

TECHNICAL DATA

Product No.
03.020

LEYCOBOND-H

ALL-PURPOSE BONDING ADHESIVE

DESCRIPTION

LEYCOBOND-H is a bonding agent for concrete. When used as directed LEYCOBOND-H will form a bond between new to old, new to new, or old to old concrete stronger than the concrete being bonded. LEYCOBOND-H is a dispersion of internally plasticized, high polymer resin in water. It is a ready-to-use, non-settling, milk white liquid with a viscosity only slightly greater than that of water and a specific gravity of 1.08. Mixed with cement and sand, LEYCOBOND-H forms a strong, highly adhesive bonding grout which will adhere to most substrates. The grout, when cured, will withstand intermittent or continued exposure to water.

- Ready to use as received
- Simply mix with cement, sand and water
- For interior or exterior use
- Adheres to most surfaces
- Forms strong, durable bond
- Withstands water exposure

USES

LEYCOBOND-H is primarily intended for bonding new to old, or old to old portland cement concrete in exterior or interior applications. It is used for bonding, patching or re-surfacing concrete floors, walls, beams, columns, or other structural members with bond strengths exceeding the strength of the concrete being repaired or resurfaced. LEYCOBOND-H will substantially improve the adhesion of pneumatically applied mortar or concrete. Because LEYCOBOND-H grouts and mortars will adhere to most substrates, it has been used in a wide variety of miscellaneous applications. These include bonding construction joints, prevention of cold joints in multiple pours, levelling of floors prior to LEYCOBOND-H secondary surfacing, skidproofing existing floors or finishing concrete block walls. LEYCOBOND-H grout is used to replace grinding of the concrete surface, with a resulting waterproof, weatherproof, uniform, and attractive finish at substantially lower cost.

SURFACE PREPARATION

The surface to which LEYCOBOND-H grout or topping is applied must be clean and sound. Remove oil, grease and similar substances as required. Remove unsound concrete, loose material and foreign matter by scarifying or other mechanical means. All concrete whether new or old, when cleaned, must be etched with a 1:1 muriatic acid solution (approximately 14%) and thoroughly rinsed with water to remove all traces of acid. A properly prepared surface will be clean and sound, readily and uniformly wet-table with water.

MIXING AND PLACING

Bonding Grout:

For all applications as a bonding agent LEYCOBOND-H is mixed to the following proportions by weight or by volume:

- 1 part LEYCOBOND-H
- 1 part water
- 5 parts portland cement
- 2.5 parts fine sand

A suitable sand will generally conform to the requirements of ASTM C 144.

In normal mixing the portland cement and sand are dry blended together, water and LEYCOBOND-H are mixed together, added to the cement-sand blend and the whole thoroughly mixed by mechanical means. Up to 1 part of water may be required depending upon the water requirement of the cement and the amount of water in the sand. The quantity of water to be used is preferably determined by a trial mix. For this purpose, 1/2 part of water is added to the LEYCOBOND-H prior to the addition to the cement-sand blend. After preliminary but thorough mixing, additional water is added in increments until the desired consistency is obtained. Subsequently, for successive batches 80 % of the total water so determined is mixed with the LEYCOBOND-H prior to addition to the batch with the remaining 20 % of water held for final adjustment. The LEYCOBOND-H bonding grout should be mixed to a thick creamy consistency.

The LEYCOBOND-H bonding grout acts as a glue to bond new concrete to existing concrete. In order to obtain maximum bond strength the grout must be intimately scrubbed onto the prepared, existing concrete surface. Immediately before applying the bonding grout, the surface of the old concrete should be thoroughly moistened with water. Any puddles, or water standing in small pits and crevices, should be removed by mopping or by blowing with compressed air. Use a stiff bristle brush or corn broom to apply the LEYCOBOND-H bonding grout in a layer no more than 3 mm thick.

