



Planitop[®] 11 SCC

Self-Consolidating Concrete Mix with Corrosion Inhibitor



DESCRIPTION

Planitop 11 SCC is a one-component, cementitious, self-consolidating, polymer-modified, concrete mix with silica fume and corrosion inhibitor for full-depth structural concrete repairs in above-, below- and on-grade applications. *Planitop 11 SCC* is pre-extended with coarse aggregate and specially designed for large-volume, horizontal structural repairs from 1" to 8" (2,5 to 20 cm) in thickness, and is suitable for form-and-pour and form-and-pump applications on vertical and overhead applications. *Planitop 11 SCC* is ideal for structural repairs in applications such as tunnels, bridges, dams, parking garages, balcony edges and columns.

FEATURES AND BENEFITS

- Pre-extended with pea gravel, which eliminates the need for field-sourcing aggregate
- Self-consolidating for excellent placement features, without vibrating
- One-component; requires only the addition of water
- Polymer-modified and silica-fume-enhanced
- High bond strength
- Can be formed and poured, or formed and pumped, for vertical and overhead applications
- Freeze/thaw-resistant
- Corrosion inhibitor for reinforcing steel protection

INDUSTRY STANDARDS AND APPROVALS

<u>LEED Points Contribution</u>	<u>LEED Points</u>
MR Credit 4, Recycled Content*	Up to 2 points
MR Credit 5, Regional Materials*	Up to 2 points

* 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

- For partial and full depth structural concrete repairs from 1" to 8" (2,5 to 20 cm) thickness in above-, below- and on-grade applications
- For form-and-pour and form-and-pump applications on horizontal, vertical and overhead surfaces
- For the form-and-pour repair of defects in concrete surfaces and for filling voids and cavities
- For the deep-fill structural repairs of horizontal concrete surfaces subject to traffic, such as parking pads, industrial floors and walkways
- For repair or replacement of spandrel beams, columns and balcony edges

LIMITATIONS

- Ensure that the repair area is at least 1" (2,5 cm) in depth before placement of *Planitop 11 SCC*.
- Minimum ambient, surface and material temperatures should be 45°F (7°C) and rising at time of application.



- Do not expose *Planitop 11 SCC* to rain, or standing or moving water during placement.
- Do not use additives with *Planitop 11 SCC*.
- Do not mix partial bags of *Planitop 11 SCC*.
- Do not use *Planitop 11 SCC* for anchoring purposes. For anchoring, use MAPEI's *Planigrout[®] 740* or *Planigrout 712* (consult the appropriate Technical Data Sheet [TDS] for details).
- Use *Planitop 11 SCC* at between 45°F and 95°F (7°C and 35°C). Refer to the American Concrete Institute (ACI) for cold-weather or hot-weather application guidelines.

SUITABLE SUBSTRATES

- Properly prepared masonry and concrete at least 28 days old, stable, sound and dry

Contact MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

- All substrates must be structurally sound, stable and fully cured.
- Thoroughly clean the surface of any substance that could interfere with the bond of the installation material, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, form release agents, laitance, loose toppings, foreign substances and any other residues.
- Concrete surfaces must be mechanically profiled and prepared by shotblasting, sandblasting, high-pressure waterblasting, scabbling or other engineer-approved methods. Reference International Concrete Repair Institute (ICRI) concrete surface profile (CSP) standards of #7 to #9 for acceptable profile amplitude.
- Concrete substrate and ambient room temperatures must be between 45°F and 95°F (7°C and 35°C) before application. Temperatures must be maintained within this range for at least 24 hours after the installation of *Planitop 11 SCC*.
- Substrate should be saturated surface-dry (SSD) with no standing water during application. Forms should be flooded 24 hours before application. However, if steel reinforcement is present and requires treatment with *Mapefer[™] 1K* or *Planibond[®] 3C*, do not flood the substrate but instead use *Planibond 3C* as a bonding agent.
- All exposed steel reinforcement should be thoroughly cleaned to remove all oxidation and scale in accordance with ICRI Technical Guideline No. 03730, "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion." For additional protection from future corrosion, coat the prepared reinforcing steel with *Planibond 3C* or

Mapefer 1K (consult the appropriate TDS for details) or utilize cathodic protection with MAPEI's *Mapeshield[™] I*.

MIXING

Note: Choose all appropriate safety equipment when mixing and installing the product. Refer to the Safety Data Sheet for more information.

