BUILDING TRUST

PRODUCT DATA SHEET

Sikadur®-53 (UF)

MOISTURE INSENSITIVE INJECTION RESIN.

DESCRIPTION

Sikadur®-53 (UF) is a solvent-free, two part, moisture insensitive liquid, based on epoxy resin.

USES

Sikadur®-53 (UF) may only be used by experienced professionals.

- Sikadur®-53 (UF) is used as an injectable resin to seal damp, wet and submerged cracks by high pressure injection
- For adhesion of concrete and steel in damp and wet condition (by water displacement)

CHARACTERISTICS / ADVANTAGES

- Cures without shrinkage
- High resistance to a wide range of aggressive chemicals
- Excellent adhesion to salt-water immersed, cement bound substrates
- High density ensures complete water displacement
- High mechanical strengths even after hardening under water

PRODUCT INFORMATION

Chemical Base	Epoxy Resin
Packaging	Pre batched unit : 3 kg (A+B) Part A: 2 kg plastic container Part B :1 kg plastic container
Colour	Part A : Colourless Part B: Reddish Brown Part(A+B) Mix : Reddish Brown
Shelf Life	12 months from date of production if stored properly as per recommendation.
Storage Conditions	Store properly in original unopened, sealed and undamaged packaging in dry conditions at temperatures between +5°C and +40°C. Protect from direct sun light.
Density	~ 1.1 kg/l @ +27 °C (Mix Density)
Viscosity	~ 500 mPa.s @ + 30 °C

TECHNICAL INFORMATION

Compressive Strength — ASTM C 579

Curing Time	Value
1 day	≥ 40 MPa
3 days	≥ 45 MPa
7 days	≥ 50 MPa
14 days	≥ 50 MPa

** Grouted and cured under water*
** Test Specimen Size: 50x50x50 mm*

Tensile Strength — ≥ 30 MPa, 14 days @ +30 °C — ISO 527

Tensile Adhesion Strength — ≥ 8 MPa, 14 days @ +30 °C — ASTM C882

** Grouted and cured under water*
** Concrete Failure*

Service Temperature — Sikadur®-53 (UF) must be at a temperature of between +10°C and +40°C.

APPLICATION INFORMATION

Mixing Ratio — Part A : Part B = 2 : 1 (by weight)

Ambient Air Temperature — +5 °C min / +40 °C max

Substrate Temperature — +5 °C min / +40 °C max

Pot Life — ~ 15 min, @ +30 °C for 100g mass — According to FIP 5.1

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 before mixing them (not below +5°C).

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Concrete, mortar, stone, bricks:
Substrates must be sound, clean and free from laitance, 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 i.e. by blast cleaning and vacuum.

SUBSTRATE PREPARATION

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths).Verify the substrate strength (concrete, masonry, natural stone). Steel substrates must be de-rusted similar to Sa 2.5. The concrete substrate must be sound and all loose particles must be removed.

MIXING

Pre-batched units:
Mix parts A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max. 400 rpm) until the material becomes smooth in consistency and a uniform green colour. Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approx. 1 more minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within its potlife.

APPLICATION METHOD / TOOLS

Successful application depends on very careful preparation. The surface to be treated must be structurally sound, free from oil, grease, surface contaminants. dirt,dust and other foreign materials. Concrete which is fully contaminated with oil /grease, must be removed to thedepth of sound & uncontaminated concrete.
Impregnation of cracks on horizontal slabs:
Impregnation is applied with a paint brush or roller until complete saturation of thesubstrate is achieved. Cracks are sealed by pouring mixed Sikadur®-53 (UF) directly from the mixing vessel between two “dams” made from Sikaflex® sealant. Crack penetrating slabs to their so it should first be sealed on the underside with Sikadur®-31 epoxy mortar or a suitable cementitious Sika mortar.
Injection of cracks on horizontal / vertical slabs:
Injection flange / nipples are fixed along the crack line at an approximately 25 cm center-to-center distance with Sikadur®-31. Crack mouth should be opened and sealed with Sikadur®-31. Crack penetrating slabs to their soffit should also be sealed on the underside with Sikadur®-31 epoxy mortar or a suitable cementitious Sika mortar. Mixed Sikadur®-53 (UF) can be injected under pressure through injection ports using injection pump, such as Wagner finish 270, Aliva AL-1200, AL-

1250 or the Sika® Hand Pump. As soon as injection resin oozes out of the next injection port, the first one is sealed and injection process is continued from next port.
NB: Please check the potlife of the mixed material in the site prior to application of the grouting equipment.
For underwater slab, use of Sikagard®-694F(I) is recommended instead of
Sikadur®-31.Also, after mixing Part A & Part B, a waiting time of 15 minutes need to be observed in order to allow the mixture to pre-react for optimal adhesion under water.
For horizontal crack, injection should start from any of the ends and to be continued
and completed till the last port is used. For vertical crack, injection should start from
the lowest port and continued upwards

CLEANING OF TOOLS

Clean all tools and application equipment with Solvent immediately after use. Hardened / cured material can only be mechanically removed.

FURTHER DOCUMENTS

Maximum width of cracks to be injected: 5 mm.
Sikadur®-53 (UF) is suitable for dry and damp and submerged conditions.

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.

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.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall 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 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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