

# Technical Data Sheet

## StoCrete TS 250

Wet-mix sprayed mortar, polymer-modified, cementitious, sulphate-resistant, layer thickness 6-30 mm



### Characteristics

- Area of application**
- As concrete repair product for the repair of concrete structures (concrete and reinforced concrete)
  - For extremely aggressive water, e.g. in sewage management, wastewater treatment plants

### Properties

- Polymer-modified, cementitious wet-mix sprayed mortar (SPCC)
- Very good adhesive strength to the concrete substrate
- Good application overhead
- High resistance to flow
- High protection against stress from frost/de-icing salt,
- Resistant to water containing sulphuric acid, ammonium, and sulphate in line with exposure class XA3 in accordance with EN 206-1:2001-07

### Information / Notes

- Product is in accordance with EN 1504-3
- As concrete repair mortar for extremely aggressive sulphate-laden water in accordance with DIN 4030-1:2008-06

### Technical Data

Criteria	Standard / test specification	Value / Unit	Notes
Bulk density of fresh mortar	EN 1015-6	2.2 kg/dm <sup>3</sup>	
Maximum particle size		2 mm	
Bond strength (28 days)	EN 1542	> 2.0 MPa	
Compressive strength (28 days)	EN 12190	57 MPa	
Flexural strength (28 days)	TP BE SPCC	10 MPa	
Static modulus of elasticity (28 days)	EN 13412	23 GPa	

The characteristic values stated are average values or approximate values. Due to the natural raw materials in our products, the stated values can vary slightly in the same delivery batch; this does not affect the suitability of the product for its intended use.

### Substrate

#### Requirements

Requirements on the substrate:

The concrete substrate must be load-bearing and free from native and foreign substances that have a separating action, as well as from corrosion-promoting components (e.g. chlorides). Remove less strong layers and laitance.

Damp in accordance with the definition in the DAfStb (German) Repair Guideline 2001-10.

The cleanliness grade of the exposed reinforcing steel following substrate preparation:

SA 2 in accordance with EN ISO 8501-1 for repair principle R.

SA 2½ in accordance with EN ISO 8501-1 for repair principle C.

Average bond strength 1.5 N/mm<sup>2</sup>

Bond strength of the single smallest value 1.0 N/mm<sup>2</sup>

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**Preparation**

Substrate preparation:  
 Prepare the concrete substrate using a suitable method in accordance with ZTVING Part 3, section 4. Open pores and blow-holes sufficiently.

Bevel the edges of the areas of spalling under approx. 45°.  
 De-rust the exposed reinforcing steel in accordance with EN ISO 12944-4 up to cleanliness grade SA 2 ½ or 2. The de-rusted reinforcing steel must be free from dust and grease.

### Application

**Application temperature**      Lowest application temperature: +5 °C  
 Highest application temperature: +30 °C

**Processing time**                      At +5 °C: approx. 45 minutes  
 At +23 °C: approx. 35 minutes  
 At +30°C: approx. 15 minutes

**Mixing ratio**                              25 kg material in accordance with description  
 3.0 - 3.55 l water = 1.0 : 0.120 - 0.142 parts by weight

**Material preparation**                  Compulsory mixer: decant water and add pre-blended dry mortar. Stir for approx. 2 minutes. Allow to mature for approx. 3 minutes. Remix for approx. 30 seconds. Important: the consistency must be uniform after mixing.

**Consumption**

Type of application	Approx. consumption
per mm of layer thickness (without rebound)	2.1 kg/m <sup>2</sup>

Material consumption depends on the application, substrate, and consistency, among other factors. The stated consumption values are only to be used as a guide. If required, determine precise consumption values on the basis of the specific project.

**Coating build-up**

1. Substrate preparation
2. Protection against corrosion with StoCrete TK (for exposed reinforcement)
3. Concrete repair with StoCrete TS 250

Layer thickness 6 – 30 mm  
 Higher layer thicknesses are possible due to multi-layer work.

**Application**

Wet-mix spraying/application with screw pump, application by machine in the dense flow process

- 1 Substrate preparation
2. Protection against corrosion (for exposed reinforcement) Use a paint brush to coat the reinforcing steel evenly and without gaps.

Derust the reinforcing steel to preparation grade Sa 2½ in accordance with EN ISO 8501-1. Then immediately coat with StoCrete TK in 3 application cycles.

The protection against corrosion must have hardened on the reinforcing steel to an extent that it cannot be loosened from the reinforcing steel during the next application cycle. (at 23 °C approx. 5 hours).

StoCrete TK grey or light grey: consumption approx. 130 - 200 g/m per application cycle

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#### 3. Concrete repair:

##### Spraying procedure:

Feed the pre-mixed mortar using a conveying pump in the dense flow process.

