

PRODUCT DATA SHEET

SikaEmaco® S 348

(formerly MEmaco S 348)

DUAL SHRINKAGE COMPENSATED, FIBRE REINFORCED, THIXOTROPIC REPAIR MORTAR

DESCRIPTION

SikaEmaco® S 348 trowelable mortar is a dual shrinkage compensated, thixotropic high strength formulation for structural concrete repairs.

SikaEmaco® S 348 is suitable for placing in thicknesses of 12mm to 50 mm both vertically and overhead.

SikaEmaco® S 348 provides a durable, strong structural repair fully compatible with host concrete.

USES

SikaEmaco® S 348 is the ideal material for vertical, horizontal or overhead structural repairs where the thickness of repair is more than 10-12 mm and use of hand or machine applied structural repair systems is required.

Typical applications are:

- Extensive repairs to beams, columns and other structural elements
- Cooling towers, chimneys, silos and other industrial structures
- Dams, Water treatment and sewerage facilities before subsequent coating
- Tunnels, pipes, outfalls and all below ground construction
- Marine structures, Jetty, Bridge Deck Slab etc

CHARACTERISTICS / ADVANTAGES

- Dual shrinkage compensated - volume stable in wet and hardened state reducing 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
- Sprayable - able to repair complex profiles easily with minimal rebound
- Fast and easy placing - reduced time for repairs

PRODUCT INFORMATION

Packaging	25 Kg. bag
Shelf life	6 months from date of production if stored as per recommendation.
Storage conditions	Store at ambient temperatures, out of direct sunlight, in cool, dry warehouse conditions and clear of the ground on pallets protected from rainfall prior to application.
Density	Approx. 2250 kg/m ³
Colour	Grey Powder

TECHNICAL INFORMATION

Compressive strength	1 day	$\geq 15 \text{ N/mm}^2$	(ASTM C109)
	3 days	$\geq 25 \text{ N/mm}^2$	
	7 days	$\geq 35 \text{ N/mm}^2$	
	28 days	$\geq 45 \text{ N/mm}^2$	
Flexural strength	9 Mpa (28 days)		(ASTM C348)
Water penetration under pressure	<5 mm @ 5 bar (28 days)		(DIN 1048 pt.5)

APPLICATION INFORMATION

Mixing ratio	Water : Powder = 3.75 ~ 4.25 liters per bag of 25 Kg (0.15 ~ 0.16)
Consumption	Approx. 2250 kg/m ³
Yield	12.8 L (when mixed with 4.0L of water/bag)
Layer thickness	From 12 to 50 mm in one layer (both vertically and overhead)
Product temperature	+5 to +30°C
Substrate temperature	+5 to +40°C
Pot life	Approx. 45 minutes (at 30°C and 60% relative humidity). Higher temperatures will reduce these times and lower temperatures will extend them.
Curing rate	Full cure of material is reached after 28 days (at 30°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

- Only mix complete, undamaged bags of SikaEmaco® S 348
- Do not apply SikaEmaco® S 348 in case of strong winds.
- Do not add cement, sand or other substances to SikaEmaco® S 348 mixes.
- Never add water or fresh mortar to a mortar mix which has already begun to set.

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

SURFACE PREPARATION

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. Cut the edges of the repair vertically to a minimum depth of 5 mm. Clean all exposed reinforcement to a minimum grade of SA 2 according to ISO 8501-1 / ISO 2944-4. Where reinforcing bars are corroded, cut back the concrete to at least 15mm behind the reinforcing bars. Grit blast to remove corrosion products from around reinforcing bars and coat with Sika® FerroGard®-950 IN to protect from corrosion.

Replace the affected part of rebar 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

Pour around 80 to 90% of recommended Water Powder Ratio into the forced action mixer. Start the mixer and add SikaEmaco® S 348 slowly and gradually into the mixer. Mix for about 3 minutes until the mortar has a uniform and lump-free consistency. Add balance water into the mixer and mix for another 1 ~ 2 minute until required consistency is achieved. The water content can slightly vary depending on ambient temperature and relative humidity.

Small mortar quantities can be mixed with a suitable paddle attached to a powerful, slow speed electric drill (max. 500 rpm). Do not exceed the maximum allowed water amount!

APPLICATION

The minimum temperatures must be maintained during application and for at least 24 hours thereafter for optimum curing of the product. The prepared substrate should be pre-soaked, preferably for 24 hours, but at least 2 hours before applying SikaEmaco® S 348. The surface must be saturated surface dry, but without standing water. SikaEmaco® S 348 can be spray or hand applied. Apply mixed product directly to the prepared damp substrate, or wet on wet onto the primed surface. Spraying the material with the necessary pressure will ensure good adhesion of the material. 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. Apply to the desired layer thickness of 12 to max 50 mm and level using a screeding bar, trowel or wooden board. Can be applied in thicker layers in smaller patches or where additional reinforcement is present. Smoothing with a trowel or finishing by float or sponge can be done as soon as the mortar has begun to stiffen.

CURING TREATMENT

Immediately after the SikaEmaco® S 348 surface is finally finished, cover all exposed mortar with clean wet hessian and keep moist by covering with polythene between 1 to 7 days depending on the weather conditions.

CLEANING OF TOOLS

Tools and mixer must be cleaned immediately after use with water. Cured material can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses. Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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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