Topping:

The topping must be applied while the bonding grout is still soft and plastic. Any conventional portland cement topping suitable for the anticipated service requirements, may be used. If the thickness of the overlay is not over 12 mm, LEYCOBOND-H should be used in the suitable topping mix at a ratio of one part LEYCOBOND-H to five parts of Portland Cement by weight or volume. A typical mix for vertical surfaces would be:

1 part LEYCOBOND-H
5 parts Portland Cement
15 parts Sand

A typical mix for a floor surface topping acceptable for foot or light wheel traffic would be:

1 part LEYCOBOND-H
5 parts Portland Cement
10 parts Sand

The amount of water will range up to, but generally not exceed, 2 full parts depending upon the water requirement of the cement and the amount of water in the sand. A suitable sand will generally conform to ASTM C 404, Size No. 2. Follow the procedure given for the bonding grout in determining the water requirement and for mixing. For deeper resurfacing, thick patches and overlays, the topping may be proportioned with larger size aggregate consistent with the depth of the overlay. When LEYCOBOND-H is used with the bonding grout, it is not normally required in the topping for resurfacing in depths exceeding 12 mm. Care should be exercised in finishing very thin overlays. It is impossible to produce a highly polished finished surface on thin patches or overlays without impairing the quality of the topping and jeopardizing the strength of the bond. Excessive steel trowelling will cause excessive bleeding with possible self-desiccation and shrinkage of the topping. Excessive working, particularly several hours after wood floating may break the bond between the LEYCOBOND-H grout and the old surface before bond strength has fully developed.

In thin resurfacing, wood floating alone, immediately after screeding, will produce maximum bond and minimum shrinkage and therefore is preferred. The surface so obtained is often smooth enough for most purposes. Steel trowelling should be resorted to only when absolutely necessary. Any steel trowelling should be very light, employing a minimum number of passes. Under no circumstances should steel trowelling be performed later than one hour after placing.

CURING

LEYCOBOND-H patches or overlays should not be moist cured for the first twenty-four hours. To achieve ultimate bond strength, the emulsion must be allowed to set. Membrane curing, or covering with non-staining building paper, is therefore recommended for curing LEYCOBOND-H patches, overlays and toppings.

COVERAGE

One liter of LEYCOBOND-H used in a bonding grout (1:5:2.5:1) will yield approximately 5 liters. This is sufficient to cover an area of 2.5 m² at 2 mm thickness or 5 m² at 1.0 mm thickness. One liter of LEYCOBOND-H used in a topping mix (1:5:15:2) will yield approximately 13.5 liters. This is sufficient to cover an area of 2.25 m² at 6 mm thickness.

OTHER USES

For detailed instructions on the following LEYCOBOND-H applications, contact your nearest LEYDE Representative.

- Floor Applications
- Wall Applications
- Painting and Finishing
- Special Applications
- Waterproofing

PRECAUTIONS

1. LEYCOBOND-H, as received, must be protected from freezing. Do not use below 4° C.
2. LEYCOBOND-H should be used as a grout with port-land cement and sand. Do not use without mixing with cement and sand.
3. LEYCOBOND-H bonding grout or topping mix must be thoroughly mixed for optimum performance. This mixing should be by mechanical means and in such a manner as to avoid the entrapment of air, and to remove all lumps.

4. LEYCOBOND-H bonding grout will stiffen in 30-40 minutes after mixing. Mix only in small batches which may be used within this period.
5. Prewet surface before applying bonding grout, but remove all puddles.
6. LEYCOBOND-H bonding grout and topping must be intimately scrubbed onto the prepared, moist, existing concrete surface.
7. LEYCOBOND-H bonding grout must be soft and plastic when topping is applied.

8. All topping, whether containing LEYCOBOND-H or not, should be cured with a membrane curing compound.
9. All equipment used in handling LEYCOBOND-Handbonding grout should be cleaned with water immediately after use.
10. Air entraining admixtures should not be used in LEYCOBOND-H mixes.

PACKAGING

210 litre drums, 30 litre pails

JOB ANALYZER

BONDING AGENT FOR CONCRETE

DO THIS ⇒ IF CONCRETE SURFACE TO BE REPAIRED IS LIKE THIS ↓	WIRE BRUSH only in extreme cases	WASH WITH DETERGENT AND RINSE	ACID ETCH AND RINSE	PAINT OR SPRAY WITH LEYCOBOND-H	SOAK WITH WATER if dry	SCRUB IN LEYCOBOND-H GROUT	LEVEL WITH GROUT OR TOPPING MIX
Badly Pitted, Worn, Broken	X	X	X		X	X	X
Soft, Punky, Scaly, Friable	X	X	X		X	X	X
Gavered with Grease, Oil, Foreign Matter		X	X		X	X	X
Extremely Porous		X	X	X	X	X	X
Smooth and Dense		X			X	X	X
Newly Placed, Cleaned and Sound					X	X	X

With LEYCOBOND-H, concrete surfaces in need of repair do not have to be chipped or scarified. LEYCOBOND-H patches can be feather-edged. LEYCOBOND-H cuts back on labor and preparation time - yet gives bonded repair - thoroughly dependable through years of wear, weather, and moisture.

