

## PRODUCT DATA SHEET

# Sikadur<sup>®</sup>-52 Normal

Low viscosity epoxy resin

### DESCRIPTION

Sikadur<sup>®</sup>-52 Normal is a low viscosity, free flowing and fast curing injection resin and primer/coating based on a 2 component solvent free epoxy resin; ideally suited to a wide range of building and civil engineering applications where highly penetrative material is required.

### USES

Sikadur<sup>®</sup>-52 Normal may be used to inject and fill cracks between 0.2 - 5 mm wide in a wide variety of constructions applications. Sikadur<sup>®</sup>-52 Normal does not shrink on curing and forms a rigid, high strength product which exhibits excellent adhesion to most construction materials enabling the restoration of structural adequacy to columns, beams, foundations, decks and water retaining structures.

Due to its highly penetrative nature Sikadur<sup>®</sup>-52 Normal is ideally suited for application as a primer beneath Sikadur epoxy mortars or Sikafloor mortars and coatings on dense substrates. Sikadur<sup>®</sup>-52 Normal may also be used to stabilise weak and friable substrates. Special high strength grades can be made to order.

### CHARACTERISTICS / ADVANTAGES

- Shrink free
- Insensitive to moisture during application, cure or whilst in service
- Applicable over wide temperature range
- Low viscosity
- Excellent adhesion to most building materials even when damp
- Proven in service
- High tensile and flexural strength
- Supplied in factory proportioned units
- High early strength
- Chemical resistant

### APPROVALS / CERTIFICATES

ASTM C881-78 complies with Type 1, Grade 1 Class B & C

### PRODUCT INFORMATION

|                           |   |
|---------------------------|---|
| <b>Composition</b>        | Epoxy resin   |
| <b>Packaging</b>          | 450 ml twin cartridge<br>3.0 kg and 8.0 kg net pre-proportioned kits  |
| <b>Colour</b>             | Part A: Semi-Transparent (pale yellow),<br>Part B: Transparent (pale brown)<br>Part A+B mixed: Pale straw colouration   |
| <b>Shelf life</b>         | Minimum shelf life is approximately 3 years   |
| <b>Storage conditions</b> | Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. |

Density 1.1 kg/litre (component A+B mixed) (at +23 °C)

| Viscosity | Temperature | Viscosity  |
|-----------|-------------|------------|
|           | +20 °C      | ~300 mPa.s |
|           | +35 °C      | ~110 mPa.s |

Note: 1 mPa.s = 1 centipoise (cps)

## TECHNICAL INFORMATION

|                           |                                  |          |             |
|---------------------------|----------------------------------|----------|-------------|
| Compressive strength      |                                  | +20 °C   | (AS 1478.2) |
|                           | 1 day                            | ~44 MPa  |             |
|                           | 7 days                           | ~54 MPa  |             |
| Tensile strength          | ~22 MPa (after 7 days at +20 °C) |          | (BS 6319)   |
| Tensile adhesion strength |                                  | +20 °C   | (EN 1542)   |
|                           | Adhesion to concrete             | >3.5 MPa |             |
|                           | Adhesion to sandblasted steel    | ~10 MPa  |             |
|                           |                                  |          |             |

## APPLICATION INFORMATION

|                         |  |              |  |
|-------------------------|--|--------------|--|
| Mixing ratio            | A : B = 2 : 1 by weight and volume   |              |  |
| Consumption             | 1.1 kg/m <sup>2</sup> approx. per mm thickness<br>(dependent on surface profile, texture, temperature, porosity and wastage) |              |  |
| Ambient air temperature | +5 °C to +30 °C  |              |  |
| Substrate temperature   | +5 °C to +30 °C  |              |  |
| Pot Life                | Temperature  | Time         |  |
|                         | 5°C  | ~ 70 minutes |  |
|                         | 20°C   | ~ 27 minutes |  |
|                         | 35°C   | ~ 16 minutes |  |

