



BUILDING TRUST



## PRODUCT DATA SHEET

# Sika MonoTop<sup>®</sup>-3130 Rapid IN

Fast setting cementitious concrete repair mortar (Formerly LANKO 712 RAPIDEX)

### DESCRIPTION

Sika MonoTop<sup>®</sup>-3130 Rapid IN is a 1-part, cementitious, fast setting structural concrete repair mortar for thickness up to 50 mm. It is manually applied, sulphur-resistant and fibre reinforced.

### USES

Special applications:

- Sealing of sight holes, manhole covers trapdoor frames, telecom hatches, street furniture, signposts
- Repairs to industrial flooring, concrete walkways and roads, pot-holes, undercuts
- Bed-face for high-traffic paving and road surfaces
- Bridge bearing calking
- Sealing road joints

Fast return to service repairs to all types of reinforced concrete structures and elements for:

- Buildings
- Civil engineering structures
- Car parking structures
- Marine structures
- Dams
- Water retaining structures
- Substructures
- Hydraulic structures

### CHARACTERISTICS / ADVANTAGES

- Fast setting and early overcoatability (after 2 hours at +30 °C)
- Fast return to service
- High mechanical strength
- Smooth surface finish for coating
- Excellent resistance to sea water
- Good sulphate and carbonation resistance
- Easy to apply, even at low temperatures
- Layer thickness 6–50 mm
- Chloride and metal free
- Ready to mix with water

### PRODUCT INFORMATION

<b>Composition</b>	Sulphate resistant cement, fibres, selected aggregates and additives
<b>Packaging</b>	25 kg bag
<b>Shelf life</b>	6 months from date of production
<b>Storage conditions</b>	The product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +35 °C.
<b>Appearance and colour</b>	Powder / Grey
<b>Maximum grain size</b>	D <sub>max</sub> : ~4 mm

## TECHNICAL INFORMATION

<b>Compressive strength</b>	<b>Curing time</b>	<b>Compressive strength</b>	(EN 12190)
	2 h	~20 N/mm <sup>2</sup>	
	6 h	~25 N/mm <sup>2</sup>	
	1 d	~40 N/mm <sup>2</sup>	
	7 d	~45 N/mm <sup>2</sup>	
	28 d	~50 N/mm <sup>2</sup>	
Values measured at water : powder = 0.132, curing temperature +30 °C			
<b>Tensile strength in flexure</b>	<b>Curing time</b>	<b>Flexural strength</b>	(EN 196-1)
	2 h	~3.5 N/mm <sup>2</sup>	
	6 h	~4.5 N/mm <sup>2</sup>	
	1 d	~6.5 N/mm <sup>2</sup>	
	7 d	~7.0 N/mm <sup>2</sup>	
	28 d	~7.5 N/mm <sup>2</sup>	
Values measured at water : powder = 0.132, curing temperature +30 °C			
<b>Tensile adhesion strength</b>	≥ 1.5 N/mm <sup>2</sup>		(EN 1542)

## SYSTEM INFORMATION

### System structure

Note: Apply concrete repair mortar 'wet on dry' onto reinforcement corrosion protection.

Note: Apply concrete repair mortar 'wet on wet' onto bonding primer or scratch coat.

#### Rapid System

#### Reinforcement corrosion protection coating

SikaTop® Armatec®-108 Plus	Normal Use
SikaTop® Armatec®-110 EpoCem®	Demanding requirements

#### Bonding primer (recommended)

Sikafloor®-09 Primer	Normal Use
SikaTop® Armatec®-110 EpoCem®	Demanding requirements

#### Concrete repair mortar

Sika MonoTop®-3130 Rapid IN

#### Concrete protection coating primer

Sikagard®-552 IN Primer W

#### Concrete protection coating

Sikagard®-550 W IN

## APPLICATION INFORMATION

<b>Mixing ratio</b>	Water : Powder = 0.130 to 0.134 (by weight) 3.25 L to 3.35 L water per 25 kg bag, dependent on desired consistency		
<b>Fresh mortar density</b>	~2.0 kg/L (water : powder = 0.132, +30 °C)		(EN ISO 2811-1)
<b>Layer thickness</b>	<b>Application area</b>	<b>Minimum</b>	<b>Maximum</b>
	Horizontal	6 mm	50 mm
	Vertical	6 mm	30 mm
	Overhead	6 mm	20 mm
<b>Ambient air temperature</b>	+5 °C min. / +35 °C max.		
<b>Substrate temperature</b>	+5 °C min. / +35 °C max.		
<b>Pot Life</b>	~15 minutes (water : powder = 0.132, +30 °C)		
<b>Initial set time</b>	~25 minutes (water : powder = 0.132, +30 °C)		(EN 196-3)
<b>Final set time</b>	~50 minutes (water : powder = 0.132, +30 °C)		(EN 196-3)

Waiting time to overcoating	Application	Overcoating time
	Sika MonoTop®-3130 Rapid IN over SikaTop® Armatec®-110 Epo-cem®	30 min
	Sikagard®-552 IN Primer W over Sika MonoTop®-3130 Rapid IN	2 h
	Sikafloor® epoxy coatings	28 d

Above values are at +30 °C and 50 % relative humidity  
 Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Applied product ready for use	Floor usage	Approximate time
	Foot traffic	2 h
	Medium traffic	6 h
	Heavy traffic	24 h

