

Product Data Sheet
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SikaRepair SHB

Construction

SikaRepair® SHB

One component, cementitious repair mortar with superior high build properties that may be hand applied or wet-sprayed

Description	SikaRepair SHB is a one-component, cementitious ready to use repair mortar. It is a multi-purpose mortar which can be applied by trowel or low pressure wet spray process. The incorporation of low density aggregates allows high build applications on vertical and overhead surfaces. SikaLatex R or SikaLatex may be used instead of water for a two component, polymer-modified repair mortar.
Where to Use	<ul style="list-style-type: none"> ■ Fast repairs to overhead and vertical concrete on mortar surfaces on grade, above and below grade. ■ As a repair material for building facades, parking structures, industrial plants, bridges, etc.
Advantages	<ul style="list-style-type: none"> ■ Time/labor-saving material; application up to 3 inches on vertical surfaces in one layer. ■ Application by hand or low pressure wet spray method. ■ Easy to use; just add water. ■ High bond strength ensures excellent adhesion. ■ Good, early and ultimate strength. ■ Increased freeze/thaw durability and resistance to deicing salts. ■ Easy to clean. ■ Suitable for exterior and interior applications. ■ Not a vapor barrier.
Yield	0.55 cu. ft./bag
Packaging	Sika Repair SHB: 25 lb. bag, 60/pallet, 50 lb. (22.7 kg.) multi-wall bag. SikaLatex (R): 1 gal. plastic jug; 4/carton, 5 gal. pails.

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

Shelf Life	One year in original, unopened bags.	
Storage Conditions	Store dry at 40°-95°F (4°-35°C). Condition material to 65°-75°F before using.	
Color	Concrete gray	
Mixing Ratio	1 50 lb. bag SikaRepair SHB + 3/4 gal. to 1 gal. of liquid	
Density (Wet mix)	106 lbs./cu. ft. (1.70 kg./l.)	
Working Time	Approximately 30 minutes.	
Finishing Time	(Initial Set) 2-3 hours	
Compressive Strength (ASTM C-1090)		with Latex R
1 day	2,500 psi (17.2MPa)	2,500 psi (17.2 MPa)
28 days	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)
Flexural Strength (ASTM C-293)		
28 days	800 psi (5.5 MPa)	1,400 psi (9.7 MPa)
Bond Strength * (ASTM C-882 modified)		
28 days	1,000 psi (6.8 MPa)	1,800 psi (12.4 MPa)

*Mortar scrubbed into substrate

How to Use

Substrate Concrete, mortar, and masonry products.

Surface Preparation - Concrete/Mortar: Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Preparation work should be done by high pressure water blast, scabber or other appropriate mechanical means to obtain an exposed aggregate surface profile of $\pm 1/16$ -in. (CSP5). Substrate should be saturated surface dry (SSD) with no standing water during application.

Reinforcing Steel: Steel reinforcement should be thoroughly prepared by mechanical cleaning to remove all traces of rust. Where corrosion has occurred due to the presence of chlorides, the steel should be high pressure washed with clean water after mechanical cleaning.



Priming	For priming of reinforcing steel use Sika Armatec 110 EpoCem (consult Technical Data Sheet). Concrete Substrate: Prime the prepared substrate with a brush or sprayed applied coat of Sika Armatec 110 EpoCem (consult Technical Data Sheet). Alternately, a scrub coat of Sika Repair SHB can be applied prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.
Mixing	With water: Pour 3/4 of one gallon of water into the mixing container. Add powder while mixing continuously. Mix mechanically with a low-speed drill (400-600 rpm) and mixing paddle or in an appropriate mortar mixer. Adjust water to desired consistency of the mortar. Do not exceed one gallon per bag. Mix to uniform consistency, maximum 3 minutes. Manual mixing can be tolerated only for less than a full unit. Thorough mixing and proper proportioning is necessary. With Latex R: Pour 3/4 gallon of Sika Latex R into the mixing container. Slowly add powder, mix and adjust as above. With diluted Latex R: Sika Latex R may be diluted up to 5:1 (water: Sika Latex R) for projects requiring minimal polymer-modification. Pour 3/4 gallon of the mixture into the mixing container. Slowly add powder and mix as above. Note: SikaLatex R must be protected from freezing. If frozen, discard.
Application & Finish	SikaRepair SHB can be applied either by hand or wet spray process equipment. The mixed SikaRepair SHB must be worked well into the primed substrate, filling all pores and voids. Compact well. Force material against edge of repair working towards the center. Thoroughly compact the mortar around exposed reinforcement. After filling repair, consolidate, then screed. Finish with steel, wood, plastic floats, or damp sponges, depending on the desired surface texture. Where multiple lifts are required, score top surface on each lift to produce a roughened substrate for next lift. Allow preceding lift to harden before applying fresh material. Saturate surface of the lift with clean water. If previous layers are over 48 hours old, mechanically prepare the substrate and dampen. Application by machine: Apply SikaRepair SHB mortar by low or high pressure wet spray. Shoot the SikaRepair SHB perpendicular to the surface. This minimizes rebound, creates the smoothest pattern (reduces 'bumps') and properly encases the rebars. The velocity of the material is sufficient if, at a distance of 18 to 24 in., the shotcrete pattern flattens out on contact with the surface and the rebars are encased. After applying the material, allow it to stiffen for about 10 minutes before removing bumpy areas with a trowel. Before applying the next layer, allow the material to reach initial set. This will take anywhere from 45 minutes to several hours, depending on mix consistency, mix and ambient temperature, wind conditions and humidity. Begin and finish a given patch on the same day.
Curing	As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water based* compatible curing compound. Curing compounds adversely affect the adhesion of following lifts of mortar, leveling mortar or protective coatings. Moist curing should commence immediately after finishing. Protect freshly applied mortar from direct sunlight, wind, rain and frost. * Pretesting of curing compound is recommended.
Limitations	<ul style="list-style-type: none"> ■ Application thickness: Minimum: With water: 1/4 inch (6 mm). With Latex R: 1/8 inch (3 mm). Maximum in one lift: 3 inches (75 mm) vertical. 1.5 inches (38 mm) overhead. ■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application. ■ Do not use solvent based curing compounds. ■ As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur Hi-Mod 32.
Caution	
Irritant	Suspect carcinogen - Contains portland cement and sand (crystalline silica). Skin and eye irritant. Avoid contact. Dust may cause respiratory tract irritation. Avoid breathing dust. Use only with adequate ventilation. May cause delayed lung injury (silicosis). IARC lists crystalline silica as having sufficient evidence of carcinogenicity in laboratory animals and limited evidence of carcinogenicity in humans. NTP also lists crystalline silica as a suspect carcinogen. Use of safety goggles and chemical resistant gloves is recommended. If PELs are exceeded, an appropriate NIOSH approved respirator is required. Remove contaminated clothing.
First Aid	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, and contact a physician. For respiratory problems, remove person to fresh air.
Clean Up	In case of spillage, scoop or vacuum into appropriate container, and dispose of in accordance with current, applicable local, state and federal regulations. Keep container tightly closed and in an upright position to prevent spillage and leakage. Mixed material: Uncured material can be removed with water. Cured material can only be removed mechanically.

KEEP CONTAINER TIGHTLY CLOSED
 NOT FOR INTERNAL CONSUMPTION
 CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION

KEEP OUT OF REACH OF CHILDREN
 FOR INDUSTRIAL USE ONLY

Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current technical data sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES.

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