APPLICATIONS

GENERAL REPAIR WORK	METHOD	MATERIALS
Shallow Patching and Thin Resurfacing (not more than 12 mm deep) of Worn, Broken, Scaled or Spalled Concrete Surfaces. <i>Steps, Sidewalks, Driveways, Floors, Walls, Ramps, Roads, Bridges,</i>	Thoroughly pre-mix cement and sand: In a separate container combine LEYCOBOND-H with equal quantity of water and add to the cement/sand mixture. Mix to a cream consistency. Do not overmix. Scrub this bonding layer onto surface with a stiff bristle brush or corn broom in a layer no more than 3 mm thick. Level with remaining material while bonding layer is still soft and plastic.	1 part LEYCOBOND-H 5 part Cement 2 part Mason's Sand 1 part Water*
Bonding Grout for Thick Patches and Overlays <i>Same applications as above and to Highway Sections up to Grade</i>	Follow same method as above for bonding layer. Level with plain cement mortar or concrete topping and finish to desired grade. Add air entraining admixture to topping mix for maximum durability if overlay will be exposed to freezing and thawing.	Same materials and Proportions as above.
Filling Fine Cracks <i>Walls, Floors, Pavements, Structures, Concrete Products</i>	Mix materials until blended into thin paste. On horizontal surfaces, pour paste into crack to overflowing and cut off with trowel when stiff. On vertical surfaces, paint cracks with paste, then fill with grout as prescribed above for Shallow Patching.	1 part LEYCOBOND-H 1 part Cement 1 part Water*
Repairing Wide Cracks <i>Same applications as above.</i>	Paint crack with straight LEYCOBOND-H, making sure coating extends beyond edges. Scrub in grout with stiff brush. Fill with remaining material and finish with trowel.	1 part LEYCOBOND-H 1 part Cement 1.5 parts Mason's Sand 0.5 part Water*

