

BUILDING PRODUCT INFORMATION SHEET

Sikacrete[®]-213 F

Wet sprayed fire protection mortar

DESCRIPTION

Sikacrete[®]-213 F is a 1-part, cementitious, fire protection mortar for wet spray application. Suitable for fire protecting all types of reinforced concrete buildings and civil engineering structures including tunnels. It contains phyllosilicate aggregates, which are highly effective in resisting the heat of hydrocarbon fires. The fire protection performance allows a reduced thickness of fire protection required compared to concrete. The fire protection layer thickness depends on the specified fire resistance.

USES

Fire protection of concrete and reinforced concrete structures exposed to fire risk

FEATURES

- Pre-bagged dry mortar mix
- Application by the wet spray process
- Minimal layer thickness to comply with fire regulations
- Does not contribute to the formation of smoke or toxic fumes during a fire

PRODUCT INFORMATION

Product identifier	Sikacrete [®] -213 F	
Place of manufacture	Overseas	
Composition	Portland cement, additives and phyllosilicate aggregates	
Packaging	9 kg bag	
Shelf life	12 months from date of production if stored properly in undamaged unopened, original sealed packaging	
Storage conditions	The product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging.	
Appearance and colour	Grey powder	
Density	Powder	~0.5 kg/L
	Fresh applied	~1.0 kg/L (sprayed)
	Applied after 28 days	~0.6 kg/L (sprayed)

- Light weight, low density
- Easily surface finished by trowel or wood float
- > 240 minutes fire resistance achievable
- Minimal rebound

LIMITATIONS OF USE

The need for concrete repair, as defined in Standard NZS3109 - Concrete Construction, refers primarily to concrete defects arising from construction, placing and finishing actions. Repair options for concrete damage outside the scope of the NZ Building Code and arising from other causes, (e.g. fire, explosion, earthquake, chemical attack, etc) requires specialist engineering expertise to undertake specific project investigation and specification.

APPROVALS / CERTIFICATES

- Fire Testing, Sikacrete[®]-213 F, VSH, Report No.20090011
- Fire Testing Sikacrete[®]-213 F, UL LLC, Report No.12SR9176492
- Fire Resistance Sikacrete[®]-213 F, NRC, Report No.B4247.2

TECHNICAL INFORMATION

Compressive strength	~1.5 N/mm ²	(EN 1015-12)
Tensile adhesion strength	≥ 0.25 MPa	
Thermal conductivity	$\lambda_{10, \text{dry, mat}} \approx 0.14 \text{ W/m}\cdot\text{K}$	(EN 1745:2012)
Water absorption	$W_c 0$	(EN 1015-18)
Diffusion resistance to water vapour	$\mu \leq 6$	
Freeze thaw de-icing salt resistance	To be resistant to frost, freeze thaw cycles and de-icing salts, the surface of the mortar must be treated with Sikagard® Wallcoat T.	
Reaction to fire	Euroclass A1	

SYSTEM INFORMATION

System structure	Bonding Primer Sika MonoTop®-910 N or -910 ECO		
	Reinforcement		
	Structure	Reinforcement type	
	Tunnels*	Galvanised or stainless steel. Wire diameter 1 - 2 mm. Mesh size 50 mm	
	Other structures	According to the application thickness**	
	* A light mesh is always recommended in order to prevent debonding of the mortar layer.		
	** Contact Sika Technical Services for more information.		
	Fire Protection Mortar Sikacrete®-213 F		
	Surface Protection		
	Structure	Exposure	Surface protection
	Tunnels and other structures	Internal and normal exposure	No protection required
	Tunnels	Exposure to frost, freeze thaw cycles, de-icing salt.	Sikagard® Wallcoat T Sikagard® Wallcoat AT Sikagard®-260 W PU
	Other structures	Exposure to frost, freeze thaw cycles, de-icing salt. Improved resistance to mechanical wear (with pore sealer)	Sikagard®-675 W ElastoColor

APPLICATION INFORMATION

Mixing ratio	8-10 L of water per 9 kg bag
Consumption	~5-6 kg/m ² /10 mm thickness This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.
Ambient air temperature	5 °C min. / 30 °C max.
Substrate temperature	5 °C min. / 30 °C max.

MANUFACTURER AND IMPORTER INFORMATION

Manufacturer information	Address	Sika Supply Centre AG Industriestrasse 26
---------------------------------	---------	--

6060, Sarnen
Switzerland

Importer information

Address

Sika (NZ) Limited
85-91 Patiki Road
Avondale, Auckland 1026
New Zealand

Phone number

0800 745 269

Website

<https://nzl.sika.com/>

Email address

info@nz.sika.com

NZBN

9429000018791

BUILDING CODE INFORMATION

Building Code clauses

Note: This product is a concrete repair / protection product and on its own is not within the scope of the NZ Building Code. However when used for the repair of defects in concrete (manufactured to NZS3104) arising from the placement and construction process, as defined in NZS 3109: 1997 clauses 7.7.5 and 7.7.6, it will contribute to meeting the requirements of the following NZBC clauses

