

MASTERTOP SBR 570

Screed Additive

Description of Product

Bonding agent and admixture for polymer modified cementitious screeds to BS8204 part 3.

MASTERTOP® SBR 570 is a styrene-butadiene co-polymer emulsion specifically designed for use with cementitious screeds.

Fields of Application

- Localised and patch repairs of cementitious substrates
- Industrial levelling screeds and toppings
- Underlayment screeds for use with **MASTERTOP®** and **UCRETE®** resin floor finishes

Features and Benefits

- Lower water-cement ratio producing low shrinkage and low permeability screeds
- Enhanced tensile and flexural strengths compared to unmodified cementitious systems giving increased toughness and durability.
- Good frost resistance.
- Resistant to dilute chemicals, mineral oils and to water-borne salt penetration
- Similar thermal expansion and modulus properties to concrete
- Proven performance
- Suitable for applications on to damp substrates.
- Suitable for external applications and in wet process environments.

Technical Data/Typical Properties

Typical properties of the MASTERTOP® 570 SBR SCREED ADDITIVE modified mix design above are as follows.

Compressive strength	> 45 MPa
Tensile strength	> 4.5 MPa
Flexural strength	>7.5 MPa
Freeze thaw resistance	Excellent
Density	2.2 – 2.35 kg/l

Mix Design and Method Statement

Note: The following mix design and method statement are derived from BS8204 part 3: 1993. Code of practice for polymer modified cementitious wearing surfaces.

Mix Design For Screeds 12 to 30 mm

Ordinary Portland Cement	50kg
MASTERTOP® SBR 570	10 litre
Sand (see below)	100 kg
3-6mm Granite or Basalt Aggregates (see below)	100 kg
Water (to workability see below)	< 10 litre

Mix Design For Screeds Above 25 mm

Ordinary Portland Cement	50 kg
MASTERTOP® SBR 570	10 litre
Sand (see below)	112.5 kg
10 mm Hard Angular Aggregates (see below)	125 kg
Water (to workability see below)	< 10 litre

Note: Sand: To BS 882 1992 Grade C or M with less than 1% by weight finer than 75 microns

Aggregate: Nominal single sized aggregate

It is recommended that dried aggregates be used. Wet aggregates can lead to excessive workability even without the addition of water.

The water addition above depends on the fineness of the sand and aggregate and is based upon the use of dry aggregates. It will be significantly reduced if damp aggregates are used.

Application Procedure

Preparation of Substrate

Mechanically prepare the substrate to produce a clean, sound surface free of all deleterious materials. The aggregate in the substrate concrete should be exposed and there should be significant surface texture. The use of captive shot blasting is recommended.

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Expose the aggregate of the substrate concrete during preparation. A good texture is preferable especially in aggressive environments.

Pot-holes and areas of local damage should be repaired or dubbed out as required prior to the application of the screed.

When patching ensure a square cut edge to the repair

The substrate concrete should be thoroughly soaked with clean water and all free standing water removed prior to application.

Priming

Mix approximately 1.5 parts ordinary Portland Cement, with 1 part MASTERTOP® SBR 570 by volume in a suitable container using an electric drill and paddle, to produce a smooth creamy consistency.

The proportions can be adjusted in the range 1:1 to 1:2, MASTERTOP® SBR 570 to cement as required.

The primer will remain useable in the pot for up to 1 hour at normal temperatures.

Apply by stiff brush working well into the substrate. Avoid ponding but leave typically 0.3 to 0.5mm wet film thickness.

A good measure of the effectiveness of the pre-wetting is the open time of the slurry primer. Once applied to the substrate the primer should have an open time of 10– 15 minutes.

Do not apply to a larger area than can be covered with the screed before the primer has dried.

Mixing

Mix in a forced action mixer, Creteangle mixer is recommended.

Hand mixing or a free fall mixer is NOT acceptable.

- a) Add sand, cement and aggregate to the mixer and start mixing
- b) Add half the required amount of water (~5kg / 50kg cement)
- c) Add MASTERTOP® SBR 570
- d) Add the remaining water to achieve required consistency

Note: If damp aggregate or sand is used omit step b.

The total mix time after the addition of MASTERTOP® SBR 570 should NOT exceed 2 minutes.

A trial mix using the site materials should be undertaken to judge the amount of water required.

Application

Apply to the WET primer, compact well, screed off and finish with a wood float and/or steel trowel using traditional screeding techniques.

Apply the screed in bays, as with all screeding work the application should be continuous with a "wet edge" progressing across the floor.

Avoid feather edging, maintain a minimum 12 mm thickness depending on the size of aggregate and the aggressiveness of the environment.

The use of batons to provide a level and straight daywork joint is recommended.

Trowelling should proceed with the work. Do not over trowel and avoid re-trowelling. Protect from too rapid drying out prior to trowelling.

Curing

Curing should start within 2 hours of application at normal temperatures, the use of polythene is recommended.

In cold weather conditions efficient curing is essential. Applications can continued provided the mortar temperature is not allowed to drop below 5°C. Protect new work from frost until a compressive strength of at least 20 N/mm² has been reached.

Curing should be kept in place for at least 24 hours and not more than 3 days at 20 °C.

Joints

Reflect all joints in the substrate accurately through the screed topping, as a bonded screed will crack where there is differential movement in the host concrete, at a moving day joint for example.

Fill joints with a suitable sealant.

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Notes:

Refer to BS8204 part 3: 1993. Code of Practice for polymer modified cementitious wearing surfaces.

BS8204 part 3 states clearly that as thickness of the screed increases above 40 mm the risk of drying shrinkage cracking also increases. This is generally found to be conservative and fully bonded screeds up to ~70 mm thickness are routinely installed without problems.

All work to be in accordance with best site practice.

Packaging

MASTERTOP® SBR 570 is supplied in 25 and 205 litre containers.

Storage

Stir before use. Protect from frost, MASTERTOP® SBR 570 may be permanently damaged by freezing.

Shelf Life

Up to one year when stored under normal conditions and temperatures (?°C - 2°C)

MASTERTOP SBR 570 Degussa Construction Chemicals UK 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.

Solvent Based Products

Use in well ventilated areas; avoid inhaling. Suitable respiratory equipment may be needed, e.g. when spraying. Can cause skin, eye irritation. Wear protective eye shields and gloves during use. Do not smoke or allow sparks or naked lights when stored or in use.

Powder Products

Should be handled to minimise dust formation; use light mask if excessive dust unavoidable. Cement powders when wet or moistened can cause burns to skin and eyes which should be protected during use.

Resin Products

Can cause irritation, dermatitis or allergic reaction. Use protective equipment particularly for skin and eyes. Use only in well ventilated areas.

Spillage

Chemical products can cause damage; clean spillage immediately.

Disclaimer:

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