## 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

- If the Part A shows signs of crystallisation, before application place the Sikadur®-52 Normal cartridge or container in warm water (heated to 60°C) for at least one hour.
- Do not apply to surfaces with standing water or to water saturated cracks.
- For optimum penetration and adhesion substrates should be dry.
- Maximum moisture content of the substrate 10%.
- Do not part mix containers to avoid mix ratio errors.
- Do not dilute the product with solvent as this will affect both the cure and in-service performance.
- Constant in-service temperatures >70°C may affect the performance of the product.
- Maximum application thickness 5mm.
- Not suitable for injection into cracks less than 0.2 mm or greater than 5mm wide. Unless injected under pressure in which case cracks down to 0.15mm are possible.
- Maximum permissible substrate temperature 30°C.
- Minimum age of new concrete 3 to 6 weeks, depending on thickness.
- Do not apply Sikadur®-52 Normal to substrates lower than 5°C.
- The temperature at which the Sikadur®-52 Normal is stored during the 24 hours before it is mixed will govern its potlife when mixed.
- Compressive strengths etc. of epoxy resins must be qualified by the testing method eg. Test Standard or size of specimen under test and the rate at which the test piece is loaded while under test, as these factors will affect the result. Faster loading rates will generally give higher ultimate loads and vice versa. Also, a specimen at lower temperature will show higher strengths and vice versa.

## 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 PREPARATION

All surfaces to be coated, should be mechanically roughened, free from all contaminants (eg. dust, oil, grease, etc.) surface water, laitance, old coatings, corrosion products. Suitable methods of preparation include blast cleaning and scabbling. For optimum penetration the substrate should be dry.

When Sikadur®-52 Normal is used to inject cracks, the cracks must be blown out with oil free, dry compressed air. Cracks in the width range of 0.2 - 5 mm may be successfully injected.

### MIXING

Sikadur®-52 Normal is supplied in factory proportioned units comprising the correct quantities of Part A (Resin) and Part B (Hardener). Thoroughly stir both components separately using a slow running drill with a windmill type paddle (max. speed 600 rpm). Decant all of Part B into Part A and mix thoroughly (typically 3 mins). (Not applicable to twin cartridge packs).

### APPLICATION METHOD / TOOLS

When applied as a primer/coating Sikadur®-52 Normal should be worked well into the substrate. This is particularly important on damp surfaces. Ensure the attainment of an overall gloss sheen but do not allow the material to puddle. If Sikadur®-52 Normal is used as a primer for Sikadur epoxy mortars and Sikafloor mortars and coatings it should be allowed to cure (but no more than 24 hours old) prior to applying the ensuing Sikadur/Sikafloor materials. (Please refer to the relevant Sikadur/Sikafloor Technical Data sheets for further details).

When used to fill cracks Sikadur®-52 Normal may be gravity fed or pressure injected for horizontal surfaces. Only pressure injection is suitable for vertical or overhead cracks.

To fill horizontal cracks under gravity construct a reservoir above the crack, fill with Sikadur®-52 Normal and allow to penetrate. Residual material may be ground off when fully cured. Vertical and overhead cracks should have injection nipples fixed centrally over the crack (between 30 - 50 cm centres) using Sikadur-31 or Sika Anchorfix-3+. Seal the surface of the crack with Sikadur-31 or Sika Anchorfix-3+. Allow to cure.

Commence injection under pressure from one end of the crack (the lowest nipple on vertical cracks) until the Sikadur®-52 Normal exudes from the next nipple, seal off the first and proceed to inject from the second nipple etc. Once the crack is filled and Sikadur®-52 Normal fully cured remove the nipples and use a gas torch and paint scraper or grind the surface back to line and level. For further details on crack injection please refer to our Technical Department.

### CLEANING OF EQUIPMENT

Uncured material may be cleaned from application tools, etc. by using Sika Colma Cleaner (flammable solvent). Cured material can only be removed mechanically.

## 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.

Sika Australia Pty Limited

ABN 12 001 342 329

aus.sika.com

Tel: 1300 22 33 48



Product Data Sheet

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January 2021, Version 01.01

020707030010000063

Sikadur-52Normal-en-AU-(01-2021)-1-1.pdf