Planibond 3C is a three-component, cementitious, moisture-tolerant, epoxy-modified corrosion inhibitor and bonding agent. Water-based and solvent-free, it can be applied using a brush, a short-nap roller, a push broom or hopper spray equipment. Use Planibond 3C on all exposed reinforcing steel and as a bonding agent before the placement of repair products.

**DESCRIPTION**

Planibond 3C offers outstanding corrosion protection by providing excellent resistance from the penetration of chlorides, carbon dioxide and pollutants.

**FEATURES AND BENEFITS**

- High in density and alkalinity, Planibond 3C offers outstanding corrosion protection by providing excellent resistance from the penetration of chlorides, carbon dioxide and pollutants.
- Highly versatile regarding application methods: Use a brush, short-nap roller, push broom or hopper spray.
- Provides excellent bond strength when used to place new concrete adjacent to existing concrete.
- Once cured, Planibond 3C is unaffected by moisture, remains breathable and does not act as a vapor barrier.
- Long open time – up to 24 hours
- Nonflammable and solvent-free

**INDUSTRY STANDARDS AND APPROVALS**

<table>
<thead>
<tr>
<th>LEED v3 Points Contribution</th>
<th>LEED Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR Credit 5, Regional Materials*</td>
<td>Up to 2 points</td>
</tr>
</tbody>
</table>

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

* Using this 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**

- As an anticorrosion coating for reinforcing steel
- As a bonding agent for concrete repair mortars or fresh concrete to existing concrete substrates and steel reinforcement

**LIMITATIONS**

- When using Planibond 3C as a bonding agent for horizontal repairs with rapid-setting repair mortars, mix and apply Planibond 3C, and then let cure for 24 hours before mixing and applying the repair mortar.
- Only use between 45°F and 95°F (7°C and 35°C). As temperatures increase, the working time and the open time for placement of Planibond 3C decrease. For hot-weather applications, protect Planibond 3C from direct sunlight. For temperatures above 85°F (29°C), follow American Concrete Institute (ACI) hot-weather application guidelines.
- Planibond 3C is a three-component product with no additional ingredients required. Do not add water or solvents. Planibond 3C does not form a vapor barrier but is a “breathable system,” allowing for the passage of moisture vapor. To ensure product performance, mix full units only.
- Apply Planibond 3C as a bond coat to concrete or masonry substrates that are saturated surface-dry (SSD). Planibond 3C can be allowed to dry before placement of repair material (see the following table).
• Maximum open times between Planibond 3C and repair material:

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Open Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>45°F (7°C)</td>
<td>24 hours</td>
</tr>
<tr>
<td>50°F (10°C)</td>
<td>16 hours</td>
</tr>
<tr>
<td>68°F (20°C)</td>
<td>12 hours</td>
</tr>
<tr>
<td>95°F (35°C)</td>
<td>6 hours</td>
</tr>
</tbody>
</table>

• For the best performance, place repair mortar or fresh concrete onto Planibond 3C while it is still wet.

• Avoid contact between Planibond 3C and aluminum.

• Planibond 3C consists of two liquids (a water-based epoxy and hardener) and a powder. Store materials in their original packaging in a dry, covered and heated space. Do not allow liquid components to freeze. If materials are frozen, they should be discarded properly in accordance with local regulations.

SUITABLE SUBSTRATES

• Reinforcing steel

• Properly prepared, structurally sound, fully cured concrete (at least 28 days old)

Consult MAPEI’s Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

• Ensure that all concrete and masonry surfaces are structurally sound, stable and solid.

• Thoroughly clean the concrete or masonry surface to remove substances that could affect the bond strength of Planibond 3C, including but not limited to dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form release agents, laitance, loose and deleterious materials, foreign substance and adhesive residue.

• Mechanically profile and prepare concrete surfaces by shotblasting, abrasive blasting, water-jetting, scarifying or other engineer-approved methods to obtain a profile amplitude of 1/4" (6 mm) profile. Reference International Concrete Repair Institute (ICRI) concrete surface profile (CSP) standards #7 to #9 for acceptable profile height. Remove all dust, debris and other contaminants before application.

• Clean exposed steel by removing all loose scaling and surface rust to a near-white metal finish. Clean metal by abrasive blasting or other engineer-approved mechanical method, and then coat with Planibond 3C. For section loss of 15% to 25%, add additional reinforcing steel as directed by an engineer.

• Ensure that concrete or masonry substrate and ambient room temperatures are between 45°F and 95°F (7°C and 35°C) before application. Temperatures must be maintained within this range until the repair material has developed sufficient strength.

• Reference ICRI Technical Guideline #310.1R-2008 “Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion" for more information.

MIXING

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details.

1. Shake the contents of Part A and Part B (liquids) vigorously. Pour both components into a clean mixing container.

2. Mix the two liquids together with a drill (at 400 to 800 rpm) and a Jiffy-type paddle for 60 seconds. Slowly add Part C (powder), mix for another 2 minutes and blend to a uniform, lump-free consistency.

3. The mixed material will be a slurry-consistency coating that can be brushed, push-broomed or sprayed on, having a pot life of 90 minutes at 73°F (23°C) and 50% relative humidity.

PRODUCT APPLICATION

Application as a corrosion protection treatment on reinforcing steel

Read all installation instructions thoroughly before installation.

