

# PRODUCT DATA SHEET

## Sikadur<sup>®</sup>-42 HP

### DEEP POUR PRE-PROPORTIONED, PRECISION EPOXY GROUTING SYSTEM

#### DESCRIPTION

Sikadur<sup>®</sup>-42 HP, is a high strength, multi purpose, three-component, low exotherm, low dusting, solvent-free, moisture-insensitive, epoxy grouting system designed to seat and support high demand equipment.

#### USES

Sikadur<sup>®</sup>-42 HP may only be used by experienced professionals.

- Precision seating of baseplates
- Grouting under equipment, including heavy impact and vibratory machinery, reciprocating engines, compressors, pumps, presses, etc.
- Grouting under crane rails

#### CHARACTERISTICS / ADVANTAGES

- Low peak exotherm.
- Low dusting, ready-to-mix, pre-proportioned kits.
- Moisture insensitive.
- Corrosion and impact resistant.
- Stress and chemical resistant.
- High compressive, tensile and shear strengths.
- High vibration resistance.
- Low coefficient of thermal expansion, compatible with concrete.
- Material does not require heated transportation.

#### PRODUCT INFORMATION

<b>Packaging</b>	36 kg - 3 component kit consisting of:		
	472516	Sikadur 42 HP Part A - Resin	5 kg
	472519	Sikadur 42 HP Part B - Hardener	1 kg
	731898	Sikadur 42 HP Part C	15 kg bag (2 x 15 kg Bags per kit)
<b>Shelf life</b>	24 months from date of production		
<b>Storage conditions</b>	Stored properly in original and unopened, sealed and undamaged packaging, in dry conditions at temperatures between +5°C and +30°C. Protect from direct sun light.		
<b>Density</b>	2,130 kg/m <sup>3</sup> (A+B+C)		

#### TECHNICAL INFORMATION

<b>Effective bearing area</b>	> 90%	(ASTM C 1339)
<b>Compressive strength</b>	6 hrs	~ 20 MPa
	1 day	~ 90 MPa
	7 days	~ 100 MPa

*Test specimen cured and tested at +23°C and 50 mm cube size.*

<b>Modulus of elasticity in compression</b>	~ 18,000 MPa	(ASTM D 695-96)
<b>Tensile strength in flexure</b>	> 35 MPa	(ASTM C 580)
<b>Modulus of elasticity in flexure</b>	~ 16,000 MPa	(EN 53452)
<b>Tensile strength</b>	> 14 MPa	(ASTM D 638)
<b>Tensile strain at break</b>	0.1 ± 0.05% (7 days at +23°C)	(ISO 75)
<b>Tensile adhesion strength</b>	~ 9 MPa (on steel) > 3.5 MPa (concrete failure)	(ISO 4624, EN 1542 and EN 12188)
<b>Shear adhesion strength</b>	> 47 MPa (concrete failure)	(ASTM C 882)
<b>Creep</b>	4.14 N/mm <sup>2</sup> / 31'500 N (+60°C) 1.10% 2.76 N/mm <sup>2</sup> / 21'000 N (+60°C) 0.21% API requirements: 0.5% with 2.76 N/mm <sup>2</sup> load	(ASTM C 1181)
<b>Shrinkage</b>	Linear Shrinkage: -0.027% Linear Shrinkage: -0.03%	(ASTM C 531) (EN 52450)
<b>Coefficient of thermal expansion</b>	2.1 x 10 <sup>-5</sup> mm/mm/°C (Temp. range -30°C to +30°C) 4.4 x 10 <sup>-5</sup> mm/mm/°C (Temp. range +24°C to +100°C)	(ASTM C 531)
<b>Thermal compatibility</b>	No delamination / pass	(ASTM C 884)
<b>Water absorption</b>	0.059% (7 days)	(ASTM C 413)

## APPLICATION INFORMATION

<b>Mixing ratio</b>	Part A : B : C = 1.67 : 0.33 : 10 by weight (Standard) Solid / liquid = 5 : 1 by weight Possibility to adjust the Mixing ratio, depending on Flowability: Part A : B : C = 1.67 : 0.33 : (9-12) by weight Solid / liquid = (4.5 – 6) : 1 by weight	
<b>Yield</b>	36 kg kit yields approximately 16.9 litres of grout	
<b>Layer thickness</b>	Minimum grout depth: 10 mm Maximum grout depth: 150 mm	
	Temperature	Layer thickness maximum
	10 °C - 20 °C	150 mm
	20 °C - 30 °C	120 mm
<b>Peak exotherm</b>	44°C (at +23°C)	(ASTM D 2471)
<b>Material temperature</b>	Sikadur®-42 HP must be applied at temperatures between +10°C and +30°C. Condition the material by also storing at this temperature for 48 hours before use.	
<b>Ambient air temperature</b>	+10°C min. / +30°C max.	
<b>Substrate temperature</b>	+10°C min. / +30°C max.	
<b>Substrate moisture content</b>	≤ 4% pbw	
<b>Pot Life</b>	(200g, adiabatic testing) 5 : 1 : 30                      130 mins at +10 °C                      75-80 mins at +23 °C	
	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 and C before mixing them (i.e. only when application temperatures are above +20°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

