

# PRODUCT DATA SHEET

## Sikadur®-52 Injection Normal

### EPOXY LOW VISCOSITY INJECTION RESIN

#### PRODUCT DESCRIPTION

Sikadur®-52 Injection Normal is an epoxy based 2-part low viscosity injection resin specially formulated for crack injection work by either pressure injection or gravity feed techniques.

Available in 2 grades: Type N (Normal pot life) substrate temperature range +5°C to +30°C. Type LP (Long pot life) substrate temperature range +25°C to +40°C.

#### USES

Sikadur®-52 Injection Normal may only be used by experienced professionals.

- Crack injection resin
- Fills and seals voids and cracks in structures such as bridges, civil engineering structures, industrial and residential buildings, e.g. columns, beams, foundations, walls, floors and water retaining structures.
- Structural bonding
- Preventing ingress of water and infiltration of reinforcement corrosion promoting substances

#### CHARACTERISTICS / ADVANTAGES

- Good adhesion to concrete, masonry, stone, steel and wood substrates
- Suitable for both, dry and damp conditions
- Maximum crack width 5,0 mm
- Good mechanical properties
- Usable at low temperatures
- Two grades for different climatic conditions
- Shrinkage free hardening
- High mechanical and adhesive strengths
- Hard but not brittle
- Low viscosity
- Injectable with single component pumps

#### APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-5 - Concrete injection
- Fire Testing DIN EN 13501-1, Sikadur®-52 Injection Normal, MPA Braunschweig, Test report No. K-3604/805/13-MPA BS

#### PRODUCT INFORMATION

<b>Packaging</b>	Prebatched kit:	Bulk:	
	Part A+B: 10 x 1 kg units	On request	
Refer to current price list for packaging variations.			
<b>Colour</b>	<b>Part A:</b>	<b>Part B:</b>	<b>Part A+B mixed:</b>
	Transparent	Brownish	Yellowish-brownish
<b>Shelf Life</b>	24 months from date of production		
<b>Storage Conditions</b>	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +35 °C. Always refer to packaging.		

<b>Density</b>	<b>Component A</b>	<b>Component B</b>	<b>Component A+B mixed (2 : 1)</b>	(At 22 °C (EN ISO 2811-1))
	1,121 kg/l	1,006 kg/l	1,1 kg/l	
<b>Viscosity</b>	<b>Temperature</b>	<b>Normal part A+B mixed (2:1)</b>	<b>Long Potlife part A+B mixed (2:1)</b>	(At 23° C (EN ISO 3219))
	+10 °C	~1200 mPa•s	-	
	+20 °C	~430 mPa•s	~330 mPa•s	
	+30 °C	~220 mPa•s	~150 mPa•s	
	+40 °C	-	~95 mPa•s	

## TECHNICAL INFORMATION

<b>Compressive Strength</b>	<b>Sikadur®-52 Injection Normal</b>			(ASTM D695-96)	
	<b>Time</b>	<b>5 °C</b>	<b>23 °C</b>		<b>30 °C</b>
	1 d	-	32 N/mm <sup>2</sup>		43 N/mm <sup>2</sup>
	3 d	11 N/mm <sup>2</sup>	52 N/mm <sup>2</sup>		51 N/mm <sup>2</sup>
	7 d	53 N/mm <sup>2</sup>	55 N/mm <sup>2</sup>		55 N/mm <sup>2</sup>

<b>Compressive Strength</b>	<b>Sikadur®-52 Injection LP</b>			(ASTM D695-96)	
	<b>Time</b>	<b>23 °C</b>	<b>30 °C</b>		<b>40 °C</b>
	1 d	1 N/mm <sup>2</sup>	2 N/mm <sup>2</sup>		20 N/mm <sup>2</sup>
	3 d	19 N/mm <sup>2</sup>	35 N/mm <sup>2</sup>		31 N/mm <sup>2</sup>
	7 d	32 N/mm <sup>2</sup>	36 N/mm <sup>2</sup>		33 N/mm <sup>2</sup>

<b>Modulus of Elasticity in Compression</b>	<b>Sikadur®-52 Injection Normal</b>			(ASTM D695-96)	
	<b>Time</b>	<b>5 °C</b>	<b>23 °C</b>		<b>30 °C</b>
	1 d	-	700 N/mm <sup>2</sup>		650 N/mm <sup>2</sup>
	3 d	650 N/mm <sup>2</sup>	1100 N/mm <sup>2</sup>		1000 N/mm <sup>2</sup>
	7 d	1500 N/mm <sup>2</sup>	1250 N/mm <sup>2</sup>		1000 N/mm <sup>2</sup>

