Construction

SikaFix® HH (au)

Expanding polyurethane chemical grout

Description	SikaFix HH (au) is a single component hydrophobic polyurethane foam grout that when used alone or with SikaFix HH (au) accelerator, is designed to stop water infiltration and fill voids outside a structure or joint and cracks in concrete structures. It may also be used in applications with high pressure flowing water.
Uses	■ Fills joints or cracks in concrete structures that exhibit some movement ■ Fill voids such as rock fissures, crushed fault or gravel layers ■ May be used in applications with high pressure water flow ■ Curtain wall grouting below grade structures
Advantages	■ Easy to apply, one component with optional accelerator ■ Hydrophobic, only a small amount of water is needed for reaction ■ Non flammable ■ Adjustable set times using accelerator ■ Contains no volatile solvents
Storage	If Stored in a dry area using original re-sealable containers this product has a minimum shelf life of six (6) months.

Instructions for Use

Surface Preparation	When the crack is contaminated on the outside, it will be necessary to clean the crack surface so that the crack can be exactly located. If the crack is wide or high water flows are encountered, it will be necessary to seal the surface of the crack with a surface sealing material (Sika Plug or open cell polyurethane foam saturated with SikaFix HH (au)). The surface sealing can be done before or after drilling the injection holes, depending on the particular situation.
Mixing	Prior to installation the material should be agitated by vigorously shaking the pail or by mixing with a mixer. Prior to using SikaFix HH (au) accelerator, the can should be shaken vigorously as the contents may settle during storage. The grout should never be used with more than 5% (by weight) of SikaFix HH (au) accelerator. Excess acceleration will cause vigorous expansion that is prone to shrinkage. Pour the desired amount of SikaFix HH (au) into a clean pail. Measure the appropriate amount of SikaFix HH (au) accelerator and pour into the SikaFix HH (au) and mix adequately.
Cleaning	Remove fresh spots of foam immediately using a cleaner such as Acetone. Cured foam can only be removed mechanically.

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Typical Data

Uncured		
Basis	Polyurethane	
Colour	Light Amber	
Solids	100% (no solvents)	
Density	1.06 kg/l	ASTM D 1638
Flashpoint	>93ºC	
Viscosity @ 25ºC	600±200 cps	ASTM D 1638

SikaFix® HH (au) Accelerator

Colour	Transparent Liquid	
Cured Product Properties		
Density	224 kg/m^3	ASTM D 1622
Tensile Strength	2.07 MPa	ASTM D 3574
Elongation	400%	ASTM D 3574
Shrinkage	0	ASTM D 756
Toxicity	Non-toxic	

Cure Mechanism

Reactivity (20ºC) % SikaFix HH (au) accelerator by volume	Cream time in Minutes/Seconds	Expansion Time (min.)
0%	1 min. 30 sec.	15
2.5% (500 g per 20 kg)	35 sec.	3
5% (1 kg per 20 kg)	20 sec.	2
SikaFix HH (au) Accelerator must be agitated prior to use.		

Chemical Resistance Chart

Chemical Resistance Chart : SikaFix HH

CODE :
E = EXCELLENT RESISTANCE
G = GOOD RESISTANCE
F = FAIR RESISTANCE
P = POOR RESISTANCE
S = SEVER SOLVENT , NOT RECOMMENDED TO USE

Active Material	Resistance	Active Material	Resistance
Acetic Acid 2%	G	JP-4 Fuel	E
Aceton	P	JP-5 Fuel	E
Ammonium Hydroxide Concentrate	G	Kerosene	E
Ammonium Hydroxide 10%	E	Linseed Oil	E
Ammonium Sulfate 2%	E	Methyl Alcohol	G
Anyleacetate	G	Methylene Chloride	F
Benzene	E	Methyle Ethyle Ketone	P
Benzene Chloride	E	Mineral Spirits	E
Brine 10 %	E	Motor Oil	E
Brine Saturated	E	NaOH 25%	E
Butarol	E	Nitric Acid Concentrate	S
ButylAcetate	G	O.Chlorobenzene	G
Carbon Tetrachloride	E	Orthodichlorobenzene	E
Diesel Oil	E	Potassium Chlorate 5%	E
Diisobutylene	E	Potassium Hydroxide 1%	E
Diisobutylketone	E	Sodium Hydrxide Concentrate	E
Ethyleacetate	F	Sodium Hydroxide 10%	E
EthyleAlcohol	G	Styrene	E
Ethylene Glycol 100%	G	Sulfuric Acid Concentrate	S
Formaldehyde	G	Sulfuric Acid 10%	E
Gasoline	E	Toluene	E
HCL 25%	E	Trichloromonofluromethane	E
Hexene	E	Trichloroethylene	G
Hydrochloric Acid Concentrate	G	Trpentine	E
HydroChloric Acid 10%	E	Varsol	E
Hydrogen Sulfide 100% (Wet)	E	Water	E
Isopropanol	E	Xylene	E

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Application	Begin by drilling 5/8” diameter holes along the side of the crack at a 45º angle. Drill the hole to intersect the crack midway through the substrate. Install injection packers in the holes and tighten. Spacing of the injection ports depends on crack width, but normal varies from 6” to 36”. It is always necessary to flush the drilled holes with water to remove debris and drill dust from the holes and crack. This will also ensure that the crack is wet enough to react with the grout when it is introduced to the crack. Begin the injection of the grout as the lowest packer installed on a vertical crack, or at the first packer flushed for a horizontal crack. During the injection, you will notice that the SikaFix HH (au) displaces water from the crack. Continue injecting until the grout appears at the adjacent packer hole. Stop pumping and reinstall the packer in the adjacent hole. Tighten the packer and move the pump hose to the second packer and begin injection. Continue the process until 3-4 packers have been grouted. Disconnect and go back to the first and further densify the material in the crack. Continue process until the length of the prepared crack is injected. *Note:* Injection pressure will vary from 200 psi to 2,500 psi depending on the width of the crack, thickness and condition of concrete. **Finishing:** When finished with the injection process, re-inject each installed packer with a small amount of water. This will react with the resin left behind in the drill hole. After the injection, the packers or injection ports can be cut flush with the concrete surface or can be removed from the injection holes. Let SikaFix HH (au) completely cure before removing the packers. Packer holes can be filled with Sikadur-31, Sika Repair Mortar or Sika Plug and toweled smooth. **Removal:** Residual resin that has foamed from the crack can be removed with a scrapper provided that is not cured to a solid on the surface. If the material has cured, remove with a wire brush or hand held grinders. SikaFix HH (au) will aggressively bond to concrete surfaces.
Packaging	**SikaFix HH (au)** 20 kg 200 kg available only on special request **SikaFix HH (au) Accelerator** 500 g (equates to 2.5% of 20 kg) 20 kg available only on special request
Important Notes	• Low temperatures will significantly affect viscosity. If SikaFix HH (au) accelerator is allowed to freeze, it will lower performance of the product • Avoid splashing water into open containers, as material is water activated. • Water used to activate SikaFix HH (au) must be in the range of pH 3-10 for optimum foam quality. • Do not exceed 32ºC when warming.
Important Notification	The information, and, in particular, the recommendations relating to the application and end-use of Sika’s 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 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 proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the most recent issue of the Australian version of the Technical Data Sheet for the product concerned, copies of which will be supplied on request. PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.