BUILDING TRUST
CONSTRUIRE LA CONFIANCE

METHOD STATEMENT / INSTALLATION PROCEDURE
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Sika® EmeriCrete® Topping

Installation of Monolithic Topping onto Plastic Concrete

The following method statement represents Sika Canada Inc's recommendations for the installation of a Sika® EmeriCrete® Topping as a monolithic topping onto plastic concrete.

General

1. Responsibility for control of conditions and adherence to the guidelines is the responsibility of the Contractor.
2. Consult appropriate sections of CSA A23.1 -2019 and ACI 302 1R-15 for design and installation guidance.
3. Job site conditions can influence surface drying and set time affecting the timing of topping application and finishing procedures. Experience is required to determine proper timing for required procedures.
4. During cold weather open flame heaters shall not be used. Space heaters must be properly vented to avoid floor surface damage caused by carbonation or contamination.
5. Hot or windy conditions may require adjustments to application procedures to offset rapid setting of base concrete or topping surface. Ideally the building will have a roof and walls in place to protect from direct environment. Consider Sikafilm® to protect base concrete and or topping from the effects of excessive moisture loss in rapid drying conditions.
6. **Sika® EmeriCrete® Topping may only be used by experienced professionals.**

Base Concrete

Required Properties

1. The base concrete should be designed in accordance with CSA A23.1- 2019 section 7.1.2 Concrete Mixes for Interior Concrete Floors, Table 1, Class of Exposure NC-F with a maximum 0.55 w/cm and a minimum compressive strength of 30 MPa (4351 psi) at 28 days.
2. As per CSA A23.1-2019 section 7.1.2.1 concrete mixes for concrete floors shall have a slump of 120 ± 30 mm (5 ± 1 3⁄16 in) at the point of discharge, except where a reduced slump is required for highly sloped floors and ramps. For pump mixes, higher workability or flow shall be achieved and maintained with the addition of chemical admixtures only.
3. The base concrete must not contain calcium chloride, stearates or other substances which are corrosive.
4. The total air content of the base concrete must not exceed 3 % at the point placement.
5. The temperature of the base concrete must not be below 10 °C (50 °F) or above 26 °C (79 °F) at the time of placing the Sika® EmeriCrete® Topping.
6. Care must be taken during the base concrete design and production stages to select material constituents and mix designs that will avoid excessive or delayed bleeding which can result in delamination of the topping.
7. We strongly advise against the use of a vapour barrier/membrane, as its use can prevent the downward movement and egress of moisture from within the base concrete.

Topping Installation

Mixing

1. Mechanical shear mixers or a ready-mix truck are to be used to mix the constituents of the Sika® EmeriCrete® Topping. **Note:** We strongly recommend against manual mixing using a slow speed drill and paddle or similar equipment.
2. Water is to be used to clean and wet out the mixer, removing any material which might contaminate the topping mix; pre-wetting of the mixer is necessary to prevent reduction of the gauging water.
3. Potable grade water is to be added to the Sika® EmeriCrete® Topping material; it should be measured to a dosage rate of approximately 8 % by weight of dry material; typically this is 2.0 to 2.25 L (0.53 to 0.60 US gal) per 25 kg (55 lb) bag of Sika® EmeriCrete® powder or 109 to 122 L (28.7 to 32.2 US gal) per 1360 kg (2998 lb) FIBC. The measurement of the water should involve the use of a suitable container which will enable accurate and repeated control of the water content and prevent over-dosing. The slump of the mixed Sika® EmeriCrete® Topping mortar is to be controlled to within Sika Canada Inc's recommendations.

Mixing (cont.)

4. The pre-measured water must be emptied into the clean, pre-wetted mixer before the powdered Sika® EmeriCrete® material is added.
5. A sufficient number of mixers of adequate size are to be used so as not to impede systematic placing of the Sika® EmeriCrete® Topping, in accordance with installation requirements.
6. Mixers are to be strategically placed to ensure the least amount of disturbance of the topping mix during transportation to the point of placing.
7. The mixing time is to be approximately five (5) minutes or until the mix is totally uniform and consistent, after which the Sika® EmeriCrete® Topping mix is to be placed immediately. **Note:** Any and all Sika® EmeriCrete® Topping mortar showing signs of premature setting or excessive slumping is to be discarded.
8. The Sika® EmeriCrete® Topping mix must be between 16 and 25 °C (61 and 77 °F) at the time and point of placing; consequently, care must be taken to ensure that the mixing water and the Sika® EmeriCrete® Topping powder are at a suitable temperature when mixing is undertaken.

