Sikadur®-53 UF (Mortar)
Moisture insensitive epoxy resin mortar

Product Description
Sikadur®-53 UF (Mortar) is an epoxy based solvent free, three-component moisture insensitive mortar. It has been developed to meet special requirement of concrete repair particularly in damp, wet condition. After mixing, the mortar is placed on moist concrete, when it cures to a rigid, high strength material.

Uses
Sikadur®-53 UF (Mortar) is recommended:
- For repair of damp and wet concrete
- For rapid installation and repair

Characteristics / Advantages
Sikadur®-53 UF (Mortar) provides following beneficial properties:
- High early strength
- Cures without shrinkage
- Excellent adhesion to cement substrate even under salt water

Tests
Approval / Standards
Testing according to ASTM, C881M-02, Type I, Grade 3, Class B+C.

Product Data

Form

Colours
Part A: clear
Part B: reddish yellow
Part C: sand
Part A+B+C mixed: reddish yellow

Packaging
10.5 kg (A+B+C) Pre-batched unit.
Part A: 1.00 kg plastic container
Part B: 0.50 kg plastic container
Part C: 9.00 kg bag

Storage
12 months from date of production if stored properly in original unopened, sealed and undamaged packaging, in dry conditions at temperatures between +5°C and +40°C. Protect from direct sunshine.

Technical Data

Chemical Base
Epoxy resin.

Mixed Density
~ 2.1 kg/l at 27°C

Sag Flow
(According to FIP 5.3 with measurement according to ASTM D2730)
On vertical surfaces it is non-sag up to 20 mm thickness

Layer Thickness
60 mm max.
When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time.
**Thermal Stability**
Heat Deflection Temperature (HDT):
HDT = +47°C (7 days / +30°C)  
(According ASTM D-648)

**Mechanical / Physical Properties**

**Compressive Strength**  
(According to ASTM C 881)

<table>
<thead>
<tr>
<th>Curing time</th>
<th>Curing temperature(+30°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 hours</td>
<td>&gt;10 N/mm²</td>
</tr>
<tr>
<td>6 hours</td>
<td>&gt;20 N/mm²</td>
</tr>
<tr>
<td>1 day</td>
<td>&gt;30 N/mm²</td>
</tr>
<tr>
<td>7 days</td>
<td>&gt;50 N/mm²</td>
</tr>
</tbody>
</table>

**Bond Strength**  
(According to ASTM C 882)

<table>
<thead>
<tr>
<th>Time</th>
<th>Temperature</th>
<th>Substrate</th>
<th>Bond strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 day</td>
<td>+30°C</td>
<td>Concrete dry</td>
<td>&gt; 4 N/mm² *</td>
</tr>
<tr>
<td>14 day</td>
<td>+30°C</td>
<td>Concrete moist</td>
<td>&gt; 4 N/mm² *</td>
</tr>
</tbody>
</table>

*100% concrete failure.

**System Information**

**Application Details**

**Consumption / Dosage**
The consumption of Sikadur®-53 UF (Mortar) is ~ 2.1 kg/m² per mm of thickness.

**Substrate Quality**
Verify the substrate strength (concrete, masonry, natural stone).

The substrate surface (all types) must be clean and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc.

Steel substrates must be de-rusted similar to Sa 2.5.

The substrate must be sound and all loose particles must be removed.

**Substrate Preparation**
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. Avoid dew point conditions.

Other surfaces (polyester, epoxy, glass, ceramic):
On these substrates pre-apply Sikadur®-31 and then, "wet on wet" apply Sikadur®-53 UF (Mortar)

**Application Conditions / Limitations**

**Substrate Temperature**  
+5°C min. / +40°C max.

**Ambient Temperature**  
+5°C min. / +40°C max.

**Material Temperature**
Sikadur®-53 UF (Mortar) must be applied at temperatures between +10°C and +40°C.
Application Instructions

Mixing


Mixing Time

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. 600 rpm) until the material becomes smooth in consistency and a uniform colour. Then add part C and continue until mixture is homogeneous. Avoid aeration while mixing. The, pour the whole mix into a clean container and stir again for ~ 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

When using a thin layer adhesive, apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, (or with hands protected by gloves).

When applying as a repair mortar use some formwork.

When using for bonding metal profiles onto vertical surfaces, support and press uniformly using props for at least 12 hours, depending on the thickness applied (not more than 5 mm) and the room temperature.

Once hardened check the adhesion by tapping with a hammer.

Cleaning of Tools

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

Potlife

100 g mass (According to FIP 5.1)

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>+30°C</td>
<td>~20 minutes</td>
</tr>
</tbody>
</table>

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 (not below +5°C).

Value Base

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.

Health and Safety Information

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.