



Sika MonoTop® 612

Wet Spray / Hand Placed Repair Microconcrete

Technical Data Sheet

DESCRIPTION

Sika MonoTop 612 is a cement-based, one component low permeability repair microconcrete, containing silica fume and polymer.

USES

- * For repairing all types of structures.
- * Horizontal, vertical and overhead repairs.
- * Hand applied repairs.
- * Spray applied repairs.
- * For exterior and interior use.

ADVANTAGES

- * Pre bagged for quality.
- * Just add water.
- * Compatible with **Sika® FerroGard®** corrosion inhibitors.
- * Easy to mix and apply.
- * Excellent bond to concrete.
- * Contains no chloride admixtures.
- * High build.
- * Overcoatable with **Sika** reprofiling/levelling mortars and coatings.
- * Low shrinkage.
- * Generally more durable than equivalent class of concrete.
- * Fire rating and protection properties comparable to concrete.
- * Good mechanical properties.
- * Adjustable consistency.
- * Suitable for drinking water contact.

Technical Data (typical)

Mixed colour:	Grey
Mixed wet density:	2.1 kg/litre
Application temperature:	+5°C min, +30°C max (Substrate and ambient)
Application thickness per layer:	5.0 mm minimum 30.0 mm maximum
Mix ratio:	
Hand application:	2.5 - 2.7 litres water per 25 kg bag
Wet spray application:	2.5 - 3.5 litres water per 25 kg bag

MECHANICAL PROPERTIES

28 days @ 20°C RH 50%

Compressive strength N/mm²: 1 day 28 days
15 - 20 45 - 55

Flexural strength: 7 - 9 N/mm²

Bond strength: (tensile) 1.5 - 2.5 N/mm²
(Substrate failure)

E-Modulus (static): 25.0 kN/mm²

Drying shrinkage: 0.04% (mean)
(BS6073: Pt 1: 1981)

'Working time': 30 - 50 minutes
(@23°C)

Thermal coefficient of expansion: 12.0 x 10⁻⁶ °C⁻¹

Resistivity:	RH%	Resistivity (kohm.cm)
	100	46
Mott MacDonald	81	90
Report No	65	136
37423/DA/001.Rev A	44	176

Approved for potable water contact.
Details available on request.

All above values are approximate.

SURFACE PREPARATION

Breakout and remove all concrete designated as being defective, loose and unsound, using suitable mechanical equipment.

Ensure sufficient concrete is removed from around reinforcement to allow priming and compaction of the repair material.

At the repair locations, feather edging should be avoided. The edges should be square cut to at least the recommended minimum application thickness of the repair material. Where a saw cut is employed, the substrate should be roughened mechanically to provide a 'key' between the repair mortar and substrate.

REINFORCEMENT PREPARATION

All exposed reinforcement should be thoroughly prepared to clean, bright metal, using abrasive blast cleaning or other approved means.

STEEL REINFORCEMENT PRIMING

Prior to applying **Sika MonoTop 612** into the repair area, apply two coats of **Sika MonoTop 610** onto the reinforcement in accordance with the product technical data sheet.

CONCRETE SUBSTRATE PRIMING

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated leaving no standing water. To the pre-dampened surface, brush apply a bonding bridge of **Sika MonoTop 610** or **SikaTop Armatec 110 EpoCem** prior to the application of the repair mortar. Always apply repair mortar "wet on wet" to bonding bridge. Re-apply bonding bridge if surface dries.

MIXING

Sika Monotop 612 repair mortar if applied by hand should be mechanically mixed using a forced action mixer or in a clean drum using a drill and paddle. A normal concrete mixer is NOT suitable. If spray applied use appropriate equipment.

Pour water in the correct proportion into the mixing vessel. Add powder while mixing continuously. To avoid entraining too much air use low speed mixer (max 500 rpm) for minimum 3 minutes. By gradually adding the powder in portions, the desired application consistency can be obtained.

APPLICATION

The mixed mortar must be worked well into the wet primed substrate by gloved hand, trowel or by wet spray equipment, filling all voids ensuring full encapsulation around exposed reinforcement. Compact well. Apply in layers to the maximum application thickness and allow to reach initial set. If more than 24 hours between layers, apply a bonding bridge of **Sika MonoTop 610** or **Armatec 110 EpoCem**[®]. The final layer is best finished with a wood/plastic float or a damp sponge after initial set has taken place, to provide a textured surface suitable for the subsequent application of reprofiling mortars and coatings.

Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

Important Note

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 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 proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

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IMPORTANT CONSIDERATIONS

CURING

It is essential to cure the repair mortar immediately after application for a minimum of 3 days to ensure full cement hydration and to minimise cracking. Use polythene sheeting taped down at the edges or other approved method.

- * Large/deep repairs may be subject to shrinkage and cracking. This may be minimised by limiting repair volumes and reducing layer thicknesses.
- * **Sika MonoTop 610** should be used as a bonding bridge for hand and spray applied applications.
- * Do not add water over recommended dosage.
- * Once **Sika MonoTop 612** has started to set it should be discarded. Do not add more water to improve workability.
- * Apply only to prepared, sound substrates.
- * Allow repair mortar to harden between applications.
- * Protect freshly applied material from freezing.

CLEANING

Remove **Sika MonoTop 612** from tools and equipment with water. Hardened material can only be removed mechanically.

PACKAGING

Refer to latest price list.

CONSUMPTION

2.1 kg/m²/mm (2.1 kg/litre)

Excluding allowances for loss wastage, surface profile and porosity.

STORAGE AND SHELF LIFE

Minimum 6 months in unopened original sealed containers stored in dry warehouse conditions (+5°C - +25°C).

