BUILDING TRUST

PRODUCT DATA SHEET

Sikadur®-42 LP

3-PART, MULTI PURPOSE EPOXY GROUTING SYSTEM

DESCRIPTION

Sikadur®-42 LP is a three-component, multipurpose, moisture tolerant, epoxy grouting system. For use at temperatures between +20 °C and +40 °C.
Suitable for use in hot and tropical climatic conditions.

USES

Sikadur®-42 LP may only be used by experienced professionals.
High-strength grouting and fixing of:
- Starter bars
- Anchors
- Fasteners
- Tie rods
- Crash barrier posts
- Fence and railing posts

Under-grouting and bedding of:
- Base plates
- Machine bases,
- Bridge bearings
- Mechanical joints (i.e. road/bridge/deck types etc.)

Sleeper-less, direct rail fixing:
- Crane tracks
- Light rail and permanent way in tunnels
- Light rail and permanent way over bridges

CHARACTERISTICS / ADVANTAGES

- Ready-to-mix, pre-batched units
- Moisture tolerant
- Non-shrink
- Corrosion and chemically resistant
- Stress and impact resistant
- High compressive strength
- High vibration resistance

PRODUCT INFORMATION

Composition	Epoxy resin
Packaging	Pre-batched unit: 20 kg (A + B + C)
Colour	Concrete Grey
Shelf life	24 months from date of production

Storage conditions	Stored properly in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight, heat and moisture.
Density	~2 kg/l (mixed material)

TECHNICAL INFORMATION

Compressive Strength (ASTM C579)

Curing time	Curing temperature (23 °C)
1 day	~45 N/mm²
3 days	~67 N/mm²
7 days	~77 N/mm²
14 days	~83 N/mm²
28 days	~85 N/mm²

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

Tensile Strength in Flexure (ASTM C580)

Curing time	Curing temperature (23 °C)
1 day	~30 N/mm²
3 days	~34 N/mm²
7 days	~39 N/mm²
14 days	~41 N/mm²
28 days	~42 N/mm²

APPLICATION INFORMATION

Mixing Ratio
Component A : B : C = 2 : 1 : 12 by weight
Solid / liquid = 4 : 1 by weight

Consumption
~2.0 kg / m² / mm
This figure is theoretical and does not include for any additional material required due to surface porosity, surface profile, variations in level or wastage etc.

Layer Thickness
Minimum grout depth: 6 mm
Maximum grout depth: 60 mm
* no reduction of fillers; apply only with Mixing Ratio A : B : C = 2 : 1 : 12

Ambient Air Temperature
+20 °C min. / +40 °C max.

Dew Point
Substrate temperature during application must be at least 3 °C above dew point to avoid condensation.

Substrate Temperature
+20 °C min. / +40 °C max.

Substrate Moisture Content
≤ 4 % pbw

Pot Life
(200 g, adiabatic testing)

	+20 °C	+40 °C
2 : 1 : 12	~120 min	~40 min

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 components A + B and C before mixing them (that is only when application temperatures are above +20 °C).

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, rough, 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

Concrete, mortar, stone:
Substrates must be sound, dry, rough, clean and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve a laitance and contaminant free, open textured surface.

Steel:
Must be cleaned and prepared thoroughly to an acceptable quality standard equivalent to SA 2.5 that is by blastcleaning and vacuum. Avoid dew point conditions.
Surface and base plate contact area must be clean and sound. For best results, the substrate shall be dry. Remove dust, laitance, oils, grease, curing compounds, impregnations, waxes, foreign particles, coatings, and disintegrated materials by mechanical means, that is chipping with a chisel, blastcleaning etc.
All anchor pockets or sleeves must be free of water.
Apply grout immediately to prevent re-oxidizing / rust formation.

MIXING

Pre-batched units:
Mix components A and B in the component A pail for approximately 30 - 60 seconds 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) mix until uniform and homogeneous appearance achieved (approximately 3 minutes). Mix only that quantity which can be used within its potlife.

APPLICATION METHOD / TOOLS

Forming:
The consistency of the Sikadur®-42 LP 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.
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 baseplate shall be 6 mm. Where the void beneath the base plate is greater than 60 mm, place the epoxy grout in successive 60 mm lifts or less, once the preceding lift has cooled.
Once hardened check the adhesion by tapping with a hammer.
Please refer also to the “Method Statement Sikadur®-42 LP”

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.

IMPORTANT CONSIDERATIONS

For large base plate grouting projects Sikadur®-42 MP slow should be used.
Minimum substrate temperature: +20 °C. The material must be conditioned by being stored in an area with an ambient temperature between +20 °C and +30 °C for a minimum of 48 hours before using. Do not thin with solvents. Solvents will prevent proper curing and change mechanical properties.
Sikadur®-42 LP is a vapour barrier when cured.
Component C must be kept dry. For specific bolt grouting applications please refer to Sika Technical Department.
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 LP. Do not subject cured epoxy grout to sudden temperature changes especially during early curing stages.
Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behaviour of all polymer materials under load, 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. Please consult a structural engineer for load calculations for your specific application.
Please refer also to the “Method Statement Sikadur®-42 LP”

BASIS OF PRODUCT DATA

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

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.

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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