Minimum substrate temperature: +10°C. The material must be conditioned by being stored in an area with an ambient temperature between +10° and +30°C for a minimum of 48 h before using. Do not thin with solvents. Solvents will prevent proper curing and change mechanical properties.

Sikadur®-42 HP is a vapour barrier when cured. Minimum grout depth: 10 mm. Maximum grout depth: 150 mm per lift. The last lift must be kept at 50 mm. Component C must be kept dry. For specific bolt grouting applications please refer to Sika Technical Services. For proper seating, allow the grout to rise above the bottom (3 mm) of the base plate.

Avoid splitting prebatched units to mix. Mix complete units only. Cold ambient, substrate or material temperatures will influence the curing and flow characteristics of Sikadur®-42 HP. Do not subject cured epoxy grout to sudden temperature changes especially during early curing stages. Contact Sika Technical Services for control joint spacing on large base plate grouting projects.

## 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 containing physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days (dependent on minimum strength requirements). Verify the substrate strength (concrete, natural stone etc.).

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 to a standard equivalent to Sa 2.5.

The substrate must be sound and all loose particles must be removed.

Substrate must be dry or mat damp and free from any standing water, ice etc.

### SUBSTRATE PREPARATION

Surface and base plate contact area must be clean and sound. For best results, the substrate should be dry. Remove dust, laitance, oils, grease, curing compounds, impregnations, waxes, foreign particles, coatings, and disintegrated materials by mechanical means, i.e. chipping with a chisel, blastcleaning etc. All anchor pockets or sleeves must be free of water. Blastclean-

ing metal base plates to an acceptable quality standard equivalent to SA 2.5 for maximum adhesion. Apply grout immediately to prevent re-oxidizing.

Forming:

The consistency of the Sikadur®-42 HP epoxy grout system requires the use of permanent or temporary forms to contain the material around base plates, for example. In order to prevent leakage or seepage, all of these formers must be sealed. Apply polyethylene film or wax to all forms to prevent adhesion of the grout. Prepare the formwork to maintain more than 100 mm liquid head to facilitate placement. A grout box equipped with an inclined trough attached to the form will enhance the grout flow and minimize air encapsulation.

### MIXING

Pre-batched units:

Mix components A and B in the component A pail for 3 min with a paddle attached to a low speed drill (300-450 rpm). Avoid aeration while mixing until the material becomes uniformly blended in colour and viscosity. Place the mixed epoxy into an appropriate mixing vessel. Slowly add the contents of component C (to keep air entrapment at a minimum) dependent on flow requirements (observe the correct mixing ratio) and mix until uniform and homogeneous. (approx. 5 min)

Mix only that quantity which can be used within its potlife.

Bulk packing (not pre-batched):

First, stir each component thoroughly. Add the components in the correct proportions into a suitable mixing pail. Mix the components. Use an electric low speed mixer, etc as above for the pre-batched units.

Never mix Component A and B without adding component C (as the exothermic reaction between A and B alone generates excess heat)

Leave Sikadur®-42 HP to stand in the normal mixing vessel until the majority of entrained air bubbles have dispersed.

### APPLICATION METHOD / TOOLS

Pour the mixed grout into the prepared forms from one or two sides only, to eliminate air entrapment. Maintain the liquid head to ensure intimate contact to the base plate. Place sufficient epoxy grout in the forms to rise slightly above the underside (3 mm) of the base plate. The minimum void depth beneath the base-plate shall be 12 mm. Where the void beneath the base plate is greater than 150 mm, place the epoxy grout in successive 150 mm lifts or less, once the preceding lift has cooled.

Once hardened check the adhesion by tapping with a hammer.

## CLEANING OF EQUIPMENT

Sweep excess grout into appropriate containers for disposal before it has hardened. Dispose of in accordance with applicable local regulations. Uncured material can be removed with Sika Colma Cleaner. 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.

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### Product Data Sheet

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