BONDING APPLICATIONS		METHOD	MATERIALS	
Bonding Concrete to Asphalt	Scrub standard LEYCOBOND-H grout onto asphalt surface with stiff brush or corn broom. For thick overlay, top with mortar or concrete topping while grout is still plastic. When dry, surface can be painted with cement paint. (See "Painting" section that follows).		1 part 5 parts 2 parts 1 part	LEYCOBOND-H Cement Mason's Sand Water*
Bonding Construction Joints	When walls or slabs are poured in stages, apply slush coat of LEYCOBOND-H over the surface each pour to obtain integral bond with subsequent pours.		Straight	LEYCOBOND-H
FLOOR APPLICATIONS		METHOD	MATERIALS	
Protecting Floors Against Mild Acid Attack	For porous floors exposed to acids, corrosive agents, cleaning fluids. Bring the mixture to a paint consistency. Apply with a stiff broom or spray equipment. For best results, apply at least two coats. allowing 24 hours between coats.		1 part 5 parts 2.5 parts 1 part	LEYCOBOND-H Lumnite Cement Portland Cement Water*
<i>Laundries, Dairies, Degreasing Pits, etc.</i>				
Non-Skid Floor Treatments	Apply with scrubbing brush, then swirl to get a rough finish. This application has been extremely successful in providing safe, sure footing on surfaces normally slippery when wet.		1 part 5 parts 5 parts 1.5 part	LEYCOBOND-H Cement Mason's Sand Water*
<i>Sidewalks, Patios, Garages, Swimming Pools, Industrial Floors, Aircraft Hangers</i>				
Dustproofing Floors	Use straight or diluted LEYCOBOND-H, depending on porosity of floor to be treated. Pour on distribute evenly with squeegee. Sop up puddles with cloth or sponge, since a heavy coat of the material may seal soft. Floor must be closed to traffic for 24 hours to allow for thorough drying.			Porous Surfaces: Straight LEYCOBOND-H Dense Surfaces: 1 part LEYCOBOND-H 1 part *Water
<i>Industrial and Commercial Floors, Warehouses, Garages</i>				
GENERAL REPAIR WORK		METHOD	MATERIALS	
Leveling for Floor Tile	Apply LEYCOBOND-H grout and level to desired grade. Allow 24 hours for curing. Apply tile		1 part 5 parts 10 parts 2 part	LEYCOBOND-H Cement Mason's Sand Water*
<i>Before Application of Vinyl and Tile</i>	cement directly on new surface, lay tile.			
Anchoring Nailing Strips to Concrete Floors	With straight LEYCOBOND-H, glue tapered wooden strips, narrow edge up, to concrete floor. Apply LEYCOBOND-H grout between strips and level.		1 part 5 parts 10 parts 2 part	LEYCOBOND-H Cement Mason's Sand Water*
<i>Before Application of Wood Finish Flooring</i>				
Laying Plaster Floor Tile	To adhere plaster tile, brush or squeegee LEYCOBOND-H as received on wood or concrete surface. Prime with straight LEYCOBOND-H first if surface is dusty and porous concrete.		Straight	LEYCOBOND-H
<i>On Wood or Concrete Floors</i>				
<p>* Water content specified for above application is approximate. Add more water where necessary for proper consistency. Note: Check setting time of Lumnite-Portland cement combination before making batch. Set may vary from very fast to very slow with different brands of cement.</p>				
WALL APPLICATIONS		METHOD	MATERIALS	
Repairing Walls with Gunite Mortar	The use of LEYCOBOND-H increases adhesion of Gunite applications. When added to the mix LEYCOBOND-H also tends to decrease rebound during application, and allows quicker finishing.		1 part 5 parts 1 part	LEYCOBOND-H to Cement in mix LEYCOBOND-H Water*
	To mix LEYCOBOND-H and water, use a large open drum. Supply gun direct from drum. An alternate method is to first spray or brush surface with a 1 : 1 solution of LEYCOBOND-H and water. Apply Gunite mortar as usual, while bonding coat is still tacky.			
Patching Stucco Walls	Scrub in LEYCOBOND-H paste, and level with stucco mortar. If entire wall is to be resurfaced, scrub in LEYCOBOND-H grout and apply finish mortar coat while grout is still tacky. If wall is to be repainted, refer to "Painting" section which follows.		1 part 5 parts 1 parts	LEYCOBOND-H Cement Water*
Steamproofing Concrete Block Walls	A two-coat application of LEYCOBOND-H paste will prevent steam and water from penetrating concrete block walls in commercial and industrial processing areas. Each coat cells for different proportions of materials. Both applications should be scrubbed on, with a 24-hour interval between coats.			First coat: 1 part LEYCOBOND-H 3 parts Cement 3 parts Water* Second coat: 1 part LEYCOBOND-H 3 parts Cement 3 parts Water*
<i>Commercial Laundries, Car Washes, Poultry Processing Plants, etc.</i>				
Adhering Racks and Bins Concrete Walls	Applied as received, LEYCOBOND-H has proved to be an excellent adhesive for attaching light stock bins or racks to concrete walls.		Straight	LEYCOBOND-H
<i>Warehouses, Supply Rooms, Tool Rooms, etc.</i>				