1. The mixing ratio is 0.75 U.S. gal. (2,84 L) of clean, potable water per 65 lbs. (29,5 kg) of *Planitop 11 SCC*.
2. Place 5.5 U.S. pints (2,60 L) of clean, potable water into a mixing container. Slowly add *Planitop 11 SCC* while mixing; always add the powder to the water. Add the remaining 0.5 U.S. pint (236 mL) of water if required. Do not add more water than specified and never mix partial bags.
3. Use a rotary drum mixer to mechanically mix the material. Pre-dampen the mixer and remove excess water before proceeding. Alternatively, use a heavy-duty, low-speed drill (at 400 to 600 rpm) and a Jiffy paddle.
4. Mix for about 3 minutes to obtain a smooth, homogenous consistency.

PRODUCT APPLICATION

Placing via form-and-pour

1. *Planitop 11 SCC* can be applied via form-and-pour or form-and-pump into formwork on horizontal, vertical and overhead surfaces.
2. The formwork should be rigid, sealed and tight to prevent material loss and water absorption into the formwork. Formwork should be pre-treated with an appropriate, environmentally friendly form-release agent to provide ease of form removal. Ensure that formwork has drainage outlets to remove pre-flooded water (24 hours before placement of *Planitop 11 SCC*) and leave the surface SSD.
3. When encountering exposed reinforcing steel bars, clean bars and coat them with *Mapefer 1K* or *Planibond 3C* to protect against corrosion and to improve adhesion (see the appropriate TDS for details). Do not flood the forms.
4. Scrub *Planitop 11 SCC* into the substrate to achieve good contact. After draining forms and immediately after mixing, vibrate the form while pumping or pouring *Planitop 11 SCC* into the formed area. Reference ACI 304R, "Guide for Measuring, Mixing, Transporting and Placing Concrete."

Placing as a bonded, horizontal topping

Contact MAPEI's Technical Services Department for application procedures when used as a horizontal topping.

CURING

1. Keep protected from high winds and direct sunlight while curing.

Product Performance Properties

Laboratory Tests	Results
Physical state	Powder
Color	Gray
Shelf life	1 year in original bag stored in a dry, heated, covered and well-ventilated location
Planitop 11 SCC mixed	
Mixing ratio per 65 lbs. (29,5 kg)	9.63 % water by weight, or 0.75 U.S. gal. (2,84 L)
Consistency of mix	Flowable concrete mix
Application temperature range	45°F to 95°F (7°C to 35°C)
Spread rate (ASTM C1611)	
Initial	26" to 32" (66 to 81 cm)
At 30 minutes	> 15" (38 cm)
Compressive strength – ASTM C109 (CAN/CSA-A5)	
1 day	> 2,200 psi (15,2 MPa)
7 days	> 5,500 psi (37,9 MPa)
28 days	> 7,000 psi (48,3 MPa)
Compressive strength – ASTM C39	
28 days	> 6,500 psi (44,8 MPa)
Flexural strength – ASTM C78	
28 days	> 800 psi (5,51 MPa)
Slant/shear bond strength – ASTM C882 (modified)	
28 days	> 2,500 psi (17,2 MPa)
Length change – ASTM C157 (modified)	
28 days (air cure)	< 0.06%
Splitting tensile strength – ASTM C496	
7 days	> 400 psi (2,76 MPa)
28 days	> 500 psi (3,45 MPa)
Freeze/thaw resistance – ASTM C666	> 98% at 300 cycles
Rapid chloride permeability – ASTM C1202	
28 days	< 1,000 coulombs
Flexural strength – ASTM C348	
28 days	> 1,000 psi (6,90 MPa)
Scaling resistance – ASTM C672	2 at 50 cycles

CSI Division Classification

Maintenance of Concrete	03 01 00
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Packaging

Product Code	Size
13965	Bag: 65 lbs. (29,5 kg)

Approximate Coverage*

Size	Yield
65 lbs. (29,5 kg)	0.5 cu. ft. (0,014 m3)

* Coverage is for estimating purposes only. Actual jobsite coverages may vary according to substrate conditions, type of equipment, thickness applied and application methods used.

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2. Moist-cure with wet burlap and polyethelene, a fine mist of water, or use an appropriate ASTM C309-referenced curing compound.
3. Forms must remain in place for at least 24 hours. If the forms are removed after only 24 hours, wet-cure or use an appropriate curing compound on the exposed repair for 24 hours.
4. For form-and-pour applications: For improved curing, leave formwork in place for three days after application.

Note: Remove form-releasing agent and/or curing compound before covering the surface with a coating.

CLEANUP

Wash hands and tools promptly with water before material hardens. Cured material must be mechanically removed.

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.

We proudly support the following industry organizations:



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Edition Date: November 4, 2013
PR: 6856 MKT: 13-0098

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

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