20 Plus* or *Ultratop®*), it is important to seed or broadcast sand into *Primer CE*. This can be achieved in two ways:
  - One-coat system: When using a one-coat system, it is very important to maintain a WFT of at least 8 mils on the surface of the substrate for at least 15 minutes (add more material as required to maintain that film). A lack or loss of film on the surface will provide no resin with which to bond the sand. After maintaining the WFT of 8 mils for 15 minutes, seed the surface with 20 to 30 mesh sorted, oven-dried sand (no fines). (Follow NIOSH guidelines when broadcasting with sand.) Wait 12 to 16 hours and remove excess sand by vacuum. If any areas are found that indicate a loss of film

## Product Performance Properties

Laboratory Tests	Results
Percent solids	100%
VOCs (Rule #1168 of California's SCAQMD)	46 g/L
Viscosity	190 to 230 cps
Density	65.6 lbs. per cu. ft. (1,05 g per cm <sup>3</sup> )
Consistency	Pourable liquid
Color	Part A – transparent yellow Part B – transparent amber

## Shelf Life and Application Properties

Shelf life	2 years. Store in cool dry place between 40°F to 95°F (4°C to 35°C).
Open time at 73°F (23°C)	90 minutes
Dry time at 73°F (23°C)	5 to 6 hours
Flash point (Seta Flash)	> 199°F (> 93°C)

## CSI Division Classifications

Concrete Topping	03 53 00
Cast Underlayment	03 54 00

## Packaging Combined parts equal 3 U.S. gals. (11,4 L)

Product code	Size/color
36864	Part A: 2.2 U.S. gals. (8,33 L)
36853	Part B: 0.8 U.S. gal. (3,03 L)

## Approximate Product Coverage\*

Substrate Preparation	Recommended Application Tool	Coverage
Concrete subfloor with CSP #2 to #3	1/8" to 3/16" (3 to 4,5 mm) squeegee, followed by 1/4" to 3/8" (6 to 10 mm) nap roller	80 to 140 sq. ft. per U.S. gal. (1,96 to 3,43 m <sup>2</sup> per L)

\* Depending on the profile and porosity of the substrate

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- (no sand remains on the floor), apply a second coat of *Primer CE* and seed.
- **Two-coat system:** After the first coat has hardened to a tack-free state (typically as early as 8 hours to a maximum of 48 hours), apply to a WFT of 6 to 8 mils and use the sand-broadcast method – using 20 to 30 mesh sorted, oven-dried sand with no fines. Seed the second coat of *Primer CE* to rejection within 30 minutes of placement (follow NIOSH guidelines when broadcasting with sand). Remove excess sand the following day by vacuum, and apply the *Ultraplan M20 Plus* or *Ultratop* according to the appropriate Technical Data Sheet.

## JOINT AND CRACK TREATMENT

Mechanically prepare control and construction/expansion joints with a diamond crack-chasing/ concrete-cutting blade. Overcut the joint width to obtain a sound, clean edge. Use a dustless collection system to completely remove contaminants.

### Crack Repair

Repair cracks with an appropriate epoxy before installation of the *Primer CE*. Cracks narrower than 1/16" (1,5 mm) may typically be filled with *Primer CE neat*, typically as part of the *Primer CE* installation. Cracks beyond 1/16" (1,5 mm) in width will typically require an appropriate epoxy (*Primer CE*, *Planibond® EBA* or *Planibond CR 50*) mixed with sand. During crack repair, any epoxy that spills over onto the substrate must be fully seeded with sand.

### Control Joint Treatment

Control joints may typically be filled with the *Primer CE* or an alternate epoxy. If control joints are prefilled with an epoxy other than *Primer CE*, any epoxy that spills over onto the substrate must be fully seeded with sand.

### Construction Joints (joints subject to movement)

Do not fill construction joints or joints subject to movement with *Primer CE*. All such joints are to be respected and carried through any subsequent installation of self-leveling underlayment or topping, and filled with an appropriate joint sealant.

## CLEANUP

Clean equipment before material cures. Cured material can only be removed mechanically.

Refer to the SDS for specific data related to health and safety as well as product handling.

## LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at

[www.mapei.com](http://www.mapei.com). **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.** Before using, the user must determine the suitability of our products for the intended use,

and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

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