BUILDING TRUST

PRODUCT DATA SHEET

SikaEmaco® S 650

(formerly MEmaco S 650)

Fast setting high strength thixotropic roadway patching mortar

DESCRIPTION

SikaEmaco® S 650 trowelable mortar is a thixotropic high strength formulation for repairs to trafficked concrete, durable, strong repair, fully compatible with host concrete. SikaEmaco® S 650 is suitable for placing in thicknesses of 10 mm to 50 mm horizontally.

USES

SikaEmaco® S 650 is the ideal material for horizontal repairs where the thickness of repair is more than 10 mm and the patch will be subject to traffic loads. Typical applications are:

- Repairs to bridge decks, concrete road, airport runways or aprons.
- Repair of industrial & warehouse floors where rapid return to service is required.

CHARACTERISTICS / ADVANTAGES

- Shrinkage compensated - Reduced cracking tendency
- One component, factory made only addition of water - Uniform predictable performance even in remote situations
- No bonding agent required- Simple installation
- Impermeable to aggressive elements- Long life repairs
- Rapid setting -Able to return to service in 2-3 hours
- Fast and easy placing-No formwork required thus reducing time for repairs

PRODUCT INFORMATION

Packaging	25 kg bag
Appearance / Colour	Grey powder
Shelf life	6 months from date of production
Storage conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +10 °C and +30 °C.
Density	Approx. 1900 kg/m3

TECHNICAL INFORMATION

Compressive strength	15 MPa 3 hours 25 MPa 1 Day 50MPa 28 Days	(ASTM C109)

APPLICATION INFORMATION

Mixing ratio	2.75L of water in each 25 bag of SikaEmaco® S 650

Yield	14.6L when mixed 2.75L of water in 25kg bag of SikaEmaco® S 650
Ambient air temperature	Between +10 and +40°C
Application time	20 minutes @ 25°C 10 minutes @ 40°C
Final set time	120 minutes @ 25°C

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

- Do not exceed the recommended water/powder ratio. It may result in excessive shrinkage crack formations.
- Do not pour more than the recommended volume of material in single stage application to avoid early setting of the material.
- Do not mix more than 1 bag of material for mixing.
- Please adhere to the working time of the material depending on the ambient temperature while finishing the material.
- Please refer the Material Safety Data Sheet for handling and storage of this product.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Concrete must be fully cured with a minimum direct tensile strength of 1.5 MPa. All loose traces of concrete or mortar, dust, grease oil, etc. must be removed. Damaged or contaminated concrete shall be removed to obtain a keyed aggregate exposed surface.
Non-impact/ vibrating cleaning methods, e.g. grit or high pressure water blasting are recommended to achieve CSP 5-8. Cut the edges of the repair vertically to a minimum depth of 10 mm. Clean all exposed reinforcement to a minimum grade of SA 2 according to ISO 8501-1 / ISO 2944-4. Ensure back of rebar is also clean.
Where reinforcing bars are corroded, cut back the concrete to at least 20mm behind the reinforcing bars. Grit blast around the reinforcing bars to remove corrosion products. Replace and coat the affected part of reinforcing bar with suitable coating for protection against corrosion. If the diameter after grit blasting is found reduced by more than 20% of the original diameter on the advice of the structural engineer responsible for the works.

MIXING

Only full bags are mixed. Damaged or opened bags should not be used. Mix one full bag at one time. Place approximately 80% of the water in the mixer/clean container. Keeping the mixer/drill running add SikaEmaco® S 650 slowly. Add remaining water while continuing to mix. Mix for 3–4 minutes or until a lump free homogeneous consistency is achieved. Mix SikaEmaco® S 650 in a forced action pan mixer, or with a helical paddle attached to a low speed (300-600rpm) mixer for 3 minutes until a lump free, thixotropic consistency is achieved. Only use clean water. Mixing water needed: 2.75litres per 25kg bag. Allow the mortar to rest for 2-3 minutes and then remix briefly before applying. If the temperature is above 25^{0}C use chilled water as the mixing water.

APPLICATION

Priming Concrete
No special primer is required. For extra adhesion you may use suitable epoxy bond coat of Sikadur 32 LP IN.
Mortar application
The prepared substrate should be presoaked, preferably for 2 hours before applying SikaEmaco® S 650. The surface must be saturated surface dry, but without standing water. Apply the mixed SikaEmaco® S 650 directly to the prepared damp substrate, or wet on wet onto the primed surface. A thin scrape coat or contact layer before building up to the required thickness, wet on wet, will improve adhesion especially in case of hand application. SikaEmaco® S 650SikaEmaco® S 650 loses initial flowable consistency due to fast setting nature, hence its recommended to place & tool material quickly in repair patch/pocket. Apply to the desired layer thickness of 10 mm to max 50 mm and level using a screeding bar, trowel or wooden board. Patch repair size should be limited to max. 0.04-0.05cum in a single stage of application due to its fast-setting property and thixotropic consistency, depending on the ambient temperature. Smoothing with a trowel or finishing by float or sponge can be done as soon as the mortar has begun to stiffen.

CURING TREATMENT

SikaEmaco® S 650 should be cured with a water mist or wet hessian for minimum 7 days and continue as long as possible. Begin the curing process immediately after the initial set (say 1 hour of placing depending on drying conditions)
Note: Do not use any curing compounds/ agents.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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