BUILDING TRUST

PRODUCT DATA SHEET

Sikadur®-42 HES (IN)

3-PART, HIGH PERFORMANCE, POURABLE EPOXY GROUTING SYSTEM

DESCRIPTION

Sikadur®-42 HES (IN) is a three-component, high performance, high precision, low exothermic, pourable, and solvent-free, epoxy grouting system. For use at ambient temperatures between +20°C to +35ºC and on substrates from +20°C to +35ºC.

USES

Sikadur®-42 HES (IN) 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, Seat base-plates for light and heavy machinery including heavy impact and vibratory machinery, reciprocating engines compressors,pumps, presses etc
- 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

Sikadur®-42 HES (IN) has the following advantages:
- High Early Strength
- Ready-to –mix, pre batched units
- Non-shrink
- Corrosion and chemically resistant
- Stress and impact resistance
- High Compressive Strength
- High Vibration resistance
- Low coefficient of thermal expansion
- Low exothermic, application possible up to 35 °C, need special precautions above 30 °C

PRODUCT INFORMATION

Chemical Base	Epoxy Resin
Packaging	Pre-batched unit (A+B+C) : 26.5 kg Part A: 4.50 kg plastic container Part B: 1.00 kg plastic container Part C: 21.00 kg bag
Colour	Part A: Clear Part B: Transparent Pale Yellow Part C: grey Part A+B+C mixed: Concrete grey
Shelf Life	12 months from date of production if stored as per recommendation.

Storage Conditions	Store properly in original unopened, sealed and undamaged packaging, in dry conditions at temperatures between +10°C and +35°C. Protect from direct sunshine.
Density	1950 - 2050 kg/m³ at +30°C (Mixed Density)

TECHNICAL INFORMATION

Compressive Strength — ASTM C 579

Value	Time
85 - 90 MPa	1 day
90 - 95 MPa	3 days
95 - 100 MPa	7 days
100 - 105 MPa	28 days

* Curing Temperature +30 °C

Effective Bearing Area	> 85%		ASTM C1339
Tensile Strength	20 -25 MPa	7 days @ + 30 °C	ASTM D 638
Heat Deflection Temperature	+ 54 °C (7 days at 30 °C)		ASTM D648
Water Absorption	0.031 %		ASTM D 570

APPLICATION INFORMATION

Mixing Ratio	Part A : B : C 4.5 : 1 : 21 by weight
Consumption	~ 2.0 kg/m² epr mm thickness
Ambient Air Temperature	+10 °C min/ +35 °C max
Substrate Temperature	+10 °C min/ +35 °C max
Pot Life	50 - 60 min, @ +30 °C FIP 5.1 The pot life 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 pot life. 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).

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Verify the substrate strength (concrete, masonry, natural stone).The substrate surface (all types) must be clean and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc. Steel substrates must be de-rusted similar to Sa 2.5.The substrate must be sound and all loose particles must be removed.

SUBSTRATE PREPARATION

Concrete, mortar, stone, bricks:
Substrates must be sound, clean and free from laitance, 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 i.e. by blast cleaning and vacuum. Avoid dew point conditions.

MIXING

Pre-batched units:
Mix components A and B in the component A pail for approx. 30-60 seconds with a paddle type mixer 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. 3 min).
Mix only that quantity which can be used within its pot life.

APPLICATION METHOD / TOOLS

Forming:
The consistency of the Sikadur®-42 HES (IN) 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 base
plates shall be 25 mm. Where the void beneath the base plate is greater than 75 mm, place the epoxy grout in successive 40 mm lifts or less, once the preceding lift has cooled. Once hardened check the adhesion by tapping with a hammer.
Working at high temperatures:
It is recommended when working with Sikadur®-42 HES (IN)at temperatures above +35°C, that the following guidelines should be observed:

- Prior to use store the unmixed materials in a cool, preferably temperature controlled environment, avoiding exposure to direct sunlight or other heat sources.
- Refer to the data sheet of the specific product and closely follow the instructions in the section “storage conditions”.
- Keep all equipment cool, arranging shade and protection where necessary. It is especially important to keep cool all surfaces that will come into direct contact with the material.
- Try to avoid application during the hottest times of the day.
- Provide sufficient material, plant and labour to ensure that the application is a continuous process and that the grout does not stop moving during flow application process.

Important Note: When both the materials and/or the substrates are too hot, the potlife will decrease dramatically!
Refer to Method Statement for details.

CLEANING OF TOOLS

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.

FURTHER DOCUMENTS

Minimum substrate temperature: +10°C. The material must be conditioned by being stored in an area with an ambient temperature between +20°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 HES (IN) is a vapour barrier when cured. Minimum grout depth: 25 mm. Maximum grout depth: 75 mm per lift. 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 HES (IN). 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.

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.

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.

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 Material Safety Data Sheet 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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