

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.
Coverage	0.55 cu. ft./bag
Packaging	SikaRepair® 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.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

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 to 1 gallon 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

Construction



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How to Use

Substrate	Concrete, mortar, and masonry products.
Surface Preparation	<p>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, scabblor 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.</p> <p>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.</p>
Priming	<p>For priming of reinforcing steel use Sika® Armatec® 110 EpoCem (consult Technical Data Sheet).</p> <p>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.</p>
Mixing	<p>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.</p> <p>With Latex R: Pour 3/4 gallon of SikaLatex® R into the mixing container. Slowly add powder, mix and adjust as above.</p> <p>With diluted Latex R: SikaLatex® R may be diluted up to 5:1 (water: SikaLatex® R) for projects requiring minimal polymer modification. Pour 3/4 gallon of the mixture into the mixing container. Slowly add powder, mix and adjust as above.</p> <p>Note: SikaLatex® R must be protected from freezing. If frozen, discard.</p>
Application	<p>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.</p> <p>Application by machine: Apply SikaRepair® SHB mortar by low or high pressure wet spray. Shoot 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 material 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.</p>
Tooling and Finishing	<p>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* 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.</p> <p><small>* Pretesting of curing compound is recommended.</small></p>
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.



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