The compressor should have airflow of at least 7 m<sup>3</sup>/min. at 3 bar.

Before conveying material for the first time, wet the hoses inside and lubricate them with wallpaper paste.

Spraying must be carried out by a qualified nozzle operator who can skilfully control the quality of the sprayed mortar by means of nozzle distance, spray direction, and quantity of mortar and air.

Normal nozzle distance: 0.5 - 1.0 m.

The conveying pressure must be between 15 - 40 bar max., at a conveying distance of 20 - 40 m max., and an internal tube diameter of 35 mm.

Do not feed any diluted StoCrete TS 250 material, otherwise segregation will occur and there will be a danger of clogging.

Leave the SPCC with a rough sprayed surface.

If a smoothed and levelled out surface is required, rework StoCrete TS 250 with StoCrete TF 250 manually or using the wet-mix process.

Spray a double layer of StoCrete TS 250.

Layer 1 approx. 50 % of the overall layer thickness, leave with a rough spray surface.

Protect the surface from premature drying depending on the weather, e.g. by hanging tarpaulins against wind and direct sunlight.

Remove any contamination which impairs adhesive bonding, such as dust, by taking suitable measures (e.g. oil-free compressed air).

When spraying layer 2, layer 1 should still be slightly damp and free from substances that have a separating effect.

During spraying work in interiors, and where there is a risk of contaminating the remaining concrete surfaces in exterior areas which are to be sprayed later, cover these surfaces with e.g. plastic sheets which are fixed to falsework.

Ensure any contamination arising from rebound or spray fog does not stick to the surfaces to be coated, as it impairs the adhesive bond. Take suitable measures such as grit blasting to remove it.

Use a screed board to strike off the surface of the second layer. If falsework was anchored in the application areas to help comply with the layer thicknesses, remove it after the spraying work is completed.

When doing so, take care not to disturb the structure or strip anything from the substrate. In order to produce a homogeneous mortar layer, before reworking construction joints it is necessary to prepare them in the same way as the substrate.

Close the holes and recesses which arise wet on wet, if possible, with the same dry-mix sprayed mortar.

Any remaining parts must end at least 5 cm below the sprayed concrete surface. Dispose of the rebound!

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4. Curing
- Cover with film or sheeting
  - Spray with water
  - Curing using chemicals

Under normal conditions, curing must last at least 5 days.  
 Observe the relevant standard DIN 1045-3: 2001-07, the B8 data sheet "Nachbehandlung von Beton" (11.2002) published by the Bauberatung Zement, and ZTV-ING (2006-07) (Additional technical terms of contract and guidelines for civil engineering, in German only).

**Note:**

Curing with chemicals may only be carried out if subsequent work is compatible with this. A uniform colour shade of the mortar surface is not possible due to the application method. The film must not touch the surface of the mortar.

A key part of curing is adequately wetting the concrete substrate before applying the mortar, so that the substrate is water-saturated and the fresh mortar does not extract mixing water.

Observe the explanations in ZTV-W LB 219 (2013) (German only).  
 Recommended mixing and wet spray equipment: WM-Jetmix 125 compulsory mixer (mixing drum 125 l/pre-mixed material: 90 l).

Stainless steel progressing cavity pump, model WM-Variojet-FU (pump D7 2.5)  
 High pressure hoses, internal diameter 35 (with quick fix couplings).  
 Reprofiler spray device with a 12 mm and 15 mm nozzle tube.

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Multimix compulsory mixer, 125 l mixing drum (pre-mixed material: 90 l).  
 PFT N2V conveying pump. - High pressure hoses with an internal diameter of 35 mm from the company PFT.

PFT, D-97346 Iphofen, Tel. no. +49 9323 317 60, e-mail: info@pft-iphofen.de

Please observe the manufacturer's operating instructions!

**Cleaning Tools** Clean tools with water immediately after use.

**Delivery**

**Packing** StoCrete TS 250 is available in 25 kg

**Storage**

**Storage Life & Condition** This product has a shelf life of 12 months from the manufacturing date.

Product should always be stored in an unopened bag, dry place, protected from rain, direct sunlight and raised off the floor.

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### Special notes

**Health & Safety** Please refer to Safety Data Sheet

**Technical Support** Please consult the local sales office for further information and any site assistance required.

The information in this Technical Data Sheet serves to ensure the product's intended use, or its suitability for use, and is based on our findings and experience. Users are nevertheless responsible for establishing the product's suitability and use.

Applications not specifically mentioned in this Technical Data Sheet are permissible only after prior consultation. Where no approval is given, such applications are at the user's own risk. This applies in particular when the product is used in combination with other products.

When a new Technical Data Sheet is published, all previous Technical Data Sheets are no longer valid. The latest version is available on [www.sto-sea.com](http://www.sto-sea.com).

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\*Product images may differ from the actual product.