

PRODUCT DATA SHEET

SikaFlow[®]-400

(formerly MFlow 400)

High Strength, Free Flowing, Multi-Purpose Epoxy Grouting System

DESCRIPTION

SikaFlow[®]-400 is a three-component, multipurpose, epoxy grouting system. Formulated to withstand static and dynamic loads in wide variety of applications. Suitable for use in hot and tropical climatic conditions.

USES

SikaFlow[®]-400 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.)

Sleeperless, direct rail fixing:

- Crane tracks
- Light rail and permanent way in tunnels
- Light rail and permanent way over bridges

FEATURES

- 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

Composition	Epoxy resin with selected aggregates
Packaging	27 kg set (Part A + Part B + Part C)
Appearance and colour	Grey
Shelf life	12 months from the date of production.
Storage conditions	Stored properly in air-conditioned environment 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	~1.93 kg/l (mixed, +25 °C)

TECHNICAL INFORMATION

Compressive strength	≥ 80 N/mm ² (7d at +25°C)	(ASTM C579) (BS 6319)
Effective bearing area	≥ 85 %	(ASTM C1339)
Flexural-strength	≥ 25 N/mm ² (7d at +25°C)	(ASTM C580)
Tensile strength	≥ 10 N/mm ² (7d at +25°C)	(BS 6319)
Coefficient of thermal expansion	~5.65 x 10 ⁻⁵ /°C	(ASTM C531)

APPLICATION INFORMATION

Layer thickness	Minimum grout depth: 20 mm Maximum grout depth: 80 mm	
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	+15 °C min. / +40 °C max.	
Substrate moisture content	≤ 4 %	
Pot Life	+25 °C ~60 min	+40 °C ~30 min

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.
- Internal Reference - Version: MBS_CC-UAE/ FI_400_03_95/v6/06_16/v7/12_19/v8/06_21

FURTHER DOCUMENTATION

General Method Statement (GMS)

IMPORTANT CONSIDERATIONS

- Do not thin with solvents. Solvents will prevent proper curing and change mechanical properties.
- SikaFlow[®]-400 is a vapour barrier when cured.
- 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 SikaFlow[®]-400. Do not subject cured epoxy grout to sudden temperature changes especially during early curing stages.
- Contact Sika Technical Department for control joint spacing on large base plate grouting projects.

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 (dependent on minimum strength requirements). Verify the substrate strength (concrete, natural stone etc.). 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 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, i.e. 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.

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

Mix components A and B 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), mix until uniform and homogeneous (approximately 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 SikaFlow®-400 to stand in the normal mixing vessel until the majority of entrained air bubbles have dispersed.

APPLICATION METHOD / TOOLS

Forming

The consistency of the SikaFlow®-400 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 side only, to eliminate air entrapment. The shortest flow distance should be considered. 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. Once hardened, check the adhesion by tapping with a hammer.

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 suitable thinner (Xylene / MEK / Acetone). Cured material can only be removed mechanically.

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 exact product data and uses.

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.

Sika Gulf B.S.C. (c)

Tel: +973 177 38188

Email: info@bh.sika.com

Sika Kuwait Cons. Mat. & Paints Co WLL

Tel: +965 22 282 296

Email: sika.kuwait@kw.sika.com

Web: gcc.sika.com

Sika UAE LLC

Sika MB Construction Chemicals LLC

Sika International Chemicals LLC

Tel: +971 4 439 8200

Email: info@ae.sika.com

Web: gcc.sika.com

Sika Saudi Arabia Limited

Sika Construction Chemicals for

Manufacturing LLC

Riyadh / Jeddah / Dammam / Rabigh

Tel: +966 9200 22167

Email: info@sa.sika.com

Web: gcc.sika.com

Sika LLC - Oman

Sika MB LLC

Tel. +968 22 826 500

Email: info@om.sika.com

Web: gcc.sika.com



ISO 9001, 14001, 45001 – SGS
Sika MB LLC
Sika International Chemicals LLC
Sika Gulf B.S.C. (c)
ISO 9001, 14001 – SGS
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Sika MB Construction Chemicals LLC
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All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



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