

# MasterRoc STS 112

## Pre-bagged, fine concrete for “dry process” shotcrete

### DESCRIPTION

MasterRoc STS 112 is a ready to use one pack polymer modified fine concrete specially designed for spray application by the ‘dry-mix’ method. It contains fumed silica, high range water reducing admixtures and carefully graded aggregates. The ingredients are carefully selected to give minimum dust during spraying. They are chosen so as to be classified as ‘non-reactive’ and the system developed to have an alkali content (expressed as Na<sub>2</sub>O) of less than 3.0kg/m<sup>3</sup>. MasterRoc STS 112 meets the requirements of Department of Transport Specification Series 1700 (1701, 1704 1993 and BD 27/86 Pt. 5).

All BASF Construction Chemicals Concrete Repair System products are manufactured under procedures independently accredited to BS EN ISO 9001 (International Standard).

### FIELDS OF APPLICATION

- Large areas of concrete repairs
- Refurbishment of columns, bridges, tunnels, retaining walls
- Single high build application
- Repair of fire damaged structures, marine structures, piers, quays, off-shore platforms, etc
- Sealing of mine roadways, tunnels, etc
- Rock and embankment stabilisation, swimming pool construction

### FEATURES AND BENEFITS

MasterRoc STS 112 offers the following benefits:

- Single component - ready to use
- Non-reactive aggregate
- High build - up to 150mm can be applied at one pass
- Low rebound - grading and formulation allow for excellent application and compaction with minimum loss of aggregate through rebound
- Low dust - formulation ensures dust is kept to a minimum
- Safe to handle - no added caustic accelerators
- Excellent adhesion to concrete and steel
- Rapid strength gain
- Low water absorption and chloride ion diffusion
- High resistance to carbon dioxide penetration

### APPLICATION PROCEDURE PREPARATION OF SUBSTRATE

All surfaces to be treated should be sound and clean. All traces of oils, greases, or surface contaminants and laitance should be removed by water or grit blasting or by scabbling.

All traces of rust and corrosion products should be removed by wet or dry blasting from exposed reinforcing steel to achieve a minimum grade of SA2 according to ISO 8501-1 / ISO 2944-4. Ensure the back of the rebar is also clean.

### PRIMING

The prepared substrate should be thoroughly soaked with clean water and all standing water removed before the application of MasterRoc STS 112. Extra protection can be given to reinforcing steel by the use of MasterEmaco P 5000 AP primer dependent upon the circumstances of use and requirement of the client.

### APPLICATION

MasterRoc STS 112 should be emptied directly into the hopper of the dry process spraying machine. The amount of water added at the spray nozzle will be controlled by the nozzleman - too low an addition will increase rebound and dust emission; too wet a mix will slump.

### FINISHING

Any necessary trowelling or profiling should be done immediately after spraying has finished. If over-coating is to follow, finish with wooden float or damp sponge. Over finishing should be avoided to prevent excessive laitance and surface hairline cracking.

### COVERAGE

A 25kg bag of MasterRoc STS 112 will yield approx. 12.3 litres and will cover approximately 0.5m<sup>2</sup> at 25mm thick depending on the water/powder ratio used.

### CURING/AFTER TREATMENT

Good curing practice is essential. Particular care is required in hot and windy conditions.

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Curing can be by the application of a single coat of MasterKure 181SB curing membrane which is compatible with most subsequent protective coatings, or by covering the work with properly secured plastic sheeting.

### CLEANING

All spraying equipment should be blown clear of MasterRoc STS 112 at stopping of work and for extended breaks, trowels etc. should be washed with clean water immediately after use.

### WATCH POINTS

Protect newly applied MasterRoc STS 112 from heavy rain or frost.

Over application should be avoided to prevent slumping away from prepared concrete surfaces or steel.

Movement joints should be continued through the applied MasterRoc STS 112 and sealed with a suitable sealant from the MasterSeal range.

### PACKAGING

MasterRoc STS 112 is supplied in 25 kg bags.

### CONTACT DETAILS

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Product Data									
Appearance	Grey granular powder								
Densities	Dry bulk: 1500 kg/m <sup>3</sup> Applied: 2200 kg/m <sup>3</sup>								
Compressive Strength @ 20°C (BS 1881 Pt 108): 0.40 water/cement ratio	(100mm cubes, fully compacted) 18 hours: 8 N/mm <sup>2</sup> 24 hours: 20 N/mm <sup>2</sup> 3 days: 30 N/mm <sup>2</sup> 28 days: 55 N/mm <sup>2</sup>								
Tensile Splitting Strength @ 20°C (BS 1881 Pt 117 1983)	>5 N/mm <sup>2</sup>								
Flexural strength @ 20°C (BS 6319 Pt 3)	28 days: > 6 N/mm <sup>2</sup>								
Tensile adhesion strength to prepared substrate	>2 N/mm <sup>2</sup>								
Chloride ion diffusion: MasterRoc STS 112 (Shotpatch 12) Typical cement paste	4.9 x 10 <sup>-9</sup> cm <sup>2</sup> /sec 4.0 x 10 <sup>-7</sup> cm <sup>2</sup> /sec i.e. approx. 100 times greater resistance to chloride ion diffusion with MasterRoc STS 112 (Shotpatch 12)								
Initial surface water absorption - (ISAT) (BS 1881 Pt 5)	<table border="1"> <thead> <tr> <th>MasterRoc STS 112</th> <th>C25 Concrete</th> </tr> </thead> <tbody> <tr> <td>10 mins</td> <td>0.250 ml/m<sup>2</sup>/sec</td> </tr> <tr> <td>30 mins</td> <td>0.183 ml/m<sup>2</sup>/sec</td> </tr> <tr> <td>60 mins</td> <td>0.146 ml/m<sup>2</sup>/sec</td> </tr> </tbody> </table>	MasterRoc STS 112	C25 Concrete	10 mins	0.250 ml/m <sup>2</sup> /sec	30 mins	0.183 ml/m <sup>2</sup> /sec	60 mins	0.146 ml/m <sup>2</sup> /sec
MasterRoc STS 112	C25 Concrete								
10 mins	0.250 ml/m <sup>2</sup> /sec								
30 mins	0.183 ml/m <sup>2</sup> /sec								
60 mins	0.146 ml/m <sup>2</sup> /sec								
Alkali content:	<3.0 kg/m <sup>3</sup> (as Na <sub>2</sub> O)								
Maximum aggregate size	3mm								
Minimum application temp	5°C								
Logistics									
Shelf life:	12 months if stored according to manufacturer's instructions in unopened packaging.								
Storage conditions:	Store in original packaging and at temperatures between 5°C and 30°C. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.								
Handling and transportation:	Refer to MasterRoc STS 112 Safety Data Sheet								
Disposal:	Refer to MasterRoc STS 112 Safety Data Sheet								

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MasterRoc STS 112, BASF plc, Construction Chemicals, Version 2

### Health and Safety

\*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

### Spillage

Chemical products can cause damage; clean spillage immediately.

### DISCLAIMER

“BASF plc, Construction Chemicals” (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.