Placing

1. The application of the Sika® EmeriCrete® Topping is to commence as soon as:
   a) Any and all bleeding of excess water contained within the base concrete has stopped.
   b) The base concrete has stiffened sufficiently to support the weight of a man, but limits his imprint to a minimum of 6 mm (¼ in) and maximum of 11 mm (7⁄16 in) into the concrete surface.
   c) The base surface has been floated to properly consolidate and provide adequate cement paste.
2. Base concrete surfaces can be raked to a depth of not less than 3 mm (⅛ in) but not more than 6 mm (¼ in) using a suitable tool to provide a furrowed surface, perpendicular to the anticipated general flow of traffic. Do not disturb or displace the course aggregate during this preparation process or thereafter.
3. Place the correctly mixed Sika® EmeriCrete® Topping mortar by suitable means onto the fresh base concrete surface, avoiding segregation of the aggregate from the mix. Thoroughly compact and screed the topping mortar to the specified thickness - minimum 19 mm (¾ in), maximum 37 mm (1½ in). Material consumption at 19 mm (¾ in) will be approximately 59 kg/m² (12 lb/ft²), whilst at 37 mm (1½ in), it will be approximately 111 kg/m² (23 lb/ft²).
4. The placing and screeding operation must be continuous.

Finishing

1. When the applied Sika® EmeriCrete® Topping has stiffened sufficiently to support the weight of a man but limits his imprint into the topping to a maximum depth of 3 to 6 mm (⅛ to ¼ in), proceed with compacting and floating using a Kelly or equivalent compactor.
2. Power trowelling is then to proceed as soon as the Sika® EmeriCrete® Topping begins to stiffen and lose its surface moisture sheen.
3. As the Sika® EmeriCrete® Topping stiffens further, proceed with final trowelling to the specified finish.
4. Wet cure the topping using Sika® UltraCure NCF™ Single-Use Wet Curing Blanket for a minimum of seven (7) days at a minimum temperature of 10 °C (50 °F). The curing is to begin as soon after final finishing as possible and when foot traffic will not damage the finish.

Joints

1. Contraction Joints should be placed in according with CSA A23.1-2019 Section 7.3.2.1 spaced approximately 4.5 m (15 ft) on centre and saw cut through the complete depth of the suitably hardened Sika® EmeriCrete® Topping into the base concrete a minimum of 20 % of its depth.
2. The positioning of saw cut contraction joints is to be determined prior to placing the Sika® EmeriCrete® Topping, with the base concrete bevelled in advance of placing the topping.
3. Immediately after saw cutting, joints are to be blown out to a dry condition. Ensure that, if compressed air is being used, it is oil and moisture free and is filtered to prevent contaminants from coming into contact with the joint walls.
4. All construction and contraction joints are to be filled with a hard, semi-elastic joint filler such as Sika® Loadflex® or Sika® Loadflex®-524 EZ. For best results, Sika® Loadflex® sealants should be installed 120 days or longer after initial concrete placement, when the majority of concrete shrinkage has occurred and joints are static. Refer to CSA standard A23.1 -2019 section 7.3.5 Joint Filling. **Note:** Care must be taken to ensure that any surface contaminants on the exposed joint surface are removed prior to installing joint fillers.
5. Should concrete placement be interrupted for more than 30 minutes, a bulkhead must be installed into the concrete slab and the resultant joint treated as a cold joint.
6. Formed or cold joints must be keyed using Sika® EmeriCrete® Topping at twice the original thickness of the topping, with the base concrete bevelled to allow for this.

Notes

1. It is the responsibility of the Contractor to ensure that sufficient labour, mixing equipment, finishers etc., are available to permit the continuous preparation and placing of the Sika® EmeriCrete® Topping in accordance with the preceding method statement.
2. It is the Contractor's responsibility to possess on-site the relevant Product Data Sheet and Safety Data Sheets for all products being used.
3. The Contractor is to provide protection from rain, wind, sun and other such elements that may detrimentally affect the placing and subsequent full curing of the Sika® EmeriCrete® Topping.
4. All operations should comply with CAN/CSA A23.1-2019 Concrete Materials and Methods of Concrete Construction and CAN/CSA A23.2-2019 Methods of Test and Standard Practices for Concrete.
5. For further information, please contact Sika Canada at 1-800-933-SIKA or visit: www.sika.ca.

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