

PRODUCT DATA SHEET

Sikacrete[®]-213 F

WET SPRAYED FIRE PROTECTION MORTAR

DESCRIPTION

Cement-based pre-bagged, dry mix fire protection mortar for wet sprayed application especially for concrete structures in tunnel construction.

USES

Sikacrete[®]-213 F is used for concrete and reinforced concrete structures exposed to fire hazards. It contains phyllosilicate aggregates, which are highly effective in resisting the heat of hydrocarbon fires. The thickness of the fire protection layer to be applied depends on the specified fire resistance. The outstanding properties of Sikacrete[®]-213 F allow greatly reduced thickness of the fire protection layer required.

CHARACTERISTICS / ADVANTAGES

- Pre-bagged dry mortar mix for application by the wet spray process
- Minimal layer thickness to meet specifications
- Easy to apply
- Does not contribute to the formation of smoke or toxic fumes in fire
- Light weight, low density
- The sprayed mortar surface can be finished by trowel or wood float
- > 240 minutes fire resistance achievable
- Minimal rebound

APPROVALS / STANDARDS

VSH, Switzerland: tested to RWS, Lachenbrand and ISO 834 fire curve

PRODUCT INFORMATION

Packaging	12 kg bags
Appearance / Colour	Grey powder with aggregates
Shelf life	12 months from date of production if stored properly in undamaged unopened, original sealed packaging
Storage conditions	Storage temperatures between 5°C and 30°C Protect from frost
Density	Powder: ~ 0.46 kg/L Fresh applied: ~ 1.17 kg/L (sprayed) Applied after 28 days: ~ 0.61 kg/L (sprayed)

TECHNICAL INFORMATION

Compressive Strength	~ 2.0 N/mm ²
Freeze Thaw De-icing Salt Resistance	In order to guarantee resistance to frost, freeze thaw cycles and de-icing salts, the surface of the mortar must be treated with Sikagard [®] -Wallcoat T.

SYSTEM INFORMATION

System Structure

Bonding Primer

-	Surface roughness \geq 2mm
Sika MonoTop®-910 N	Surface roughness < 2mm

Reinforcement

Light wire mesh e.g. Bekaert Armanet FP, Fischer	Recommended in order to prevent any debonding of the mortar layer
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Fire Protection Mortar

Sikacrete®-213 F	Wet sprayed fire protection mortar
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Surface Protection

-	Normal requirements
Sikagard® Wallcoat T	Exposure to frost, freeze thaw cycles, de-icing salt Improved resistance to mechanical wear

APPLICATION INFORMATION

Mixing ratio	10 - 13 litres of water per 12 kg of Sikacrete®-213 F
Consumption	~ 6 kg/m ² for a layer thickness of 10 mm
Ambient Air Temperature	5°C min. / 30°C max.
Substrate Temperature	5°C min. / 30°C max.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Clean, free from oil and grease, no loose or friable material. The concrete surface layer has to be removed. Clean the concrete substrate by high-pressure water jetting.

The substrate must have a roughness depth of > 2 mm, otherwise Sika MonoTop®-910 is recommended as bonding agent. Before application, pre-dampen concrete surfaces to a saturated, surface dry condition.

MIXING

Sikacrete®-213 F shall be mixed using a force action mixer.

Pour the minimum recommended water in the mixing container. While stirring slowly, add the powder to the water and mix thoroughly at least for 3 minutes adding additional water if necessary to the maximum specified amount and adjust to the required consistency.

APPLICATION

Sikacrete®-213 F is applied by wet spray dense-flow process.

Thoroughly pre-dampen the prepared concrete substrate. To achieve the optimum physical characteristics, the spray nozzle must be handled by a trained and experienced operator.

Application equipment: Wet spray screw pump systems

Reinforcement: The use of light wire mesh reinforcement (e.g. Bekaert Armanet FP or Fischer) is always recommended in order to prevent any debonding of the

mortar layer.

CLEANING OF TOOLS

Removal of fresh remnants from tools and application equipment can be carried out using water immediately after use. Hardened / cured material can only be removed mechanically.

LIMITATIONS

The surface of the freshly applied mortar can be finished for up to one hour after application dependent on the temperature and humidity. For optimum resistance to mechanical wear, additional sealing of the surface with Sikagard®-Wallcoat T is recommended.

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control. All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika 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 accordance with Sika's recommendations. 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 user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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