Construction

Sikadur® 31

Non-slump epoxy resin adhesive mortar

Positioning

Description

Sikadur 31 is a solvent free, non-slump, two component epoxy resin adhesive mortar containing carefully selected and blended high strength fillers. Its paste-like consistency, when mixed, allows for easy and versatile application.

Uses

Sikadur 31 can be used for:

- Grouting of steel reinforcement into existing concrete.
- Anchoring holding down bolts, steel plates, etc into concrete.
- As a thin layer levelling or scraping mortar.
- General bonding and adhesive work for concrete, steel, brickwork, stone, Hardiflex, timber, epoxy, etc.
- Ideal for bonding precast concrete pipe or culvert intersections.

Advantages

- Very easy to apply using either a trowel, spatula or mastic gun.
- Suitable for application to both dry and damp surfaces.
- Excellent non-sag properties for vertical and overhead work.
- Hardens without shrinkage.
- High abrasion resistance.
- Excellent adhesion to concrete, steel, timber and many other substrates.
- Approved for use in contact with potable water, once cured.
- Both components are different colours to ensure thorough mixing.

Specification & Test Compliance

- Tested in accordance with BS6319.
- Complies with ASTM C881-78, Type 1, Grade 3, Class B & C.
- C/WRC approved for contact with potable water : WFBS listing number 8601065.

Product Data

Form / Colours: Component A = Cream / Component B = Dark Grey / Concrete Grey colour when mixed.

Packaging: Supplied in 0.7 litre (1.2kg), 2.94 litre (5kg), and 26.5 litre (45kg) units (Comp. A & B)

Storage / Shelf life: Three (3) years in unopened original containers when stored in dry conditions between +5°C and +30°C.

Technical Data

Type:	Thixotropic epoxy resin paste
Density:	1.7 kg/litre
Service temp:	< 70°C
Application temp:	+ 5°C to + 30°C
Shrinkage:	Negligible
Compressive strength (at 20°C):	24 hours = 35-40 MPa approx. 7 days = 55-65 MPa approx.
Flexural strength:	22 MPa approx.
Tensile strength:	15 MPa approx.
Elastic modulus:	5.8 GPa approx.
Bond strength:	Sandblasted Steel = 20 MPa approx. Sandblasted Concrete = 3.5 MPa approx. (concrete failure)
Pot life (5 kg mix):	Temperature (°C) 10°C 20°C 30°C Minutes (approx.) 90 40 20
Application thickness:	Up to 30 mm in one layer.

Application Conditions

Surface Preparation

- All concrete surfaces must be clean and free from any loosely adhering particles or contaminants such as dirt, oil, dust, grease, etc. All cement laitance should be removed by scabbling, sandblasting, etc.
- The prepared surface must be free from standing water.
- Steel surfaces must have all paints, films, oils, rust and other contaminants removed by grit blasting or similar. Apply Sikadur 31 immediately after blasting is completed to prevent rust from recurring.
- Epoxy surfaces must be mechanically abraded then washed clean with Sika Colma Cleaner. Allow to dry before applying Sikadur 31.

Mixing

- Add Component B to Component A at the correct ratio using a Sika mixing paddle attached to a low speed electric drill (max. 500 rpm). Mix together until a smooth streak free paste is achieved.
- Part batching of Sikadur 31 is not recommended unless strict measurement of the components, in accordance with the mix ratio of the factory proportioned pack, is observed and adhered to.

Application

Grouting of starters and bolts

- Sikadur 31 can be loaded into empty cartridges or directly into a Sika bulk dispensing gun. For best results gun apply the epoxy into the base of the prepared hole using a piece of tubing attached to the nozzle. This will ensure that any entrapped air is expelled when the starter or bolt is pushed into the hole, after the epoxy has been deposited.
- Temporary support of bolts and starters is required for overhead applications until the epoxy has gained sufficient adhesive strength.

Thin film bonding adhesive

- Apply Sikadur 31 to both prepared surfaces using a trowel or stiff brush. Push the components together ensuring that a continuous even film with a minimum thickness of 2 mm is achieved. Provide temporary support in vertical and overhead applications.

Levelling or scraping mortar

- Sikadur 31 can be applied to the prepared surface using a trowel or float. Ensure that the epoxy is well worked into the substrate. This is particularly important on damp surfaces.
- The 'sticky' non-slump nature of Sikadur 31 can make it difficult to achieve a smooth uniform finish when using a steel float. If necessary the float face may be wiped with Sika Colma Cleaner intermittently during finishing to help achieve a smooth finish. Do not under any circumstances apply Colma Cleaner directly to the surface of the epoxy.
- Sikadur 31 can be applied in layers up to 30 mm thick for each application. On vertical surfaces it will not sag in layers up to 10 mm thick.

Cleaning

- Clean all tools and equipment immediately after use with Sika Colma Cleaner.
- It is recommended that protective gloves and clothing be worn during application, however uncured Sikadur 31 may be removed from skin with Sikaflex Hand Cleaner or warm soapy water.
- Cured Sikadur 31 can only be removed mechanically.

Important Notes

- Do not apply Sikadur 31 to surfaces with standing water on them.
- When using compressed air to clean out drilled holes for starters and bolts it is essential that the hose be pushed to the base of the hole. This will ensure that any dust is blown up to the top and out of the hole. Check that the compressed air is clean and oil free.
- Sikadur 31 will not cure at temperatures below 5°C. Optimal application temperatures for Sikadur 31 are between 10°C and 30°C. The temperature at which Sikadur 31 is stored during the 24 hours before mixing will govern its pot life when mixed.
- To avoid shrinkage caused by exotherm Sikadur 31 should not be applied in layers greater than 30 mm thick per application.

Notes

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.

Health & Safety Information

Protective Measures	• To avoid rare allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hands before breaks and after finishing work. • Local regulations as well as health and safety advice on packaging labels must be observed. • For further information refer to the Sika Material Safety Data Sheet which is available on request. • If in doubt always follow the directions given on the pack or label.
Transportation Class	Sikadur 31, Component B has a dangerous goods classification for transportation: Haz., Class 8, UN No.1759, Packing group III.
Important Notes	• Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities. • Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

Legal Notes

Construction

Project Reference
BRITOMART
QE II SQUARE

Requirement:
A bedding mortar was required for the paving being laid adjacent to the Britomart station and in Queen Elizabeth II Square. The demands on these different areas varied from foot traffic through to heavy vehicular traffic such as buses, cars and trucks. As sand/cement mortars used in this sort of application had been known to fail in the past, an epoxy mortar was sought which would have the strength and durability to withstand the rigors of this heavy duty application.

Solution:
Sikadur 31, a two-component, non-slump, epoxy resin adhesive mortar, was chosen for this application. It's paste-like consistency allowed for easy application. Its excellent adhesion to concrete, along with its suitability for application to both dry and damp surfaces and ability to harden without shrinkage were all added advantages which made Sikadur 31 the ideal choice.

Products Used:
Sikadur 31

Reference: AKL301

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Responsible Care

Certified Quality System ISO 9001/EN 29001 since 1986