Construction

Sikadur®-42

3-component epoxy resin based grout

Product Description	Sikadur®-42 is a solvent-free, 3-component, pourable grout, based on a combination of high strength epoxy resins and specially graded aggregates. After mixing, it provides a free flowing self-levelling epoxy grout.
Uses	Sikadur®-42 can be applied on concrete, stone, mortar, steel, aluminium, asbestos cement, wood, polyester and epoxy as a self-levelling, flowable epoxy mortar. Structural boding of; n Starter bars n Anchors n Braces and tie bars Grouting of; n Crash barrier posts n Bearing plates n Machine bases n Mechanical bridge joints n Bridge bearings Tie-less rail grouting; n Crane rails n In tunnels n On bridges
Characteristics/ Advantages	n Solvent free n Good flow characteristics even in thin layers n No shrinkage n Applicable on mat moist substrates n Rapid hardening n High mechanical properties n Ready to mix, pre-batched units

Product Data

Form

Appearance/ Colour	Comp. A: Yellowish clear liquid Comp. B: Light yellow clear liquid Comp. C: Grey homogenous powder Mix (A+B+C): Light grey

Packaging	12 kg set (A+B+C) Component A: 1,71 kg can Component B: 0,29 kg can Component C: 10 kg bag

Storage

Storage Conditions/ Shelf-Life	12 months from date of production if stored properly in original and unopened, sealed and undamaged packaging, in dry conditions at temperatures between +10°C and +30°C. Protect from direct sunlight, frost and humidity.

Technical Data

Chemical Base	Epoxy resin, selected fillers and aggregates.
Density (20 °C)	Component A: ~1.12 kg/l Component B: ~0.98 kg/l Component C: ~1.60 kg/l (Bulk) Fresh mortar (A+B+C) density ~2,10 kg/l
Layer Thickness	Minimum : 12 mm Maximum: 50 mm. Sikadur®-42 shouldn't be applied in layer of more than 50 mm thick. Greater thickness and large volumes have to be poured in layers. Pour next layer as soon as the previously applied layer has hardened and started to cool.

Mechanical/Physical Properties

Strength

Compressive Strength

+20ºC	Compressive
1 day	90–100 N/mm^2
7 days	100–110 N/mm^2
14 days	110–120 N/mm^2

(According to TS EN 12190)

Flexural Strength

+20ºC	Flexural
1 gün	15–30 N/mm^2
14 gün	20–40 N/mm^2

(According to TS EN 12190)

Bond Strength (On Concrete)	~4,0 N/mm^2 (Concrete failure)	(After 14 days at 20°C acc. to DIN 53232)
Bond Strength (On Steel)	~15–20 N/mm^2	(After 14 days at 20°C acc. to DIN 53232)

System Information

Application Details

Consumption	2.0 kg/m^2 approx. per 1 mm thickness (dependent on surface profile, texture, temperature and wastage) ~6 lt mortar can be obtained with 12 kg set
Substrate Quality	Concrete, mortar, stone: Substrates must be sound, 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 surface. Minimum age of the concrete must be at least 3-6 weeks depending on ambient conditions. The concrete "pull off" (tensile) strength should be> 1.0 MPa. Steel: Substrates must be clean and free from oil or grease, rust and scale etc.

Substrate Preparation	Concrete, mortar, stone: Surfaces should be prepared by suitable mechanical preparation techniques such as high pressure water jetting, breakers, blast cleaning, scabblers, etc Steel: Must be prepared thoroughly to an acceptable quality standard equivalent to SA 2.5 i.e. by blastcleaning and vacuum. Grinding with coarse sandpaper is recommended method for epoxy and polyester surfaces If in doubt apply a test area first.

Application Conditions/Limitations

Ambient Temperature	+5°C min. / +30°C max
Substrate Temperature	+5°C min. / +30°C max
Dew Point	Substrate temperature during application must be at least 3°C above dew point to avoid condensation.

Application Instructions

Mixing Ratios	By weight: A:B:C= 1.71: 0.29: 10 Addition of component C can be adjusted according to ambient temperature and desired application behaviour. If the mixing ratios change, changing of the strengths and bonding results should be taken into account.
Mixing	Pour all of component B into component A container. Mix with basket type stirrer connected to an electric mixer at low speed (max. 250 rpm) until the originally turbid liquid becomes completely clear. Avoid to entrain air. Pour mixture into suitable mixing vessel and add component C slowly and continuously. Stir for 3 minutes with electric hand mixer (max. 250 rpm) until mortar of homogeneous consistency is obtained.
Application	Prior to application, rest mix for a short time to allow entrained air to escape. Pour mortar into prepared opening (hopper) and maintain enough static pressure (15-20 cm). Ensure that entrapped air can easily escape. Use steel rods or chains to assist the flow of grout where necessary. Industrial packing: Mix components prepared in the correct mixing ratio as indicated above, in suitable mixing vessel.
Potlife	(200 g, adiabatic testing) Temperature / Potlife 10°C / ~ 60 min. 20°C / ~ 30 min. 30°C / ~ 20 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 parts A+B and C before mixing them (i.e. only when application temperatures are above +20°C)

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Notes on Application/ Limitations	n Do not dilute Sikadur®-42 with solvents. n For vertical anchorage applications, minimum hole diameter should be at least 10 mm wider than the bar diameter (Ø+10 mm). n Opened containers (Comp. A+B) must be closed immediately after use n Always ensure good ventilation when using in a confined space. Wear suitable protective clothing, gloves and eye protection. n Do not mix additional fillers or aggregates. n Reduced flowability of Sikadur-42 at application/ substrate temperatures < than 10°C. Store material at temperatures of + 20°C / 25°C (room temperature) for at least 24 hours prior to its use. n Avoid splitting prebatched units to mix. Cold ambient, substrate or material temperatures will influence the curing and flow characteristics of Sikadur®-42T. Do not subject cured epoxy grout to sudden temperature changes especially during early curing stages.
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.
Notes	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 should 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 should 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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