

Sika MonoTop[®]-615 CI

High Build Repair Mortar with Corrosion Inhibitor

Construction

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| Description | Sika MonoTop-615 CI is a cementitious polymer and silica fume modified, 1-component repair and patching mortar that contains a corrosion inhibitor. |
| Uses | <p>As a repair mortar on concrete structures affected by spalling due to corroding reinforcement.</p> <p>As a concrete patching and reprofiling mortar for the treatment of:</p> <ul style="list-style-type: none"> • Honeycombing and voids caused by faulty formwork. • Broken upstands, ribs, edges, etc. on architectural units. • Break outs for service entrances in walls and slabs etc. <p>For use in conjunction with the Sika MonoTop concrete repair system:</p> <ul style="list-style-type: none"> • MonoTop-610 Bonding Mortar and Reinforcement Protection. • MonoTop-615 CI Patching Mortar. • MonoTop-620 Fairing Coat. |
| Advantages | <ul style="list-style-type: none"> • 1-component system requires only the addition of clean water. • Easily applied and worked. • Adjustable consistency to suit application. • Non-sagging in vertical and overhead work. • Layers of up to 80 mm in one application are possible on vertical surfaces. • Compatible with the thermal expansion properties of concrete. • Contains shrinkage compensating admixture. • Free from chlorides. • Non-toxic • Contains a corrosion inhibitor to protect against incipient anodes. |
| Storage and Shelf Life | Stored in the original sealed packaging in dry conditions, this product will keep for at least nine (9) months. |
| Instructions for Use | |
| Surface Preparation | <p>Correct and thorough surface preparation is essential to achieve the high adhesive qualities of Sika MonoTop-615 CI.</p> <p>All surfaces must be clean, sound and free from dust, ice, oils, grease or other surface contaminants such as curing membranes and form release agents etc.</p> <p>Mechanically abrade the surface with a needle gun, mechanical wire brush, grind, grit or water blast. All surface laitance must be removed.</p> <p>The strength of the concrete or mortar substrate should be at least 20 MPa.</p> <p>The prepared substrate should be thoroughly soaked with clean water until uniformly saturated, leaving no standing water ie. Saturated Surface Dry (SSD) condition.</p> |
| Bonding Bridge | <p>To the prepared substrate apply Sika MonoTop-610 as a bonding bridge in accordance with the instructions on the Technical Data Sheet.</p> <p>The bonding bridge must be tacky at the time of applying Sika MonoTop-615 CI, ie. wet on wet application.</p> |

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| Mixing | <p>Sika MonoTop-615 CI should be mechanically mixed in a forced action mixer or in a clean drum using a low speed drill and spiral mixer (max. 500 rpm).</p> <p>Pour 90% of the recommended water content into the mixing vessel, slowly add the powder while continuing to mix. Continue mixing until a uniform homogenous consistency is achieved (minimum 3 minutes) then add the remaining water until the desired application consistency is obtained.</p> <p>If Sika MonoTop-615 CI begins to stiffen within a few minutes of mixing, it may be necessary to remix the mortar to regain a smooth, workable mix.</p> <p>Note that the recommended water addition of 3 litres per 20 kg bag can be adjusted by plus or minus 10% to achieve the desired application consistency.</p> |
| Application | <p>Sika MonoTop-615CI must be applied wet on wet to the substrate previously primed with Sika MonoTop-610. Work the mortar well into the substrate, using a placing rather than a rendering technique to fill all pores and voids. Compact well.</p> <p>Force material against the edge of the repair, working towards the centre.</p> <p>For repairs in excess of 80 mm deep, apply in layers ensuring previous layers are well keyed and hardened.</p> <p>Application of a bonding bridge between layers is recommended to ensure optimum bond.</p> |
| Finishing | <p>When the applied mortar has stiffened, but not dried, various methods may be employed to obtain the desired surface finish. eg. Steel trowel, wooden float, styrofoam block or sponge.</p> <p>The addition of water to the surface to obtain the desired finish is not recommended as this may cause colour variations and surface cracking.</p> <p>Where Sika MonoTop-615 CI is to be overcoated with a fairing mortar (eg. Sika MonoTop-620) or protective coating (eg. Sikagard-680S) the surface should be finished to provide a fine gripping texture.</p> |
| Cleaning | <p>Remove soft Sika MonoTop-615 CI from tools and equipment with water. Hardened material can only be removed mechanically.</p> |
| Additional protective and Decorative Coatings | <p>The remaining areas of the structure can be coated with the corrosion inhibitor Sika FerroGard-903 to fully protect the steel reinforcement from potential corrosion.</p> <p>Sika MonoTop-620 is recommended as a final fairing coat and additional protective anticarbonation coating to the patched area and also to the remaining areas of the structure, not yet showing the effects of, but susceptible to spalling due to corroding reinforcement.</p> <p>Sikagard-680S is recommended for further decorative and protective coating. Consult Sika's Technical Department for further information on this range of coating products.</p> |
| Curing | <p>Suitable curing methods as per the Concrete Institute's recommended practice, such as plastic sheet, wet hessian, liquid membrane (eg. Sikagard-680S (Finish) or Sikagard-551S Primer) must be used to protect the freshly applied mortar from the drying effects of sun and wind.</p> |

Technical Data (Typical)

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| Form | Lightweight, smooth mortar |
| Granulometry | 0 – 1.5 mm |
| Density | 1.45 kg / litre approx. (fresh wet density) |
| Yield | 16 litres of mixed mortar per 20 kg bag (approx) |
| Mixing Ratio | Water : Powder 1 : 6.7 by mass 3 litres : 20 kg <i>Note that the water addition rate can be adjusted by $\pm 10\%$ to achieve the desired application consistency.</i> |
| Potlife @ 20°C | 50 minutes approx. |
| Application Thickness | Minimum 5 mm Maximum 80 mm |
| Application Temperature | +5°C - +35°C (substrate and ambient temperatures) +5°C - +25°C (mortar temperature) |
| Compressive Strength (AS 1012) | 24 hours > 10 MPa 7 days > 25 MPa (air cured) 28 days > 30 MPa (air cured) |
| Flexural Strength (AS 1012) | 6.5 MPa approx. at 28 days |
| Bond Strength | 1.0 – 1.3 MPa approx. (cohesive failure of mortar) |
| Modulus of Elasticity (AS 1012) | 15 GPa approx. |
| Co efficient of Thermal Expansion | 11×10^{-6} per °C |
| Colour | Light Grey |
| Packaging | 20 kg bag |

Important Notes

- Apply only to clean sound substrates.
- Never apply to dry substrates.
- In warm, hot or windy conditions ensure adequate curing of freshly applied mortar.
- Sika MonoTop-615 CI has various uses which may necessitate adjusting the consistency slightly to better suit the particular application. A reduction of up to 10% of either the powder or water is permissible to either stiffen or increase workability of the mixed mortar.

Handling precautions

- Avoid contact with the skin.
- Protective gloves and clothing are recommended when mixing or using this product.
- A full material safety data sheet is available from Sika on request.



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Important Notification

The information, and, in particular, the recommendations relating to the application and end-use of Sika's 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 of our terms and conditions of sale. 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 DEPARTMENT FOR FURTHER INFORMATION.



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