PAINTING & FINISHING	METHOD	MATERIALS
Additive for Cement Paints <i>Industrial Ramps, Aisles, Walls, Floors, Sidewalks, Stepping Stones, Tables and Benches, etc.</i>	The addition of LEYCOBOND-H to conventional cement paints will add desirable qualities of adhesion, and gloss finish. For higher gloss, use more LEYCOBOND-H. Apply paint according to manufacture's recommendations.	Replace ¼ of specified water with equal volume of LEYCOBOND-H
Redressing and Coloring Concrete Floors. <i>Locker Rooms, Washrooms, Hallways, etc.</i>	Mix grout, color as desired with mineral oxide. Apply with stiff brush to 1.5 mm thickness, or just thick enough to prevent sand from rolling under trowel. Finish with steel trowel.	1 part LEYCOBOND-H 5 parts Cement (white) 2.5 parts Mason's Sand 1 part Water* 0.5 part Color
Finishing Concrete Block Walls	Use stiff bristle brush, apply with scrubbing action, increasing the LEYCOBOND-H content in the mix will give a dense, semigloss texture that can be colored or painted. One coat is sufficient except where severe water seepage occurs. (See "Waterproofing" section that follows.)	1 part LEYCOBOND-H 5 parts Cement 10 parts Mason's Sand 2 parts Water*
Painting concrete Blocks, Brick or Sandstone	Mix dry and wet ingredients separately. Add dry mixture to liquid to get paint consistency. Add mineral pigment for desired color. Proper proportions of gray and white portland cement will give matching color for concrete blocks. Apply with scrubbing action. Caution: Do not attempt to apply cement paint over earlier coat of oil paint.	1 part LEYCOBOND-H 1 part Cement (white) 1 part Lime 1 part Water*
Striping Asphalt Surfaces	The addition of LEYCOBOND-H to white cement mortar produces a highly durable striping material. Mix dry and wet ingredients separately. Combine mixtures just before application. Scrub onto clean asphalt surface.	1 part LEYCOBOND-H 5 parts Cement (white) 2.5 parts Mason's Sand 1 part Water* 0.5 part Color
SPECIAL APPLICATIONS	METHOD	MATERIALS
Repairing and Making Special Joints in Concrete Pipe	LEYCOBOND-H can be used to patch broken or specially sectioned pipe at the casting plant and in the field. Mix and scrub thin paste, nesting the broken sections together until paste is cured. Small breaks and/or cracks can be filled with this same paste mix, with 2 parts mason's sand added.	1 part LEYCOBOND-H 5 parts Cement 1 part Water*
Preventing Corrosion and Seepage of Concrete Pipe	LEYCOBOND-H's acid-alkali resistance makes it an excellent protective compound. It was successfully used to stop seepage of corrosive wastes through concrete pipe at the Atomic Energy Commission installation at Oak Ridge, Tennessee.	1 part LEYCOBOND-H 3 parts Lumnite Cement 6 parts Mason's Sand 1 part Water* Caution: See Note Page 2
Plugging Core Test Holes	LEYCOBOND-H ideal for repairing the holes created by removal of test specimens. Core test holes of 10 cm diameter, repaved, with a 5 cm LEYCOBOND-H patch, showed no break in the bond after 50 cycles of freezing and thawing.	Add 20% LEYCOBOND-H by weight of specified cement. Reduce water equal to volume of LEYCOBOND-H added.
Repairing Leaking Construction Joints	Scrub on LEYCOBOND-H mixture. A patch in the form of a band or belt approximately 1 m wide and 6 mm thick has worked especially well around leaking construction joints in concrete tanks.	1 part LEYCOBOND-H 3 parts Cement 1.5 parts Mason's Sand 0.5 part Water*
Reclaiming Prestressed Concrete	Prestressed concrete slabs and beams damaged during handling or by other causes (fire included) can be repaired with LEYCOBOND-H. Just scrub on standard LEYCOBOND-H grout. If necessary, trowel on a thicker coat at cracks, corners or surface indentations. LEYCOBOND-H can be used to fill holes for eyebolts or hooks attached on the site.	1 part LEYCOBOND-H 5 parts Cement 2 parts Mason's Sand 1 part Water*
WATERPROOFING	METHOD	MATERIALS
Waterproofing Coating <i>Exterior Masonry Above and Below Grade, Cellar Floors, Machinery Pits, Ceramic Wash Basins, etc.</i>	Two or three coats of LEYCOBOND-H grout are required for successful waterproofing applications. Mix materials to brushable consistency. Scrub each coat into surface with stiff brush. Apply second and third coats at 24-hour intervals. To stop water seepage through cellar floors, machinery pits, etc., install a sump pit to drain off standing water. Repair bad spots with hot patches. Sop up all puddles before applying grout.	1 part LEYCOBOND-H 3 parts Cement 6 parts Mason's Sand 1 part Water*

* Water content specified for above application is approximate. Add more water where necessary for proper consistency.

REMARK

Whilst information and/or specification contained herein is to the best of our knowledge true and accurate, and is based on many years experience, we cannot accept any liability either directly or indirectly arising from the use of our products, whether or not in accordance with any advice, specification or recommendation given by us, as we have no direct or continuous control over how or where our products are applied.

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