

Technical data sheet

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Sikadur® -52 Injection Type N and LP

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Low viscosity injection resins

Product Description	Sikadur®-52 Injection Type N and Type LP are two part, solvent-free, low viscosity injection-liquids, based on high strength epoxy resins.	
	Type N (= Normal Potlife) is used for substrate temperatures between +5°C and +30°C.	
	Type LP (= Long Potlife) is used for substrate temperatures between +25°C and +40°C.	
Uses	As an injection resin with good adhesion to concrete, mortar, stone, steel and wood. Sikadur®-52 Injection Type N and Type LP are used to fill and seal voids and cracks in structures such as bridges and other civil engineering buildings, industrial and residential buildings, e.g. columns, beams, foundations, walls, floors and water retaining structures. It not only forms an effective barrier against water infiltration and corrosion promoting media, but it also structurally bonds the concrete sections together.	
Characteristics / Advantages	■ Solvent-free ■ Suitable for both, dry and damp conditions ■ Usable at low temperatures ■ Two grades for different climatic conditions (Normal and Long Potlife) ■ Shrinkage free hardening ■ High mechanical and adhesive strengths ■ Hard but not brittle ■ Low viscosity ■ Injectable with single component pumps	
Product Data		
Form		
Colours	Part A:	Transparent
	Part B:	Brownish
	Part A+B mixed:	Yellowish-brownish
Packaging	Pre batched: Part A+B: 10 x 1 kg units Bulk packaging: On request	



Storage

Storage Conditions/ Shelf-Life

24 months from date of production if stored properly in unopened, undamaged and sealed original packaging, in dry conditions at temperatures between +5°C and +30°C.

Technical Data

Chemical Base

Modified solvent-free two-part epoxy resin.

Density

Part A+B mixed (2 : 1): 1.1 kg/l (at +20°C)

Viscosity

Temperature	Type Normal part A+B mixed (2 : 1)	Type Long Potlife part A+B mixed (2 : 1)
+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

Thermal Expansion Coefficient

Type Normal:

8.9 x 10⁻⁵ per °C (from -20°C to +40°C)

(According to EN ISO 1770)

Type Long Potlife:

9.4 x 10⁻⁵ per °C (from -20°C to +40°C)

(According to EN ISO 1770)

Mechanical / Physical Properties

Compressive Strength

Type Normal:

52 N/mm² (after 7 days at +23°C)

(According to ASTM D695-96)

Type Long Potlife:

34 N/mm² (after 7 days at +30°C)

(According to ASTM D695-96)

Flexural Strength

Type Normal:

61 N/mm² (after 7 days at +23°C)

(According to DIN 53452)

Type Long Potlife:

41 N/mm² (after 7 days at +30°C)

(According to DIN 53452)

Tensile Strength

Type Normal:

37 N/mm² (after 7 days at +23°C)

(According to ISO 527)

Type Long Potlife:

24 N/mm² (after 7 days at +30°C)

(According to ISO 527)

Bond Strength

To concrete:

> 4 N/mm² (failure in concrete) (after 7 days at +23°C)

(According to DafStb-Richtlinie, part 3)

E-Modulus

Flexural Strength:

Type Normal:

1800 N/mm² (after 7 days at +23°C)

(According to DIN 53 452)

Type Long Potlife:

1100 N/mm² (after 7 days at +30°C)

(According to DIN 53 452)

System Information

Application Details

Consumption / Yield	1 kg of Sikadur [®] -52 Injection Type N and Type LP are ~ equal to 1 l injection resin.
Substrate Preparation	Requirements: Sound, clean, free from oil and grease, old coatings and surface treatments etc. Pre-treatment for good bond: Concrete, mortar, stone should be thoroughly prepared by high pressure water jetting or mechanical means such as grinding, chiselling etc. Cracks must be cleaned to remove dust with compressed air.

Application Conditions / Limitations

Substrate Temperature	<i>Type Normal:</i> +5°C min. / +30°C max. <i>Type Long Potlife:</i> +25°C min. / +40°C max.
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Substrate Moisture Content	Dry or damp (SSD - Saturated Surface Dry: no standing water)
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Application Instructions

Mixing	<i>Type Normal and Long Potlife:</i> Mixing ratio A : B = 2 : 1 parts by weight and by volume.
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Mixing Time	Prebatched 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 units.
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Application Method / Tools	Cracks in horizontal slabs: Saturate a few times using a brush or gravity fill them by pouring mixed Sikadur[®]-52 Injection Type N and Type LP between two "dams" e.g. made from Sikaflex[®] sealant. Cracks penetrating slabs to their soffit should first be sealed on the underside, e.g. with Sikadur[®]-31 epoxy mortar or a suitable cementitious Sika mortar. Cracks in vertical structures: Mixed Sikadur[®]-52 Injection Type N and Type LP can be injected under pressure into the cracks using a single component injection pump, such as the Aliva AL-1200, AL-1250 or the Sika[®] Hand Pump. Injection ports (packers) are set at approx. 25 cm intervals beside the crack and the crack between the injection ports (packers) sealed e.g. with Sikadur[®]-31 to prevent injection resin to escape during the injection process. Vertical cracks should always be injected from the bottom upwards. As soon as injection resin oozes out of the next packer / injection port, the first one is sealed and the injection process continued from the next one. After completion of the injection process, the injection ports (packers) as well as the sealing material between the ports are removed.
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Cleaning of Tools	Clean all tools and application equipment with Sika [®] Colma-Cleaner immediately after use. Hardened / cured material can only be mechanically removed.
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Potlife

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

Notes on Application / Limitations

Maximum width of cracks to be injected: 5 mm.
Sikadur®-52 Injection Type N and Type LP are suitable for dry and damp, but not for wet injection conditions.

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.

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 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.

Health & Environment

See separate Safety Data Sheet.

Legal

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 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 proprietary rights of this parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request, or can be obtained at www.sika.se.



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