Sikadur®-43 HE (h)
3-part thixotropic epoxy patch repair / filling mortar

**Product Description**
Sikadur®-43 HE is a thixotropic, three part patch repair and filling and bonding mortar, based on a combination of epoxy resins and special fillers, designed for use at temperatures between +5°C and +40°C.

**Uses**
- As a repair and bonding / bedding mortar for:
  - Concrete elements
  - Hard natural stone
  - Ceramics, fibre cement
  - Mortar, Bricks, Masonry
  - Steel, Iron, Aluminum
  - Wood
  - Polyester, Epoxy
- As a repair and patching mortar:
  - Filling of cavities and voids
  - Vertical and overhead use
- As an abrasion and impact resistant filling / repair or wearing course.
- Joint filling and crack repair:
  - Joint and crack arris / edge repairs

**Characteristics / Advantages**
Sikadur®-43 HE (h) has the following advantages:
- Easy to mix and apply
- Suitable for dry and damp concrete surfaces
- Very good adhesion to most construction materials
- High strength
- Thixotropic: non-sag in vertical and overhead applications
- Cure under damp conditions - cured product is highly impermeable to water
- Different coloured components (for mixing control)
- High initial and ultimate mechanical strength
- Good abrasion resistance
- Good chemical resistance
Tests

Approval / Standards  Testing according to ASTM, C881, Type III, Grade 3, Class E

Product Data

Form

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

Packaging  25.2 kg (A+B+C) Pre-batched unit
  Part A: 2.7 kg plastic container
  Part B: 0.45kg plastic container
  Part C: 22.05 kg plastic container

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  2.2 ± 0.1 kg/l (Part A+B+C mixed) (at +27°C) (evacuated)

Layer Thickness  60 mm max in single step.
  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.

Change of Volume  Shrinkage:
  Hardens without shrinkage.

Thermal Stability  Heat Deflection Temperature (HDT): (According to ASTM D-648)
  HDT = +54°C (7 days / +30°C)

Transversal Resistivity in air at 25º ohm-cm

<table>
<thead>
<tr>
<th></th>
<th>Greater Than</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>10 x 10^10</td>
<td>3.7 x 10^13</td>
</tr>
<tr>
<td>Immersion in Water for 24 Hrs</td>
<td>10 x 10^4</td>
<td>9.6 x 10^10</td>
</tr>
</tbody>
</table>

Mechanical / Physical Properties

Compressive Strength  (According to ASTM C 579)

<table>
<thead>
<tr>
<th>Curing time</th>
<th>Curing temperature(+30°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>~85 N/mm²</td>
</tr>
<tr>
<td>3 days</td>
<td>~ 98 N/mm²</td>
</tr>
<tr>
<td>7 days</td>
<td>~ 104 N/mm²</td>
</tr>
<tr>
<td>14 days</td>
<td>~ 108 N/mm²</td>
</tr>
</tbody>
</table>

(According to DIN EN 196)

<table>
<thead>
<tr>
<th>Curing time</th>
<th>Curing temperature(+30°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>~84 N/mm²</td>
</tr>
<tr>
<td>3 days</td>
<td>~ 96 N/mm²</td>
</tr>
<tr>
<td>7 days</td>
<td>~ 102 N/mm²</td>
</tr>
<tr>
<td>14 days</td>
<td>~ 107 N/mm²</td>
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</tbody>
</table>
**Flexural Strength**  
(According to DIN EN 196)

<table>
<thead>
<tr>
<th>Curing time</th>
<th>Curing temperature (+30°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>~20 N/mm²</td>
</tr>
<tr>
<td>3 days</td>
<td>~23 N/mm²</td>
</tr>
<tr>
<td>7 days</td>
<td>~25 N/mm²</td>
</tr>
<tr>
<td>14 days</td>
<td>~25 N/mm²</td>
</tr>
</tbody>
</table>

**Tensile strength**  
(According to ISO 527-2)

<table>
<thead>
<tr>
<th>Curing time</th>
<th>Curing temperature (+30°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 days</td>
<td>~12 N/mm²</td>
</tr>
<tr>
<td>14 days</td>
<td>~12 N/mm²</td>
</tr>
</tbody>
</table>

**System Information**

**Application Details**

**Consumption / Dosage**  
The consumption of Sikadur®-43 HE (h) is ~ 2.2 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®-43 HE (h)

**Application Conditions / Limitations**

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

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

**Material Temperature**  
Sikadur®-43 HE (h) must be applied at temperatures between +5°C and +40°C.

**Application Instructions**

**Mixing**  
Part A : Part B : Part C = 6 : 1 : 45 (by weight)

**Mixing Time**

[Image of a mixing time]
**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 on to 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.

<table>
<thead>
<tr>
<th>Potlife</th>
<th>415ml</th>
<th>(According to ASTM D2471-99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>~35 minutes</td>
<td>+30°C</td>
<td>~35 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.