

MasterRoc[®] STS 1000

Pre bagged concrete for dry process shotcrete application

DESCRIPTION

MasterRoc STS 1000 is a ready to use cement based single component shotcrete mortar modified with microsilica. The formulation is designed to match the requirements for a dry process shotcrete applied mortar. It gives high early strength, reduced rebound and maximum application thickness.

TYPICAL APPLICATIONS

- Large area concrete repairs.
- Refurbishment of columns, bridges, tunnels and retaining walls.
- Repair of fire damaged structures or marine structures such as piers, quays, off shore platforms.
- Sealing of shafts, tunnels and open cut rock stabilisation.
- Swimming pool construction.
- Cathodic protection overlays.

ADVANTAGES

- Single component - ready to use
- Medium build - up to 100mm can be applied on a vertical substrate
- Low rebound - grading and formulation allow for excellent compaction with minimum loss of aggregate through rebound
- Safe to handle - no added caustic accelerators
- Excellent adhesion to concrete and steel.
- Rapid strength gain
- Low water absorption and chloride ion diffusion as well as high resistance to carbon dioxide penetration

PACKAGING

MasterRoc STS 1000 is supplied in 25 kg bags.

TYPICAL PROPERTIES*

Appearance	Grey granular powder
Densities	Dry bulk: 1700 kg/m ³ Applied : 2400 kg/m ³
Compressive Strengths	24 hours 15 N/mm ² 28 days 40 N/mm ²
BS 4551 at 20°C and 0.085 w/p ratio	
Chloride permeability	Very low
AASHTO T277 93	
Resistivity	<50,000 Ωcm
Maximum aggregate size	5 mm

APPLICATION GUIDELINES

SURFACE PREPARATION

All surfaces to be treated should be sound and clean. All traces of oils, greases or surface contaminants and laitance should be removed by high pressure water, grit blasting or scabbling. The prepared substrate should be thoroughly soaked with clean water and all standing water removed before the application of **MasterRoc STS 1000**.

PLACING / APPLICATION

MasterRoc STS 1000 should be emptied directly into the hopper of the dry process shotcrete pump. The amount of the water added at the spraying nozzle will be controlled by the nozzleman - too low an addition will increase rebound and dust emission; too wet a mix will slump.

Freshly applied **MasterRoc STS 1000** should be protected from heavy rain or frost. Any movement joints should be continued through the applied material and sealed with a suitable sealant from the **MasterSeal** range.

FINISHING

Any necessary trowelling or profiling should be done immediately after spraying. If overcoating is to follow, finish with a wooden float or damp sponge.

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CURING

Accepted best practice is necessary. Curing can be by means of hessian maintained in a damp condition by properly secured plastic sheeting. The most convenient method is by spray application of a film forming curing membrane from the **MasterKure** range.

CLEANING

All tools and equipment should be cleaned with air and water immediately after use.

MasterRoc STS 1000 must not be left in spraying equipment or delivery hoses.

COVERAGE / YIELD

A 25 kg bag of **MasterRoc STS 1000** will yield approximately 11.3 L. Site trials are advisable to obtain accurate wastage factors due to variances in surface preparation, equipment and nozzlemen.

STORAGE AND SHELF LIFE

Store on pallets out of direct sunlight and protected from rainfall. Avoid excessive compaction. Shelf life is 12 months when stored as above.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with skin, eyes and mouth. Pump operators should handle the product carefully to minimise dust formation and wear a light mask during shotcrete operations. For specific storage and disposal instructions refer to the Material Safety Data Sheet.

QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

* Properties listed are based on laboratory controlled tests.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

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