BUILDING TRUST

BUILDING PRODUCT INFORMATION SHEET

Sikadur®-41 CF Normal

3-component thixotropic epoxy patching mortar

DESCRIPTION

Sikadur®-41 CF Normal is a thixotropic, 3-component patching and repair mortar, based on a combination of epoxy resins and special fillers, designed for use at temperatures between +10 °C and +30 °C.

USES

As a repair and bonding mortar for:

- Concrete elements
- Hard natural stone
- Ceramics, fibre cement
- Mortar, Bricks, Masonry
- Steel, Iron, Aluminium
- Wood
- Polyester, Epoxy
- Glass

As a repair mortar:

- Filling of cavities and voids
- Vertical and overhead use
- Corners and edges

As an abrasion and impact resistant wearing course:

- Joint filling and crack sealing
- Joint and crack arris / edge repair

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.

FEATURES

Sikadur®-41 CF Normal has the following advantages:

- Easy to mix and apply
- Very good adhesion to most construction materials
- High strength
- Thixotropic: Non-sag in vertical and overhead applications
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- High initial and ultimate mechanical strength
- Good abrasion resistance
- Good chemical resistance

APPROVALS / CERTIFICATES

Mortar for structural and non-structural repair, tested according to EN 1504-3, provided with the CE-mark

PRODUCT INFORMATION

Product identifier	Sikadur®-41 CF Normal
Place of manufacture	Aotearoa New Zealand
Composition	Epoxy resin
Packaging	12 kg (A+B+C) pre-batched unit
Shelf life	24 months from date of production

Storage conditions	Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight.
Colour	Component A: white Component B: dark grey Component C: sand Components A+B+C mixed: concrete grey
Density	1.98 ± 0.1 kg/l (component A+B+C mixed) (at +21 °C)

TECHNICAL INFORMATION

Compressive strength

Curing time	Curing temperature		
	+10 °C	+23 °C	+30 °C
1 day	~18 N/mm²	~62 N/mm²	~72 N/mm²
3 days	~50 N/mm²	~79 N/mm²	~81 N/mm²
7 days	~64 N/mm²	~82 N/mm²	~82 N/mm²

Modulus of elasticity in compression

~ 9,000 N/mm² (14 days at +23 °C) (ASTM D 695)

Flexural strength

Curing time	Curing temperature		
	+10 °C	+23 °C	+30 °C
1 day	~9 N/mm²	~22 N/mm²	~25 N/mm²
3 days	~19 N/mm²	~26 N/mm²	~30 N/mm²
7 days	~31 N/mm²	~38 N/mm²	~38 N/mm²

Tensile strength

Curing time	Curing temperature		
	+25 °C	+35 °C	+45 °C
1 day	~4 N/mm²	~15 N/mm²	~17 N/mm²
3 days	~15 N/mm²	~17 N/mm²	~19 N/mm²
7 days	~16 N/mm²	~19 N/mm²	~21 N/mm²

Modulus of elasticity in tension

~ 4,000 N/mm² (14 days at +23 °C) (ISO 527)

Tensile strain at break

0.2 ± 0.1 % (7 days at +23 °C) (ISO 527)

Tensile adhesion strength

Curing time	Substrate	Curing temperature	Adhesion strength
7 days	Concrete dry	+10 °C	> 4 N/mm² *
7 days	Concrete moist	+10 °C	> 4 N/mm² *
7 days	Steel	+10 °C	~6 N/mm²
7 days	Steel	+23 °C	~15 N/mm²

*100% concrete failure

Shrinkage

Hardens without shrinkage. (replace with 66912236555)

Coefficient of thermal expansion

3.5 x 10^{-5} 1/K (Temp. range +23 °C - +60 °C) (EN 1770)

Heat deflection temperature

Curing time	Curing temperature	HDT
7 days	+23 °C	+49 °C

(thickness 10 mm)

APPLICATION INFORMATION

Mixing ratio	Component A : B : C = 2 : 1 : 2.5 by weight Component A : B : C = 2 : 1 : 3.4 by volume	
Consumption	The consumption of Sikadur®-41 CF Normal is ~ 2.0 kg/m² per mm of thickness.	
Layer thickness	60 mm max.When using multiple units, use one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time.	
Sag flow	On vertical surfaces it is non-sag up to 20 mm thickness.	(EN 1799)
Product temperature	Sikadur®-41 CF Normal must be applied at a temperatures between +10 °C and +30 °C.	
Ambient air temperature	+10 °C min. / +30 °C max.	
Dew point	Beware of condensation.Substrate temperature during application must be at least 3 °C above dew point.	
Substrate temperature	+10 °C min. / +30 °C max.	
Substrate moisture content	Substrate must be dry or mat damp (no standing water)Brush the adhesive well into the substrate	

Pot Life

Temperature	Pot Life*
+10°C	~ 180 minutes
+23°C	~ 60 minutes
+30°C	~40 minutes

*200 g

The pot life begins when the resin and hardener are mixed. It is shorter at high temperatures and longer at low temperatures. The larger the quantity mixed, the shorter the pot life. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill components A+B before mixing them (not below +5 °C).

MANUFACTURER AND IMPORTER INFORMATION

Manufacturer 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, j, q), B1.3.4

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

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, j, q) B1.3.4: When used as an adhesive this product contributes to meeting the loading requirements that bonded lining elements are subjected to, as a result of self-weight, imposed in-use gravity loading, impact, and the effects of creep and shrinkage over time.

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 1999.

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.

IMPORTANT CONSIDERATIONS

Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behaviour of all polymer materials under load, the long term structural design load must account for creep. Generally the long term structural design load must be lower than 20–25 % of the failure load.

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.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths).Verify the substrate strength (concrete, masonry, natural stone).The substrate surface (all types) must be clean, dry or mat damp (no standing water) and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc.Steel substrates must be de-rusted similar to Sa 2.5The substrate must be sound and all loose particles must be removed.

SUBSTRATE PREPARATION

Concrete, mortar, stone, bricks:Substrates must be sound, dry or mat damp (no standing water) , clean and free from laitance, ice, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve a laitance and contaminant free, open textured surface.Steel:Must be cleaned and prepared thoroughly to an acceptable quality i.e. by blast-cleaning and vacuum. Avoid dew point conditions.

MIXING

Pre-batched units:Mix components A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max. 300 rpm) until the material becomes smooth in consistency and a uniform grey colour. Then add part C and continue until mixture is homogeneous. Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approx. 1 more minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within its pot life.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Thinner C immediately after use. Hardened / cured material can only be removed mechanically.

APPLICATION

Brush the adhesive well into the substrate. Sikadur®-31 CF can be used as primer to improve the bond.When using a thin layer adhesive, apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, (or with hands protected by gloves).When applying as a repair mortar, use some formwork.When using for bonding metal profiles onto vertical surfaces ,support and press uniformly using props for at least 12 hours, depending on the thickness applied (not more than 5 mm) and the room temperature.Once hardened check the adhesion by tapping with a hammer.

MAINTENANCE REQUIREMENTS

There are no maintenance requirements for this Sika product

The building element being bonded, and the bonding substrate must both be maintained in accordance with each of their manufacturers instructions

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.

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