

Sikadur[®]-42

High strength pourable epoxy resin grout

Construction

Description	Sikadur-42 is a 3-component pourable or castable grout, based on a solvent free epoxy resin and selected aggregates. Sikadur-42 cures to form a hardened mortar with excellent adhesion to many substrates. This combined with the product's ease of application makes it ideally suited to site application.
Uses	<p>As a grout for building and civil engineering application:</p> <ul style="list-style-type: none"> ▪ Crane rails ▪ Machine bedding and baseplates ▪ Holding down bolts ▪ Stanchions ▪ Starter bars ▪ Cavity filling ▪ Bridge bearings <p>As a self smoothing mortar:</p> <ul style="list-style-type: none"> ▪ Repairing and patching horizontal surfaces
Advantages	<ul style="list-style-type: none"> ▪ Insensitive to moisture during application, cure or whilst in service ▪ Applicable at low temperatures down to 5°C. ▪ Available in two grades (Normal and Long Potlife). ▪ High early strength ▪ Excellent adhesion to a wide variety of dry and damp substrates such as concrete, stone, fibrous cement, synthetic resins, wood and most metals. ▪ High tensile and flexural strength, vibration resistant. ▪ Supplied in factory proportioned units ▪ Easily applied ▪ Unaffected by wide range of chemicals ▪ Good flow characteristics even in thin layers ▪ Proven in service over 25 years
Storage and Shelf Life	Minimum shelf life is approximately 3 years. Store under controlled conditions in original containers (minimum 5°C, maximum 35°C temperature range).
Instructions for Use	
Surface Preparation	<p>Mineral/Resin Substrates. Mechanically roughened, free from all contaminants (eg. dust, oils, grease, ice, etc.), surface water, laitance, old form oil, curing membrane and old coatings. Suitable methods of preparation include blast cleaning and scabbling (sanding/grinding on fibrous cement). All dirt must be removed from bolt by air blasting.</p> <p>Wood. Mechanically cleaned, free from all contaminants (dust, oils, grease, etc.) surface water, stains, impregnants and old coatings.</p> <p>Iron/Steel. Mechanically cleaned, free from all contaminants (dust, oils, grease, etc), coatings and corrosion products and surface water for maximum bond strengths. Suitable methods include blast cleaning to minimum standard SA2 AS 1627.9 or equivalent method to ST3 AS 1627.9.</p>
Formwork	The formwork used must be leak proof to allow for the free flowing Sikadur-42. The formwork should be arranged so that the grout head is maintained on the filling side above the level of the underside of the base plate. This will allow gravity flow to completely fill the void to be grouted. Formwork should be coated with form oil to allow easy removal of forms. Ensure adequate air holes are provided.

Mixing	Sikadur-42 is supplied in factory proportioned units comprising the correct quantities of Part A (Resin), Part B (Hardener) and Part C (Aggregate). Thoroughly stir Parts A and B separately using a slow running drill stirrer with a spiral mixer (max. speed 250 rpm). Decant all of Part B into Part A and mix thoroughly together until a uniform mix is achieved (typically 3 mins). Continue to mix whilst adding Part C slowly. Ensure the attainment of an even colour and an even distribution of aggregate throughout the mix. Do not exceed 250 rpm. Allow to stand for 2-3 minutes to release any entrained air.
Application	Mixed Sikadur-42 should be poured into the void or formwork from one side to avoid the entrapment of air. Continuous grout flow is essential and there must be sufficient grout available before pouring. Machine Base Plates & Crane Rails: An adequate head must be maintained to ensure continuous flow. Continue pouring until the grout rises above the level of the plate. At no time during application should the grout head be less than 75 mm above the level of the plate. This, as well as adequate vent holes, is essential to ensure no air is trapped. Anchor Bolts and Dowels: For bolts placed into preformed holes, fill the hole with Sikadur-42 and place into the grout.
Thickness	Generally, suitable thickness depends on clearance, distance of flow, ambient and substrate temperatures and pour size. Maximum thickness in any one pour (without aggregate addition) is 60mm.
Curing	Being an epoxy, no special curing techniques are required. Curing time will depend on the quantity and the ambient temperature. High volumes and high temperatures result in short curing times. Maximum strength is usually reached after 7 days. Do not install equipment or load the epoxy before full cure.
Cleaning	Uncured material may be cleaned from application tools, etc. by using Sika Colma Cleaner (flammable solvent). Cured material can only be removed mechanically.

