BUILDING TRUST

PRODUCT DATA SHEET

# Sikadur®-32 LP

Epoxy bonding agent and Reinforcement Corrosion Protection

## DESCRIPTION

Sikadur®-32 LP is a moisture tolerant, structural, two part bonding agent, based on a combination of epoxy resins and special fillers, designed with a longer potlife or working time for use at higher temperatures, between +20 °C and +40 °C.

## USES

Sikadur®-32 LP may only be used by experienced professionals.

As a corrosion protection to reinforcement as per EN1504.
- Suitable for cathodic control (Principle 9, method 9.1 EN 1504-9)
- Suitable for control of anodic areas (Principle 11, method 11.2 EN 1504-9)

As a structural bonding agent and adhesive for:
- Concrete elements (including bonding fresh to hardened concrete)
- Hard natural stone
- Ceramics, fibre-cement
- Monotop Repair Mortars, Bricks, Masonry, Render
- Steel, Iron, Aluminium
- Wood
- Polyester / fibreglass and epoxy resin materials
- Glass

## FEATURES

- Easy to mix and apply
- Suitable for dry and damp concrete substrates
- Very good adhesion to most construction materials
- High bond strength
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- High initial and ultimate mechanical strengths
- Impermeable to liquids and water vapour
- Good chemical resistance

## CERTIFICATES AND TEST REPORTS

- AS/NZS 4020:2018 Potable Water Approved

## PRODUCT INFORMATION

| | |
|---|---|
| **Composition** | Epoxy resin and selected fillers |
| **Packaging** | 3 lt (A & B) kit<br>18 lt (A & B) kit |
| **Colour** | Component A: white<br>Component B: dark grey<br>Components A+B mixed: concrete grey |
| **Shelf life** | 24 months from date of production |

| | |
|---|---|
| **Storage conditions** | The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging. |
| **Density** | 1.4 ± 0.1 kg/l (component A+B mixed) (at +23 °C) |

## TECHNICAL INFORMATION

**Compressive strength** (ASTM C579)

| Curing time | Curing temperature | | |
|---|---|---|---|
| | +23 °C | +30 °C | +40 °C |
| 1 day | ~10 N/mm² | ~20 N/mm² | ~30 N/mm² |
| 3 days | ~14 N/mm² | ~24 N/mm² | ~41 N/mm² |
| 7 days | ~34 N/mm² | ~38 N/mm² | ~52 N/mm² |
| 28 days | ~39 N/mm² | ~43 N/mm² | ~56 N/mm² |

Product cured and tested at temperatures indicated.
Test specimen size: 50mm x 50mm x 50mm·

**Modulus of elasticity in compression** ~2100 N/mm² (14 days at +23 °C) (ASTM D 695-95)

**Flexural-strength** (DIN EN ISO 178)

| Curing time | Curing temperature | | |
|---|---|---|---|
| | +23 °C | +30 °C | +40 °C |
| 1 day | – | – | ~18 N/mm² |
| 3 days | ~21 N/mm² | ~20 N/mm² | ~30 N/mm² |
| 7 days | ~24 N/mm² | ~28 N/mm² | ~36 N/mm² |
| 14 days | ~38 N/mm² | ~38 N/mm² | ~42 N/mm² |

**Modulus of elasticity in flexure** ~2600 N/mm² (14 days at +23 °C) (DIN EN ISO 178)

**Tensile strength** (ISO 527)

| Curing time | Curing temperature | | |
|---|---|---|---|
| | +23 °C | +30 °C | +40 °C |
| 1 day | – | – | ~11 N/mm² |
| 3 days | ~13 N/mm² | ~16 N/mm² | ~18 N/mm² |
| 7 days | ~20 N/mm² | ~18 N/mm² | ~22 N/mm² |
| 14 days | ~22 N/mm² | ~24 N/mm² | ~25 N/mm² |