B1 Structure: Performance Clauses B1.3.1, B1.3.2, B1.3.3 (a, b, f, h, m, q) B1.3.4

B2 Durability: Performance clause B2.3.1-(a) not less than 50 years

C6 Protection From Fire - Structural Stability C6.2, C6.3, C6.4

F2 Hazardous Building Materials: Performance clause F2.3.1

Building Code compliance statements

Performance B1.3.1, B1.3.2, B1.3.3 (a, b, f, h, m, q): Sika MonoTop, Sikacrete, Sikagard and Sikadur concrete repair and protection products comply with their relevant parts within EN1504. (refer to "Refurbishment- Improved Sika Monotop Systems - An Overview For Designers and Specifiers" available at nz.sika.com) When they are used to repair and restore the integrity of damaged or defective concrete, as specified within the scope of NZS3604:2011, they contribute to the concrete meeting the preceding B1 Structure performance clauses

Performance B2.3.1 (a) 50 years: This product has been evaluated in accordance with B2/VM1. It meets this durability requirement and will remain serviceable for 50 years, or more, when installed and maintained in accordance with the relevant Sika technical literature. nzl.sika.com. According to Sika's "Service Improvement" records, maintained within its ISO9001:2015 Quality Management System, this product has performed successfully since it was introduced in 2012.

Performance C6.2, C6.3, C6.4: Codemark Certificate No: CM70067 Rev 1. states that when the SikaWrap Hex system is installed and then protected with an appropriate layer of SikaCrete-213 F fire protection mortar, as specified by a registered fire engineer, it will meet the requirements of the referenced C6 clauses.

Performance F2.3.1: This product meets this requirement when used and applied in accordance with Sika's installation instructions and does not present a health hazard to people occupying or using the building. Refer to the Sika Product Technical Data sheet and product Safety Data Sheet nzl.sika.com for further information if required

BASIS OF PRODUCT DATA

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

ECOLOGY, HEALTH AND SAFETY

This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably

foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in this product data sheet. Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0.1 % (w/w).

NZ BUILDING PRODUCT INFORMATION SHEET

Sikacrete®-213 F
12/12/2024 File version 1.0
020302100110000006

APPLICATION INSTRUCTIONS

DESIGN REQUIREMENTS

This product is part of a system that includes primers and other associated products. For full design information refer to the relevant Sika literature available at nzl.sika.com. For further information or support phone 0800SIKANZ

EQUIPMENT

Select the most appropriate equipment required for the project:

Substrate preparation

High pressure water blasting system

Mixing

Suitable forced action mixer

Application

Wet Spray - All in one mixing and spraying machine or separate spraying machine and all associated ancillary equipment to suit application volumes

Finishing

- Trowel (PVC or wooden)
- Sponge

MIXING

Important: The consistency must be checked after every mix.

1. Pour the minimum recommended clean water quantity into a suitable mixing container / equipment.
2. While stirring slowly, add the powder to the water
3. Mix thoroughly for at least for 3 minutes adding additional water if necessary to the maximum specified amount and adjust to the required consistency to achieve a smooth consistent mix.

APPLICATION

Strictly follow installation procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

Important: Avoid application in direct sun and/or strong winds.

Important: Do not add water over recommended dosage.

Sprayed application - Wet Spray

Note: Include light wire mesh as required.

1. Place the wet mixed Sikacrete®-213 F into the suitable wet spraying equipment and apply onto the pre-wetted substrate between the minimum and maximum layer thicknesses without the formation of voids.
2. Where layers are to be built up, to prevent sagging or slumping, each layer must be allowed to harden before applying subsequent layers "wet on wet".

Surface finishing

Important: Do not add additional water during the surface finishing as this can cause discolouration and cracking.

Carry out finishing to the required surface texture using suitable finishing tools up to one hour after application dependent on the temperature and humidity.

CURING TREATMENT

Important: Curing compounds must not be used when they could adversely affect subsequently applied products and systems.

Carry out finishing to the required surface texture using suitable finishing tools up to one hour after application dependent on the temperature and humidity.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material can only be removed mechanically.

SUBSTRATE QUALITY

Important: The substrate must have a roughness depth of > 2 mm.

- Apply only to sound, prepared substrates.
- Before application, pre-dampen concrete surfaces to a saturated, surface dry condition.

MAINTENANCE REQUIREMENTS

The maintenance requirements for this Sika product are the same as for the host / surrounding substrate

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

The building product/building product line is not subject to warning or ban under section 26 of the Building Act 2004.

Sika (NZ) Limited

85-91 Patiki Road
Avondale, Auckland 1026
New Zealand
0800 745 269
www.sika.co.nz

NZ BUILDING PRODUCT INFORMATION SHEET

Sikacrete®-213 F
12/12/2024 File version 1.0
020302100110000006

NZBPIS-2018-7502-7502-en-GB-1.0