1. Apply the mixed Planibond 3C with a brush or sprayer using a two-coat method to ensure complete surface coverage on the reinforcing steel. Apply the first coat at 10 mils. The second coat (at 10 mils) can be applied from 90 to 120 minutes (at 73°F [23°C] and 50% relative humidity) after the first coat. Do not exceed 24 hours between coats.

2. When Planibond 3C is used as a corrosion protection treatment on reinforcing steel, repair material can be placed in as little as 2 to 3 hours after the second application of Planibond 3C. The maximum open time is 24 hours at 45°F (7°C). If the open time exceeds 24 hours, reapply another coat of Planibond 3C.

Application as a bonding agent

Read all installation instructions thoroughly before installation.

1. Ensure that the prepared concrete or masonry substrate is SSD and free of standing water before application. If the surface is glistening wet (with a film of water), it is too wet for application. To remove excess water, blow off with oil-free compressed air or remove with a sponge.

2. Apply the bond coat using a brush, push broom, short-nap roller or spray equipment. Work Planibond 3C thoroughly into the substrate to fill the pore structure. Apply 20 mils onto the prepared substrate.
### Product Performance Properties

#### Laboratory Tests

<table>
<thead>
<tr>
<th>Slant/shear bond strength (ASTM C882)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 days (moist cure / wet on wet / 16-hour open time)</td>
<td>1,812 psi (12,5 MPa)</td>
</tr>
<tr>
<td>14 days (moist cure / 24-hour open time)</td>
<td>1,580 psi (10,9 MPa)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slant/shear bond strength (ASTM C882)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 days (moist cure), Type 2</td>
<td>1,044 psi (7,2 MPa)</td>
</tr>
<tr>
<td>14 days (moist cure), Type 2</td>
<td>1,812 psi (12,5 MPa)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pull-out strength (rupture of concrete) (CAN/CSA-A23.2-6B)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 days</td>
<td>450 psi (3,10 MPa)</td>
</tr>
<tr>
<td>7 days</td>
<td>464 psi (3,2 MPa)</td>
</tr>
<tr>
<td>14 days</td>
<td>495 psi (3,41 MPa)</td>
</tr>
<tr>
<td>28 days</td>
<td>550 psi (3,79 MPa)</td>
</tr>
</tbody>
</table>

- Resistance to de-icing salts: Good
- Permeability to chlorides: Good

#### Shelf Life and Product Characteristics

- **Shelf life**: Parts A, B and C: 2 years when stored in original, unopened packaging at 73°F (23°C) in a dry and covered area.
- **Physical state**: Liquid (Parts A and B) and powder (Part C)
- **Color (mixed)**: Gray

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins. If product freezes, discard it accordingly.

#### Application Properties

- **Mixing ratio**: Mixing entire unit (1 part of each A, B and C)
- **Application temperature range**: 45°F to 95°F (7°C to 35°C)
- **Pot life at 73°F (23°C) and 50% relative humidity**: 90 minutes
- **Open time, depending on temperature**: 6 to 24 hours

#### CSI Division Classification

- Maintenance of Concrete: 03 01 00

#### Packaging

- **Small Kit (3 parts) – 25 lbs. (11,3 kg)**:
  - Part A = 1.67 lbs. (0,76 kg)
  - Part B = 3.33 lbs. (1,51 kg)
  - Part C = 20 lbs. (9,07 kg)

- **Large Kit (2 parts) – 10.8 lbs. (4,90 kg)**:
  - Part A = 3.7 lbs. (1,68 kg)
  - Part B = 7.1 lbs. (3,22 kg)
  - Part C = 44 lbs. (20,0 kg), sold separately

- **For a yield of 4 U.S. gals. (15.1 L)**

- **For a yield of 1.74 U.S. gals. (6.59 L)**
3. Apply the repair mortar or concrete to the bond coat while it is still wet and tacky. If a repair mortar or concrete is placed onto a dried bond coat, the repair mortar or concrete must have sufficient slump so as to “wet out” the bond coat, to ensure a complete and void-free bond.

CURING
When using Planibond 3C as a bonding agent for horizontal repairs with rapid-setting repair mortars, mix and apply Planibond 3C, and then let cure for 24 hours before mixing and applying the repair mortar.

CLEANUP
Clean tools and protective gear with warm to hot water and a citrus-based cleaner. Cured material can only be mechanically removed.

PROTECTION
For hot-weather applications, protect Planibond 3C from direct sunlight. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.

RELATED DOCUMENTS
- “Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion”
- ICRI Technical Guide #310.1R-2008

Refer to the SDS for specific data related to VOCs, health and safety, and handling of product.

STATEMENT OF RESPONSIBILITY
Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. 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.

Approximate Coverage*

<table>
<thead>
<tr>
<th>Size</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a bonding agent on smooth surface</td>
<td>80 sq. ft. per U.S. gal. (1.96 m² per L) at 20 mils thickness</td>
</tr>
<tr>
<td>For treating reinforcing steel (2-coat method)</td>
<td>21.9 lin. ft. (6.68 m) for 3/8” (10 mm) diameter rebar per 2.2 lbs. (1.0 kg)</td>
</tr>
</tbody>
</table>

* Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.

For the most current BEST-BACKED™ product data and warranty information, visit www.mapei.com.

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