**Modulus of elasticity in tension** ~2750 N/mm² (14 days at +23 °C) (ISO 527)

**Tensile strain at break** 1.0 ± 0.1 % (14 days at +23 °C) (ISO 527)

**Shrinkage** Hardens without shrinkage.

**Tensile adhesion strength** (EN ISO 4624, EN 1542, EN 12188)

| Curing time | Substrate | Curing temperature | Adhesion strength |
|---|---|---|---|
| 7 days | Concrete dry | +23 °C | > 3 N/mm² * |
| 7 days | Concrete moist | +23 °C | > 3 N/mm² * |
| 1 day | Steel | +23 °C | ~8 N/mm² |
| 3 days | Steel | +23 °C | ~12 N/mm² |
| 3 days | Steel | +30 °C | ~13 N/mm² |
| 3 days | Steel | +40 °C | ~15 N/mm² |

*100% concrete failure

**Coefficient of thermal expansion** $11.4 \times 10^{-5}$ 1/K (Temp. range +23 °C - +60 °C) (EN 1770)

**Heat deflection temperature** (ISO 75)

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

(thickness 10 mm)

## APPLICATION INFORMATION

**Mixing ratio** Part A : Part B = 2 : 1 by weight or volume

| | |
|---|---|
| **Consumption** | ~1.3 kg/m² per mm of thickness.<br>This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc. |
| **Layer thickness** | ~1 mm max. |
| **Sag flow** | On vertical surfaces it is non-sag up to 1.0 mm thickness. (EN 1799) |
| **Material temperature** | +20 °C min. / +40 °C max. |
| **Ambient air temperature** | +20 °C min. / +40 °C max. |
| **Dew point** | Beware of condensation.<br>Steel substrate temperature during application must be at least +3 °C above dew point. |
| **Substrate temperature** | +20 °C min. / +40 °C max. |
| **Substrate moisture content** | Substrate must be dry or mat damp (no standing water)<br>Brush the material well into the substrate |

**Pot Life** (EN ISO 9514)

| Temperature | Potlife* | Open time |
|---|---|---|
| +20 °C | ~145 minutes | ~270 minutes |
| +30 °C | ~55 minutes | ~240 minutes |
| +40 °C | ~35 minutes | ~120 minutes |

*200 g
The potlife begins when Parts A+B 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 smaller quantities. Another method is to chill Parts A+B before mixing (not below +5 °C).

## 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.

## 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, when using adhesive for structural applications, 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. A structural engineer must be consulted for design calculations for specific structural applications.
- When using multiple units during application, do not mix the following unit until the previous one has been used in order to avoid a reduction in workability and handling time.
- For heavy components positioned vertically or overhead, provide temporary support.

## 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

Hardened mortar and concrete must be older than 28 days (depending on any minimal strength requirements). Verify the substrate strength by testing (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 to a condition similar to Sa 2.5. The substrate must be sound and all loose or friable particles must be removed.

### SUBSTRATE PREPARATION

**Concrete, mortar, stone and brick**
Concrete and other hardened mineral substrates must be prepared by suitable means such as high pressure water jetting and / or blast cleaning, in order to obtain surfaces that are sound, clean, dry or mat damp (no standing water) and free from any cement laitance, ice, grease, oils, old coatings or other surface treatments. Any loose or friable particles must also be removed to achieve a contaminant free and open textured surface.
**Steel**
Steel surface must be cleaned and prepared thoroughly to an acceptable quality standard equivalent to Sa 2.5 i.e. normally by blast cleaning and then removing any dust by 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. 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

Apply the mixed Sikadur®-32 LP to the prepared surface by brush, roller, spray or with a trowel, and ensure uniform and complete coverage. On hardened concrete substrates mechanically prepared to receive fresh concrete, always apply by brush and work the material well into the substrate.

Place the fresh concrete whilst the Sikadur®-32 LP layer is still 'tacky'. If the material becomes glossy and loses tackiness, apply a fresh coat with additional Sikadur®-32 LP and proceed.

### CLEANING OF EQUIPMENT

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

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

## 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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