<b>Modulus of Elasticity in Compression</b>	<b>Sikadur®-52 Injection LP</b>			(ASTM D695-96)	
	<b>Time</b>	<b>23 °C</b>	<b>30 °C</b>		<b>40 °C</b>
	1 d	9 N/mm <sup>2</sup>	124 N/mm <sup>2</sup>		508 N/mm <sup>2</sup>
	3 d	409 N/mm <sup>2</sup>	635 N/mm <sup>2</sup>		813 N/mm <sup>2</sup>
	7 d	409 N/mm <sup>2</sup>	569 N/mm <sup>2</sup>		693 N/mm <sup>2</sup>

<b>Flexural Strength</b>	<b>Sikadur®-52 Injection Normal</b>			(DIN 53452)	
	<b>Time</b>	<b>5 °C</b>	<b>23 °C</b>		<b>30 °C</b>
	1 d	-	36 N/mm <sup>2</sup>		51 N/mm <sup>2</sup>
	3 d	11 N/mm <sup>2</sup>	59 N/mm <sup>2</sup>		60 N/mm <sup>2</sup>
	7 d	38 N/mm <sup>2</sup>	63 N/mm <sup>2</sup>		67 N/mm <sup>2</sup>

<b>Flexural Strength</b>	<b>Sikadur®-52 Injection LP</b>			(DIN 53452)	
	<b>Time</b>	<b>23 °C</b>	<b>30 °C</b>		<b>40 °C</b>
	1 d	1 N/mm <sup>2</sup>	6 N/mm <sup>2</sup>		28 N/mm <sup>2</sup>
	3 d	22 N/mm <sup>2</sup>	33 N/mm <sup>2</sup>		43 N/mm <sup>2</sup>
	7 d	41 N/mm <sup>2</sup>	46 N/mm <sup>2</sup>		41 N/mm <sup>2</sup>

**Flexural E-Modulus****Sikadur®-52 Injection Normal**

Time	5 °C	23 °C	30 °C	(DIN 53452)
1 d	-	850 N/mm <sup>2</sup>	1450 N/mm <sup>2</sup>	
3 d	700 N/mm <sup>2</sup>	1400 N/mm <sup>2</sup>	1600 N/mm <sup>2</sup>	
7 d	1500 N/mm <sup>2</sup>	1600 N/mm <sup>2</sup>	1750 N/mm <sup>2</sup>	
14 d	1700 N/mm <sup>2</sup>	1650 N/mm <sup>2</sup>	1500 N/mm <sup>2</sup>	

**Sikadur®-52 Injection LP**

Time	23 °C	30 °C	40 °C	(DIN 53452)
1 d	8 N/mm <sup>2</sup>	251 N/mm <sup>2</sup>	798 N/mm <sup>2</sup>	
3 d	688 N/mm <sup>2</sup>	997 N/mm <sup>2</sup>	1238 N/mm <sup>2</sup>	
7 d	1072 N/mm <sup>2</sup>	1067 N/mm <sup>2</sup>	1177 N/mm <sup>2</sup>	
14 d	1150 N/mm <sup>2</sup>	1000 N/mm <sup>2</sup>	1200 N/mm <sup>2</sup>	

**Tensile Strength****Sikadur®-52 Injection Normal**

Time	5 °C	23 °C	30 °C	(ISO 527)
1 d	-	23 N/mm <sup>2</sup>	26 N/mm <sup>2</sup>	
3 d	5 N/mm <sup>2</sup>	35 N/mm <sup>2</sup>	39 N/mm <sup>2</sup>	
7 d	30 N/mm <sup>2</sup>	37 N/mm <sup>2</sup>	37 N/mm <sup>2</sup>	
14 d	40 N/mm <sup>2</sup>	40 N/mm <sup>2</sup>	37 N/mm <sup>2</sup>	

**Sikadur®-52 Injection LP**

Time	23 °C	30 °C	40 °C	(ISO 527)
1 d	1 N/mm <sup>2</sup>	9 N/mm <sup>2</sup>	18 N/mm <sup>2</sup>	
3 d	13 N/mm <sup>2</sup>	24 N/mm <sup>2</sup>	25 N/mm <sup>2</sup>	
7 d	24 N/mm <sup>2</sup>	25 N/mm <sup>2</sup>	26 N/mm <sup>2</sup>	
14 d	23 N/mm <sup>2</sup>	28 N/mm <sup>2</sup>	27 N/mm <sup>2</sup>	

**Tensile Modulus of Elasticity****Sikadur®-52 Injection Normal**

Time	5 °C	23 °C	30 °C	(ISO 527)
1 d	-	1250 N/mm <sup>2</sup>	1400 N/mm <sup>2</sup>	
3 d	550 N/mm <sup>2</sup>	1800 N/mm <sup>240 °C</sup>	1900 N/mm <sup>2</sup>	
7 d	1800 N/mm <sup>2</sup>	1800 N/mm <sup>2</sup>	1800 N/mm <sup>2</sup>	
14 d	2200 N/mm <sup>2</sup>	2000 N/mm <sup>2</sup>	1800 N/mm <sup>2</sup>	