Technical and Physical Data

Form	Flowable mortar
Density	2.0 kg / litre approx.
Volume solids	100% (solvent free)
Mix ratio	A : B : C = 2 : 1 : 12 by weight
Secant Flexural Modulus of Elasticity (BS 6319)	15 GPa approx. @ 7 days
Compressive strength	
@ 1 day	60 MPa approx.
@7 days	95 MPa approx.
Flexural strength @ 7 days (BS 6319)	28 MPa approx.
Tensile strength @ 7 days (BS 6319)	14 MPa approx.
Adhesion to concrete	4 MPa approx. @ 20°C (<i>cohesive failure of concrete</i>)
Adhesion to sand blasted steel	20 MPa approx. @ 20°C
Application Temperature (min.-max.)	5°C – 30°C (Normal) 20°C-40°C (Long Potlife) (<i>substrate and ambient temperatures</i>)



Consumption/Coverage	2.0 kg/m ² approx. per mm thickness (dependent on surface profile, texture, temperature and wastage)		
Colour	Part A – Transparent (water white), Part B – Transparent (straw) Part C – Grey/Sand Grey when mixed		
Packaging	15 kg, net pre-proportioned kit		
Potlife (15kg mix)	Temperature	Normal	Long Potlife
	20°C	65 mins	140 mins
	35°C	35 mins	65 mins

NOTE: Unless otherwise noted technical data applies to Normal Potlife (@20°C) and Long Potlife (@ 35°C)

Flow Characteristics

The flow characteristics of Sikadur-42 are governed by gap width, the head of the grout applied and the temperature (ambient and substrate).

Typical Flow Characteristics of Sikadur-42:

Temperature (°C)	Gap Width (mm)	Head (mm)	Maximum Flow Distance (mm)
5	15	100	400
	40	100	900
20	15	100	840
	40	100	2100
35	15	100	950
	40	100	2400

Pull Out Characteristics

Indicative Pull Out Loads with Sikadur-42 and 40 MPa compressive strength concrete:

Rod Diameter (mm)	15	25	30
Hole diameter (mm)	22	37	45
Length (mm)	150	250	300
Pull out strength (kN)	27	55	137
Mode of failure	Concrete	Concrete	Concrete

Important Notes

- For detailed information on **grouting** application and guidelines, refer to **Sika Grouting Systems Data Sheet**.
- Do not apply Sikadur-42 to surfaces with standing water.
- Do not part mix containers.
- Only mix as much as can be applied within the stated potlife.
- Do not dilute the product with solvent as this will affect both the cure and in-service performance.
- Constant in-service temperatures >70°C may affect the performance of the product.
- Do not apply in large areas unless a damp proof membrane is in place.
- If applying in layers subsequent layers must be applied within 24 hours of the first layer being applied and after the previous layer has cooled to ambient temperature.
- If in doubt, consult our Technical Department.
- Minimum age of new concrete, 3 to 6 weeks.
- The temperature at which the Sikadur-42 is stored during the 24 hours before it is mixed will govern its potlife when mixed.
- Sikadur-42 will rise in temperature when mixing. The extent of this temperature rise will depend upon the volume to surface ratio and the ambient and substrate temperature.
- Compressive strengths etc. of epoxy resins must be qualified by the testing method eg. Test Standard or size of specimen under test and the rate at which the test piece is loaded while under test, as these factors will affect the result markedly. Faster loading rates will generally give higher ultimate loads and vice versa. Also, a specimen at lower temperature will show higher strengths and vice versa.

Handling Precautions

- Avoid contact with the skin, eyes and avoid breathing its vapour.
- Wear protective gloves when mixing or using.
- If poisoning occurs, contact a doctor or Poisons Information Centre.
- If swallowed, do NOT induce vomiting. Give a glass of water.
- If skin contact occurs, remove contaminated clothing and wash skin thoroughly.
- If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.
- For more detailed information refer to our Material Safety Data Sheet.

Important Notification

The information, and, in particular, the recommendations relating to the application and end-use of Sika's 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 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 proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.

