

Product Data Sheet
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Identification no. 043L05G
SikaFix HH+

SikaFix® HH+

Expanding, Polyurethane, chemical grout

Description	SikaFix HH+ is a hydrophobic polyurethane foam grout, that when used alone or with SikaFix HH 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.
Where to Use	<ul style="list-style-type: none"> ■ Fill 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	<ul style="list-style-type: none"> ■ Easy to apply, One component with accelerator ■ Hydrophobic, only a small amount of water is needed for reaction ■ Expands 15 times the liquid volume ■ Nonflammable ■ Adjustable set times using accelerator ■ Contains no volatile solvents ■ ANSI/NSF 61 approved for potable water contact
Packaging	5 gallon pail. SikaFix HH accelerator is available in 25 oz. cans 8/case and SikaFix Pump Flush is available in 5 gallon pails. Sold separately.
How to 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 (SikaSet Plug or open cell polyurethane foam saturated with SikaFix HH+). 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 5-gallon pail or by mixing with a jiffy mixer or bung mixer. Prior to using SikaFix HH accelerator, the can should be shaken vigorously as the contents may settle during storage. The grout should never be used with more than 5% of SikaFix HH accelerator. Excess acceleration will cause vigorous expansion that is prone to shrinkage. Pour the desired amount of SikaFix HH+ into a clean pail. Measure the appropriate amount of HH accelerator and pour it into the SikaFix HH+ and mix adequately.

Typical Data (Material and curing conditions @ 73°F (23°C) and 50% R.H.)

Shelf Life	1 year	
Uncured		
Solids	100%	ASTM D 2369 B
Viscosity at 77 F	500-700 cps	ASTM D 2196 A
Color	Opaque-Amber	
Density	8.75 - 9.17 lbs/gal	ASTM D 1475
Flashpoint COC method	325° F	ASTM D 93
Toxicity	Non-toxic	
SikaFix HH Accelerator		
Appearance	Transparent liquid	
Viscosity at 77 F	5-16 cps	ASTM D 2196
Flashpoint COC Method	338° F	ASTM D 93
Cured		
Density	8.75 - 9.17 lbs/gal	ASTM D 3574
Tensile Strength	89 psi	ASTM D 3574
Elongation	35%	ASTM D 3574
Shrinkage	less than 4%	ASTM D 1042
Absorption	12%	After 6 months immersion

Cure Mechanism

Reactivity		Gel time in minutes/seconds
% SikaFix HH LV accelerator		
at 50°F	1%	7 m 50 s
	3%	3 m 50 s
at 68°F	1%	6 m 00 s
	3%	3 m 00 s
at 86°F	1%	5 m 50 s
	3%	2 m 30 s
1% of SikaFix HH Accelerator = 1.3 oz per gallon of SikaFix HH+		
SikaFix HH Accelerator must be agitated by shaking the can prior to use.		



Application

Begin by drilling 5/8" diameter holes along the side of the crack at a 45 degree 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 insure 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+ 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 packer and inject all the ports for the second time. Some ports may take additional grout, which will fill up 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 2500 psi depending on the width of the crack, thickness of concrete 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+ completely cure before removing the packers. Packer holes can be filled with Sikadur 31, SikaRepair Mortar, or SikaSet Plug and trowelled 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+ will aggressively bond to concrete surfaces.

Limitations

- Low temperatures will significantly affect viscosity. If SikaFix HH+ 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+ must be in a range of pH 3-10 for optimum foam quality
- Do not exceed 90°F when warming
- Must be used in confined spaces

Storage

Store in a dry area using original re-sealable containers

Conditioning

Low temperatures will affect viscosity. To minimize this effect, store the product at room temperature for a minimum period of 24 hours prior to use. If site temperatures are extremely low, heat bands or heated water baths may be used on the pails, before and during use to maintain the products temperature. Immerse only the lower 2/3 of the pails. Avoid splashing water into open containers.

Caution

WARNING: CORROSIVE, IRRITANT, SENSITIZER. Contains 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8), DIBUTYL MALEATE (CAS 105-76-0), DIBUTYL PHTHALATE (CAS 84-74-2), POLYETHER POLYOL (CAS 9082-00-2), POLYETHER POLYOL (CAS 9003-11-6), POLYMERIC DIPHENYLMETHANE DIISOCYANATE (CAS 9016-87-9). Causes eye/respiratory tract irritation. Causes mild to moderate skin irritation. Contact with eyes/skin may cause product to polymerize. Prolonged and/or repeated contact may cause an allergic skin and respiratory tract reaction/sensitization. Ingestion of this product is harmful and maybe fatal. **Deliberate misuse by inhalation of vapors may be harmful or fatal.**

First Aid

Eyes – Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin** – Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation** – Remove to fresh air. **Ingestion** – Do not induce vomiting. Dilute with water. Contact physician. **In all cases contact a physician immediately if symptoms persist.**

Handling & Storage

Avoid direct contact. Wear personal protective equipment (chemical resistant goggles/gloves/clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing and launder before reuse.

Clean Up

Use personal protective equipment (chemical resistant gloves/ goggles/clothing). Without direct contact, remove spilled or excess product and placed in suitable sealed container. Dispose of excess product and container in accordance with applicable environmental regulations.

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY

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