

PRODUCT DATA SHEET

SikaFix[®]-501

Silicate based, 2-component fast curing and foaming injection resin for heading face stabilization and void filling in tunnelling and mining

DESCRIPTION

SikaFix[®]-501 is a quickly foaming resin based on silicate with short reaction times.

USES

SikaFix[®]-501 may only be used by experienced professionals.

SikaFix[®]-501 is used for preventive securing and stabilization of heading faces in tunnels and mines, plus for the rapid filling of voids and cavities. SikaFix[®]-501 is also used for stabilizing unstable ground and loose rock in cracks and crevices etc. It is suitable for sealing dry, damp and water-bearing cracks. The cured / hardened foam is ready for cutting and boring immediately.

CHARACTERISTICS / ADVANTAGES

- High free-foaming factor, up to 35 times by volume
- Also foams on contact with water
- Very fast curing
- Foam with a fine cellular structure
- Easy application due to the mixing ratio of 1:1 by volume
- Cured foam can be cut almost immediately
- High penetration ability
- Low initial viscosity
- CFC and halogen-free
- Solvent-free

APPROVALS / CERTIFICATES

German KTW drinking water certificate

PRODUCT INFORMATION

| | | |
|---------------------------|---|-----------------|
| Composition | 2-component Silicate resin, solvent and CFC free | |
| Packaging | The material is supplied in containers pre-batched according to the required mixing ratio of 1 : 1 parts by volume. | |
| | Component A | 22.90 kg |
| | Component B | 24.80 kg |
| | Component A (IBC) | 1110 kg |
| | Component B (IBC) | 1200 kg |
| Shelf life | 12 months shelf life from date of production if stored properly in undamaged, unopened, original sealed packaging. | |
| Storage conditions | Dry storage at temperatures from +5 °C up to +35 °C. Protect from direct sunlight and humidity. | |
| Colour | Component A | slightly cloudy |
| | Component B | black brown |

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|--------------------|---------------------|------------------|-----------------|
| Density | Component A | ~1.15 kg/l | (ISO 2811) |
| | Component B | ~1.23 kg/l | |
| | A+B Mixed | ~0.038–0.04 kg/l | |
| | All values at 23 °C | | |
| Flash point | Component A | not determinable | (DIN 53213) |
| | Component B | 220 °C | |
| Viscosity | Component A | ~70 mPa·s | (acc. ISO 3219) |
| | Component B | ~220 mPa·s | |

TECHNICAL INFORMATION

| | | | |
|-----------------------------|-----------------------|-----------------------------|----------------|
| Compressive strength | Expansion rate | Compressive strength | (acc. ISO 604) |
| | 2.5 fold | 12.8 N/mm ² | |
| | 3.3 fold | 8.5 N/mm ² | |
| | 10 fold | 0.7 N/mm ² | |
| | 15 fold | 0.3* N/mm ² | |
| | 20 fold | 0.3* N/mm ² | |
| * measuring uncertainty | | | |

APPLICATION INFORMATION

| | | | | |
|--------------------------------|----------------------------|---------------|---------------|---------------|
| Mixing ratio | 1 : 1 parts by volume | | | |
| Ambient air temperature | +5°C min. / +35°C max. | | | |
| Substrate temperature | +5 °C min. / +35 °C max. | | | |
| Curing time | Reaction time (PM 10811-6) | | | |
| | | +12 °C | +23 °C | +30 °C |
| | Liquid limit | ~36 s | ~27 s | ~21 s |
| | Tack-free | ~130 s | ~120 s | ~110 s |
| | Solid | ~130 s | ~120 s | ~110 s |
| | Foaming starts | ~22 s | ~13 s | ~12 s |
| | Foaming ends | ~80 s | ~45 s | ~40 s |
| | Foaming factor* | ~30-fold | ~35-fold | ~30-fold |
| * free expansion | | | | |

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.

IMPORTANT CONSIDERATIONS

- Important of stirring comp. A during injection process.
- The mechanical properties of the cured product depend on the actual foaming factor and the environmental situation. Therefore this has to be checked in situ when required according to the project situation.

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

MIXING

Prior to use, component A must be thoroughly stirred separately with a low-speed stirrer (300 rpm max., e.g. using a drill and paddle mixer)

APPLICATION METHOD / TOOLS

- SikaFix®-501 is processed using a 2 components injection pump suitable for silicate injection.
- Both components are mixed with a 2-C injection pump, drawing directly from the original containers.
- The mixing device (static mixer) must ensure that the comp. A and B form a uniform and stable emulsion.
- Long static mixers with small mixing spirals are recommended for introducing sufficient mixing energy during pumping.
- Use injection lances or packers with a sufficiently large flow opening.
- For additional information refer to the corresponding Sika method statement.

CLEANING OF EQUIPMENT

Clean all tools and application equipment according to the separate Product Data Sheet for Sika® Injection Cleaning System. Hardened/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.



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