

Sika® MonoTop®-610 MY

Bonding mortar and reinforcement protection

Construction

Product Description

Sika® MonoTop®-610 MY is a one-part, cementitious, polymer modified mortar containing silica fume and corrosion inhibitors.

Uses

As a treatment for preventing continued corrosion of reinforcement in concrete and as a bonding bridge for concrete repair using the Sika® MonoTop® Concrete repair system

Characteristics / Advantages

- 1-part system, requires only the addition of water
- Easily applied by brush, roller or spray
- Excellent bonding to steel and concrete
- Highly impermeable to water and chlorides
- Can be applied to damp substrates
- High mechanical strengths
- Non-toxic
- Alkaline passivating effect due to high cement content
- Contains corrosion inhibitors

Product Data

Form

Appearance / Colours Grey powder

Packaging 25 kg bags

Storage

Storage Conditions / Shelf Life 6 months from the date of production if stored properly in original, unopened and undamaged sealed packaging in dry conditions.

Technical Data

Chemical Base Polymer modified Portland cement containing silica fume and corrosion inhibitors.

Density

- Powder ~ 1.15 kg/ltr
- Freshly mixed mortar ~ 2.0 kg/ltr

Layer Thickness 1 mm min. / 3 mm max.



Coefficient of Thermal Expansion ~ 15 x 10⁻⁶ per °C

Water Vapour Diffusion Coefficient (μH₂O) ~ 80

Carbon Dioxide Diffusion Coefficient (μCO₂) ~ 200

Mechanical / Physical Properties

Compressive Strength 45 – 55 N/mm² (after 28 days / +25°C)

Flexural Strength 5.5 – 7.5 N/mm² (after 28 days / +25°C)

Bond Strength 2 – 3 N/mm² (on prepared concrete)

Modulus of Elasticity ~ 20,000 N/mm² (static)

Typical Results
(Setsco Test Ref: K2437(B)/LML)

Compressive Strength, N/mm ²	1 day	9.3
	7 days	34.5
	28 days	46.3
Flexural Strength, N/mm ²	7 days	5.69
	28 days	5.88
Pull-Off Strength, N/mm ²	28 days	2.7
Initial Surface Absorption at 30 days, ml/m ² /sec	10 minutes	< 0.005
	30 minutes	< 0.005
	60 minutes	< 0.005
	120 minutes	< 0.005
Bond Strength, N/mm ²	13 days	9.3

System Information

System Structure

Sika® MonoTop® System comprises:

- Sika® MonoTop®-610 MY bonding and reinforcement protection
- Sika® MonoTop®-615 SD or Sika® MonoTop®-R or Sika® MonoTop®-R40 repair mortar
- Sika® MonoTop®-620 MY pore sealer / fairing coat

Application Details

Consumption

Bonding mortar

1.65 kg/m² (depending on the substrate surface)

Reinforcement protection

~ 1.65 kg of powder per m² per coat of 1 mm thick (2 coats are required)

Substrate Quality

Concrete

The concrete must be structurally sound, laitance free, clean and free from dirt, oil, grease or other surface contaminants. All loose or friable particles must be removed.

Steel reinforcements

Steel reinforcement surfaces must be clean from rust, oil, grease or any other loosely adhering particles to provide a rust free surface.

Substrate Preparation	<p><i>Concrete</i></p> <p>For large concrete areas, grit or grit-water blasting, scarifying or scabbling is recommended. For small areas and “spot” repairs, needle gunning or scabbling is effective. Special care must be taken to ensure that the substrate does not contain any coating, e.g. curing membrane, which will prevent Sika® MonoTop®-610 MY from penetrating the surface.</p> <p>The prepared substrate should be thoroughly soaked with clean water until uniformly saturated but with no standing surface water. This condition is referred to as saturated surface dry (SSD) and care should be taken to remove any cement slurry or dust produced during surface preparation. The use of a “fan” shaped water jet is ideal.</p> <p><i>Steel reinforcement</i></p> <p>Surfaces should be prepared using approved abrasive blast cleaning techniques e.g. wire-brushed or water / grit blasted.</p>
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Application Conditions / Limitations	
Application Temperature	+5°C min. / +40°C max.
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Application Instructions	
Mix Ratio	5.0 – 5.5 ltr of water per 25 kg bag Sika® MonoTop®-610 MY
Mixing	<p>Pour the water in the correct proportion into a suitable mixing container. While stirring slowly, add Sika® MonoTop®-610 MY to the water. Hand mix thoroughly with a spatula to a thick “slurry” consistency. Always ensure that there are no lumps in the mix.</p> <p>If a mix has thickened due to delayed application, do not dilute further with water. This mix should be discarded.</p>
Application Method / Tools	<p><i>Concrete</i></p> <p>Brush apply a coat of freshly mixed slurry of Sika® MonoTop®-610 MY on to the substrate, covering it completely. This is followed immediately with a “wet-on-wet” application of the patch repair mortar (e.g. Sika® MonoTop®-R, -R40 or -615 SD).</p> <p><i>Steel reinforcement</i></p> <p>Brush apply 2 coats to Sika® MonoTop®-610 MY on to the prepared steel reinforcement prior to the application of the patch repair mortar. Care should be taken to ensure that the back of the reinforcement is also coated.</p>
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be mechanically removed.
Pot Life	> 1 hour (+25°C)
Notes on Application / Limitations	High quality, long term repairs can only be achieved if they are carried out conscientiously by experienced applicators giving adequate attention to details relating to surface preparation, priming of concrete and steel, mixing of repair mortars, application and curing.
Value Base	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.
Health and Safety Information	For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet (available upon request) containing physical, ecological, toxicological and other safety-related data.

Legal 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 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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