

SikaFix[®] HH

Expanding, Polyurethane, Chemical Grout

Description	SikaFix [®] HH is a high-solids, polyurethane, liquid chemical grout. It is pumped into voids to stop water infiltration.
Uses	SikaFix [®] HH permanently stop unwanted water which is infiltrating through : <ul style="list-style-type: none">- Defective concrete (cracked or honey-combed).- Concrete joints.- Limestone (tunnels, dams).- Pipe intrusions.- Wastewater tanks.- Conduits.- Sewers, manholes, utility boxes, etc.
Advantages	<ul style="list-style-type: none">- Easy to apply - one component with accelerator.- Shrinkage.- Hydrophobic – only a small amount of water needed for reaction.- Permanently flexible.- Tenacious adhesion to wet or dry surfaces.- Safe to environment (cured product is inert).- Bridges wide gaps.- Economical.- Applicator controlled reaction time (from 3 secs. to 30 secs).
Yield	5 pails (25 kgs) of polyurethane grout which expands up to 20 times its volume in a free rise.
How to Use	
Surface Preparation	Crack must be clean and sound. Moisture must be present. Remove all dust, laitance, grease, curing compounds, impregnation, waxes, foreign particles, and disintegrated materials from cracks.
Mixing	Slowly combine Accelerator “B” with 5 pails. of component “A” and mix thoroughly for about 2 minutes with low-speed (400-600 rpm) drill and paddle until uniform in color. <i>Caution:</i> Do not allow water to enter this mix and avoid “whipping” air into the material.

Construction



Application

Begin by drilling 5/8" or greater diameter holes along the side of the crack a 45° angle. Drill the hole to intersect the crack midway through the substrate. Install the injection packers in holes and tighten. If the crack to be injected is 1/2" or greater at surface, pack an open cell polyurethane foam saturated with the mixed SikaFix® HH into the crack. Spray the saturated foam with a small amount of water to activate the grout and create a surface seal.

Pump SikaFix® HH at >17 MPa into or behind fissures or into voids which are allowing water to infiltrate into unwanted area. If concrete being injected contains insufficient moisture to activate the grout, inject the crack with a small amount of water prior to injecting the chemical grout.

Pump SikaFix® HH for 45 seconds and then pause to allow the material to flow into all of the cracks and crevices. Watch for material flow and water movement to appear on the surface. When movement stops, begin injecting into the next packer. When sealing vertical cracks, begin injecting at the bottom of the crack and work vertically. If grout is being pumped at cold temperature, additional SikaFix® Accelerator can be added to base resin.

Consult our Technical Service before adding SikaFix® Accelerator. Re-inject to assure that all voids are properly sealed off.

Caution

Expanding SikaFix® HH is exerting outward pressures of up to 3.15 MPa. The review of drawings of the area to be repaired is desirable.

Clean up

Completely flush pump and hoses with SikaFix® Pump Flush. Use sharp-sided tool such as a putty knife or trowel to remove excess material from walls, floors, etc. Wait for material to cure before removing. May be sanded off if necessary.

Technical Data

Material and curing condition @ 23°C and 50% R.H.

Color

Light amber

Density

Free rise (#10 Cup)(ASTM D-1622) : 1.64 lb/ft.³
Molded overall (ASTM D-1622) : 4.20 lb/ft.³

Mixing Ratio

Component "A" : Component "B" = 25 kgs : 1 kg.

Viscosity

Component "A" approximately 500 cps. , Component "B" approximately 100cps.

Pot life

Approximately 5 hours, providing no moisture enters the system.

Shear Strength (ASTM C-273) 0.82 MPa

Tensile Strength (ASTM D-1623) 1.08 MPa

Elongation (ASTM D-1623) +25 %

Shrinkage (ASTM D-2126) 0 %

Water Absorption	ASTM D-2127 26.27 kg./m ² ASTM D-2842 67.27 kg./m ²
"Cream" Time (reaction time after meeting water)	30 sec. Reaction time may be decreased to as little as 3 secs. with the addition of SikaFix Accelerator. Consult with Technical Service.
Storage	Store dry at 10-32 °C. Condition material to 18-29 °C before using. Protect Component "A" from freezing. If frozen, discard.
Shelf life	8 months in original, unopened container.
Packaging	25 kgs pail with 1 kg accelerator SikaFix [®] Pump Flush is available in 25 kgs Pail
<hr/>	
Limitation	<ul style="list-style-type: none"> - Minimum substrate temperature 5 °C. - Minimum material temperature 15 °C. - Cured foam should be protected from sunlight. - All equipment in contact with SikaFix[®] HH must be dry. - Confined, reacting SikaFix[®] HH can produce up to 31 MPa. Caution must be used. - For any application in contact with potable water, consult Technical Service. - Protect SikaFix[®] HH Component "A" from freezing. If frozen, discard.
<hr/>	
Caution	
Component "A"	Contains TDI, MDI and other isocyanates.
Component "B"	Contains polyols.
Irritant	<p>Skin and eye irritant. Can cause skin and or respiratory sensitization after prolonged or repeated contact. High concentrations of vapour may cause respiratory irritation. Avoid skin contact. Use only with adequate ventilation.</p> <p>Use of safety goggles and chemical resistant gloves is recommended. In case of exceedance of PELs, use an appropriate, properly fitted NIOSH/MSHA approved respirator. Remove contaminated clothing. TDI is listed as a suspect carcinogen by NTP and IARC.</p>
First Aid	<p>In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes;</p> <p>contact physician immediately. For respiratory problems, remove person to fresh air. Wash clothing before reuse.</p>
Clean up	Ventilate area. Confine spill. Collect with absorbent material. Dispose of in accordance with current, applicable local, national regulations. Uncured material can be removed with approved solvent. Cured material can only be removed mechanically. Clean tools and equipment with SikaFix Pump Flush.
<hr/>	

Caution**SikaFix Accelelator**

Contains stannous octate.

Irritant

Avoid skin, eye and respiratory contact. Avoid breathing vapours. Use only with adequate ventilation. Use of safety goggles, chemical –resistant gloves, and a NIOSH/MSHA approved vapour respirator recommended. Remove contaminated clothing.

First Aid

In case of eye contact, flush eyes thoroughly with water for 15 minutes ; contacts physician immediately. In case of skin contact, wash with soap and water. For respiratory problem, remove person to fresh air. Wash clothing before reuse.

Clean up

Ventilate area. Confine spill. Collect with absorbent material. Dispose of in accordance with current, applicable local, national regulations.

Caution**SikaFix Pump Flush**

Contains methyl ester.

Irritant

Avoid skin, eye and respiratory contact. Avoid breathing vapours. Use only with adequate ventilation. Use of safety goggles, chemical –resistant gloves, and a NIOSH/MSHA approved vapour respirator to fresh air. Wash clothing before reuse.

First Aid

In case of eye contact, flush eyes thoroughly with water for 15 minutes;contacts physician immediately. In case of skin contact, wash with soap and water. For respiratory problem, remove person to fresh air. Wash clothing before reuse.

Clean up

Ventilate area. Confine spill. Collect with absorbent material. Dispose of in accordance with current, applicable local, national regulations.

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 (Thailand) Limited**

Head Office
700/37 Moo 5 Bangpakong Industrial Park II,
Km.57 Bangna-Trad Rd., T. Klongtamhru,
Muang District, Cholburi 20000

Tel : +66 3821 4270-85
Fax : +66 3821 4286
E-mail : sikathai@th.sika.com
website : <http://www.sika.co.th>

SikaFix® HH 4/4