**Sikadur®-52 Injection LP**

Time	23 °C	30 °C	40 °C	(ISO 527)
1 d	29 N/mm <sup>2</sup>	219 N/mm <sup>2</sup>	769 N/mm <sup>2</sup>	
3 d	700 N/mm <sup>2</sup>	1100 N/mm <sup>2</sup>	1250 N/mm <sup>2</sup>	
7 d	1200 N/mm <sup>2</sup>	1200 N/mm <sup>2</sup>	1250 N/mm <sup>2</sup>	
14 d	1100 N/mm <sup>2</sup>	1300 N/mm <sup>2</sup>	1250 N/mm <sup>2</sup>	

**Elongation at Break****Sikadur®-52 Injection Normal**

Time	5 °C	23 °C	30 °C	(ISO 527)
1 d	-	21 %	16 %	
3 d	57 %	16 %	9 %	
7 d	22 %	8 %	7 %	
14 d	6 %	8 %	10 %	

**Sikadur®-52 Injection LP**

Time	23 °C	30 °C	40 °C	(ISO 527)
1 d	-	33 %	14 %	
3 d	20 %	12 %	9 %	
7 d	9 %	7 %	9 %	
14 d	9 %	7 %	7 %	

**Tensile Adhesion Strength**

Concrete:

> 4 N/mm<sup>2</sup> (failure in concrete) (acc. to DafStb-Richtlinie, Part 3)  
(after 7 days at + 23 °C)

**Coefficient of Thermal Expansion**

Type Normal:	Type Long Potlife:	From -20 °C to +40 °C
8,9 × 10 <sup>-5</sup> per °C	9,4 × 10 <sup>-5</sup> per °C	(acc EN ISO 1770)

**APPLICATION INFORMATION****Mixing Ratio**

Type Normal and Long Potlife:

Mixing ratio A : B = 2 : 1 parts by weight and by volume

**Consumption****Yield**

1 kg of Sikadur®-52 Injection Normal Type N and Type LP: ~1 litre of injection resin.

**Substrate Temperature**

Type Normal:	Type Long Potlife:
+5 °C min. / +30 °C max	+5 °C min. / +30 °C max

**Substrate Moisture Content**

Dry or damp (SSD - Saturated Surface Dry: no standing water)

**Pot Life**

Temperature	Normal Type (1 kg mixture)	Long Potlife Type (1 kg mixture)
+5 °C	~120 minutes	-
+10 °C	~80 minutes	-
+23 °C	~25 minutes	~70 minutes
+30 °C	~10 minutes	~30 minutes
+40 °C	-	~10 minutes

**APPLICATION INSTRUCTIONS****SUBSTRATE PREPARATION****Concrete / brickwork**

Substrate must be clean and sound. Cracks may be dry or damp but free of standing water. Remove from cracks by suitable preparation techniques dust, loosely adhering particles and other contaminants that will affect injection and adhesion.

**MIXING****Prebatched kit packaging:**

Add all of part B to part A. Mix with an electric mixer at slow speed (max. 250 rpm) for at least 3 minutes. Avoid entraining air.

**Bulk packaging:**

Add both parts in the correct proportion into a suitable clean, dry container and mix in the same way as for the prebatched kit units. Mix only the quantity that can be used within its pot life.

**APPLICATION METHOD / TOOLS**

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.

Preliminary trials should be carried out by a competent applicator experienced in crack injection using suitable equipment and appropriate injection pressures.

**CLEANING OF TOOLS**

Clean all tools and application equipment using the

Sika® Injection Cleaning System in accordance with the Product Data Sheet. Hardened material can only be mechanically removed.

## LIMITATIONS

- Do not inject into wet or saturated cracks.
- Do not add solvent to the product.
- Do not inject cracks under hydrostatic pressure.
- Do not inject crack widths >5,0 mm.
- At higher temperatures pot life will be shortened.
- At lower temperatures pot life will be increased but product will become more difficult to inject and take longer to harden.
- Trials should be carried out to establish suitability of resin, spacing of injection ports, injection equipment and pressures.

## VALUE BASE

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## 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.

## ECOLOGY, HEALTH AND SAFETY

Local safety regulations must be observed and it advisable to wear PPI when working with this product with particular attention paid to cutting and handling.

Transportation Class: The product is not classified as hazardous good for transport. Disposal: The material is recyclable. Disposal must be according to local regulations. Please contact your local Sika sales organisation for more information.

## 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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