Product Data Sheet
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Identification no:
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Sikadur®-31(IN)
(Formerly known as Sikadur® - 31)

Construction

Sikadur®-31(IN)

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2-part thixotropic epoxy adhesive

Product Description

Sikadur®-31(IN) is a solvent-free, moisture tolerant, thixotropic, two part structural adhesive and repair mortar, based on epoxy resins and special fillers, designed for use at temperatures between +10°C and +40°C.

Uses

As a structural adhesive for:

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

As a fast setting repair mortar for:

- Corners and edges
- Hole and void filling
- Joint arises

Joint filling and crack sealing:

- Rigid joint filling
- Crack filling and sealing (non moving)

Characteristics / Advantages

Sikadur®-31(IN) has the following advantages:

- Easy to mix and apply
- Suitable for dry and damp concrete surfaces
- Very good adhesion to most construction materials
- High strength adhesive
- Thixotropic: non-sag and suitable for vertical and overhead application
- Solvent free
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- High initial and ultimate strengths
- Good abrasion & Chemical resistance
- Adhesive and filler in one
- Impermeable to liquids and water vapour

Tests

Approval / Standards	Testing according to ASTM C-579, ASTM C 882, to DIN EN 196, ISO 527

Product Data

Form

Colour of System	Grey Paste
Packaging	Set of 3 kg (A+B) and 6kg (A+B). Bulk pack of 30kg (A+B)

Storage

Storage Conditions / Shelf-Life	12 months from date of production if stored properly in original unopened, sealed and undamaged packaging in dry conditions at temperatures between +5°C and +40°C. Protect from direct sun light.

Technical Data

Chemical Base	Epoxy resin.
Mixed Density	1.90 ± 0.05 kg/l at 30 ºC
Sag Flow	On vertical surfaces it is non-sag up to 10 mm thickness. (According to FIP 5.3 with measurement according to ASTM D2730)
Layer Thickness	30 mm max. When using multiple units, 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.
Change of Volume	Shrinkage / Creep: Hardens without shrinkage.

Mechanical / Physical Properties

Tensile E Modulus 1500 MPa (According to ISO 527)

Elongation at Break 0.28 % (According to ISO 527)

Compressive Strength (According to ASTM C-579)

Curing time	+30°C
1 day	45 - 55 N/mm^2
3 days	50 - 60 N/mm^2
7 days	55 - 65 N/mm^2
14 days	60 - 70 N/mm^2

Bond Strength (According to ASTM C 882)

Curing time	Temperature	Substrate	Bond strength
7 days	+30°C	Concrete dry	≥ 10 N/mm^{2*}

*100% concrete failure.

Flexural Strength (According to DIN EN 196)

Curing time	+30°C
1 day	10 - 15 N/mm^2
3 days	15 - 20 N/mm^2
7 days	20 - 25 N/mm^2
14 days	25 - 30 N/mm^2

Tensile strength (According to ISO 527)

Curing time	+30°C
3 days	5 - 8 N/mm^2
7 days	8 - 10 N/mm^2

System Information

Application Details

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 and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc.. Steel substrates must be de-rusted similar to Sa 2.5. The substrate must be sound and all loose particles must be removed.
Substrate Preparation	Concrete, mortar, stone, bricks: Substrates must be sound, dry, clean and free from laitance, ice, standing water, 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. Other surfaces (polyester, epoxy, glass, ceramic): On these substrates pre-apply Sikafloorr®-156 (primer) and then, “wet on wet“ apply Sikadur®-31 (IN).

Application Conditions / Limitations

Substrate Temperature	+10°C min. / +40°C max.
Ambient Temperature	+10°C min. / +40°C max.
Material Temperature	Sikadur®-31(IN) must be at a temperature of between +10°C and +40°C.
Substrate Moisture Content	When applied to mat moisture concrete, brush the adhesive well into substrate.
Dew Point	Beware of condensation! Substrate temperature during application must be at least 3°C above dew point.

Application Instructions

Mixing	Part A : Part B = 2 : 1 (by weight)
Mixing Time	Pre-batched units: Mix parts A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max. 600 rpm) until the material becomes smooth in consistency and a uniform grey colour. 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 potlife.
Application Method / Tools	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

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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.

Cleaning of Tools

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

Potlife

100 g mass (According to FIP 5.1 and 5.2)

+30°C	≥ 40

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

Value Base

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.

Health and Safety Information

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

Legal Notes

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