BUILDING TRUST

PRODUCT DATA SHEET

Sikadur®-42 MP Normal HC

3-PART, MULTI-PURPOSE EPOXY GROUTING SYSTEM

DESCRIPTION

Sikadur®-42 MP Normal HC is a three-component, multi-purpose, moisture tolerant, epoxy grouting system. For use at temperatures between +10°C and +35°C.

USES

Sikadur®-42 MP Normal HC may only be used by experienced professionals.

Sikadur®-42 MP Normal HC is used for 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

- High early strength
- Ready-to-mix, pre-batched units
- Moisture tolerant
- Non-shrink.
- Corrosion and chemically resistant
- Stress and impact resistant
- High compressive strength
- High vibration resistance
- Low coefficient of thermal expansion

PRODUCT INFORMATION

Chemical base	Epoxy resin
Packaging	12 kg (A+B+C): pre-batched unit 30 kg (A+B+C): pre-batched unit
Colour	Liquid & Powder / Concrete Grey
Shelf life	Parts A and B : 24 months from date of production. Must be protected from frost. Part C : 9 months from date of production. Must be protected from humidity.
Storage conditions	Stored properly in original and unopened, sealed and undamaged pack-

	aging, in dry conditions at temperatures between +15 °C and +30 °C. Protect from direct sun light.
Density	2130 kg/m³ (A+B+C)

TECHNICAL INFORMATION

Compressive Strength	**Curing Time**	**+10 °C**	**+23 °C**	**+30 °C**
	7 days	~85 N/mm²	~90 N/mm²	~100 N/mm²
	ASTM C 579, Cubes: (50 x 50 x 50) mm			
Modulus of Elasticity in Compression	~18 000 N/mm²			(ASTM D 695)
Effective Bearing Area	> 85 %			(ASTM C 1339)
Tensile Strength in Flexure	~30 N/mm² Prism: (40 x 40 x 160) mm			(ASTM C 348)
Tensile Adhesion Strength	> 2.0 N/mm² (concrete failure)			(EN 1542, ISO 4624)

APPLICATION INFORMATION

Mixing ratio	Part A : B : C = 5 : 1 : 30 by weight.
Layer Thickness	Minimum grout depth : 10 mm Maximum grout depth : 150 mm *** no reduction of fillers.**
Product Temperature	Sikadur®-42 MP Normal HC must be applied at temperatures between +15 °C and +30 °C. Condition the material by also storing at this temperature for 48 hours before use.
Ambient Air Temperature	+10 °C min. / +35 °C max.
Dew Point	Substrate temperature during application must be at least 3 °C above dew point to avoid condensation
Substrate Temperature	+10 °C min. / +35 °C max.
Substrate Moisture Content	≤ 4% pbw
Pot Life	(200g, adiabatic testing)

A : B : C ratio	+10 °C	+23 °C	+30 °C
5 : 1 : 30	~120 min	~60 min	~45 min

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 potlife. To obtain longer workability at high temperatures, one method is to condition parts A+B and C to lower temperature before mixing them.

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 CONSIDERATION

- Minimum substrate temperature: +10 °C. The material must be conditioned by being stored in an area with an ambient temperature between +15 °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 MP Normal HC is a vapor 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 proper seating, allow the grout to rise above the bottom (~3 mm) of the base plate.
- Avoid splitting pre-batched units to mix.
- Cold ambient, substrate or material temperatures will influence the curing and flow characteristics of Sikadur®-42 MP Normal HC. Do not subject cured epoxy grout to sudden temperature changes especially during early curing stages. Design control joint spacing on large base plate grouting projects.

- Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behavior 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.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days.
Verify the substrate strength.
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

Concrete, mortar, stone:
Substrates must be sound, dry, 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 i.e. by blast cleaning 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, i.e. chipping with a chisel, blast cleaning etc.
All anchor pockets or sleeves must be free of water.
Apply grout immediately to prevent re-oxidizing / rust formation.
For optimum results:
When grouting areas or equipment that is sensitive to vibration, it is recommended that the contact surfaces are prepared according to the latest edition of the American Petroleum Institute's Recommended Practice 686 "Machinery Installation and Installation Design", Chapter 5.

MIXING

Pre-batched units:
Mix components A and B in the component A pail for approx. 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) and mix until uniform and homogeneous. (approx. 3 minutes).
Mix only that quantity which can be used within its potlife.
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 MP Normal HC to stand in the normal mixing vessel for 2 – 3 minutes until the majority of entrained air bubbles have dispersed.

APPLICATION METHOD / TOOLS

Forming:
The consistency of the Sikadur®-42 MP Normal HC 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.
Application:
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. 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.

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 suitable solvent based 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 can always refer to the most recent version of the local Product Data Sheet for the relevant product, available on our website. The information in any downloaded version is valid as of the time of download.

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