Above values are at +30 °C and 50 % relative humidity  
 Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

## 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.

## FURTHER INFORMATION

Sika Method Statement: Concrete repair and special applications with Sika MonoTop®-3130 Rapid IN

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

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

### EQUIPMENT

Select the most appropriate equipment required for the project:

#### Substrate preparation equipment

- Mechanical hand-held tools
- High / ultra-high pressure water blasting equipment

#### Steel reinforcement preparation equipment

- Abrasive blast cleaning equipment
- High pressure water blasting equipment
- Low pressure power washing equipment

#### Mixing equipment

- Mixing container
- Small quantities: low speed electric single paddle mixer (< 500 rpm) with spiral, helix, hoop, basket or impellor paddle

### Application equipment

Manual application:

- Plasterers hawk
- Trowel
- Protective gloves

### Finishing equipment

- Trowel (Stainless steel, steel, PVC or wooden)
- Sponge
- Protective glove

### SUBSTRATE QUALITY / PRE-TREATMENT

#### Concrete

- The substrate must be thoroughly clean, free from dust, loose material, surface contamination and material which reduce adhesion or prevent suction or wetting by repair materials.
- Remove delaminated, weak, damaged and deteriorated concrete and where necessary, sound concrete using appropriate equipment from the list above.
- Make sure sufficient concrete is removed from around the corroded reinforcement to allow cleaning, corrosion protection coating (where required) and compaction of the concrete repair mortar.
- Remove tying wire fragments, nails and other metal debris embedded in the concrete.
- Repair surface areas must be prepared to provide simple square or rectangular layouts to avoid shrinkage stress concentrations and cracking while the repair material cures. This can also avoid structural stress concentrations from thermal movement and loading during the service life.

#### Steel reinforcement

Note: Method and choice of preparation equipment must take into account the type of materials to be removed from the reinforcement bars, bar congestion, contact between bars, and proximity to the concrete substrate.

1. Remove rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion.
2. Prepare the surfaces to bright steel finish.
3. Where exposed reinforcement is contaminated with

chloride or other material which may cause corrosion, clean the reinforcement using low pressure power washing [up to 18 MPa (2700 psi)] techniques to wash away contaminants.

## MIXING

Note: Mix only as much material as can be processed (max. 25 kg)

1. Pour the minimum recommended clean water quantity into a mixing container / equipment.
2. While stirring slowly, add the powder to the water.
3. Mix thoroughly for at least 3 minutes until a smooth consistency is reached. Add additional water, if necessary, to the maximum specified amount.

## APPLICATION

### IMPORTANT

Do not apply in direct sun and/or strong winds.

### Reinforcement corrosion protection coating

1. Immediately after surface preparation, apply the appropriate product to the whole exposed reinforcement circumference. Refer to the 'System structure' and individual Product Data Sheets for equipment and application details.

### Concrete repair mortar with bonding primer

#### Bonding primer

Note: A bonding primer is normally required for structural repairs to achieve high adhesion values and for application in high temperatures.

1. Pre-wet the prepared concrete substrate with clean potable water (2 hours recommended).
2. Keep the surface wet and do not allow to dry.
3. Remove excess water from within the surface pores and cavities e.g. with a clean sponge.
4. Apply the appropriate bonding primer with a hard brush over the complete substrate surface to form a thin layer to fill surface pores or cavities. Refer to the 'System structure' and individual Product Data Sheets for equipment and application details.

#### Manual application

1. Apply the repair mortar instantly after mixing, onto the bonding primer 'wet on wet' using a protective gloved hand or trowel at the minimum and maximum layer thicknesses without the formation of voids.
2. Prevent sagging or slumping of 'built up' repair mortar layers. For subsequent layers, wait until the previous layer is hard enough to accept the next layer without any deformation.

### Concrete repair mortar without bonding primer

#### Manual application

1. Thoroughly pre-wet the prepared substrate (2 hours recommended).
2. Keep the surface wet and do not allow to dry.

3. Remove excess water from within the surface pores and cavities e.g. with a clean sponge. The final pre-wetted surface must achieve a dark matt appearance (saturated surface dry).
4. Apply a first thin layer of Sika MonoTop®-3130 Rapid IN with pressure, instantly after mixing onto the concrete substrate using a protective gloved hand or trowel at the minimum and maximum layer thicknesses without the formation of voids.
5. Prevent sagging or slumping of 'built up' repair mortar layers. For subsequent layers apply with pressure, wait until the previous layer is hard enough to accept the next layer without any deformation.

## Surface finishing

### IMPORTANT

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

1. Allow mortar to surface harden (~5 min after application).
2. Surface finish to the required surface texture using a stainless steel, steel, PVC or wooden float.

## Cold weather working

Consider storing bags in a warm environment and using warm water to assist with achieving strength gain and maintaining physical properties.

## Hot weather working

Consider storing bags in a cool environment and using cold water to ensure sufficient open time, to reduce cracking and maintaining physical properties.

## CURING TREATMENT

- Protect fresh mortar immediately from premature drying using an appropriate curing method, e.g. curing compound, moist geotextile membrane, polythene sheet, etc.
- Curing compounds must not be used when they could adversely affect subsequently applied products and systems.

## CLEANING OF EQUIPMENT

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

## 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 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.

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**Product Data Sheet**

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