ACRYLBOND™

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Supersedes all previous publications

LAMBERT CORPORATION

LATEX BONDING AGENTS

ACRYLBOND™

MASTER FORMAT: 03 31 10 09 24 00

Product Description

ACRYLBOND™ is an organic polymer adhesive, supplied as a one-component white liquid having the consistency of milk. The many features of **ACRYLBOND™** yield a product of exceptional versatility. It is a high-solids acrylic latex emulsion, designed to be used in straight form as a "paint-on" type concrete bonding agent, and as an admixture to sand-and-cement mixes. Standard rates include **WHITE or BLUE** Tint Formulations.

As an admixture

When used as an admixture, **ACRYLBOND™** will increase the adhesion, cohesion, and chemical bond of cement mixes, thus increasing flexural and shear bond strengths. It increases the water and weather resistant qualities of concrete mixes, improves concrete curing, and reduces shrinkage/cracking. It aids in creating hard, durable, water and chemical resistant concrete surfaces.

Cement mixes prepared with the addition of **ACRYLBOND™** are suitable for both exterior and interior type applications, where subject to high humidity or immersion in water, and can be applied in thicknesses from a fine skim coat to whatever depth is necessary. **ACRYLBOND™** is also the product used as the latex resin additive or activator in many of the cement based spray-deck products on the market today.

When used as an admixture in replacement of part of the mixing water, **ACRYLBOND™** reinforced cement and sand mixes are highly hydrophobic and are more resistant to attacks of salts, alkalis or other chemicals. Mixes result in a hard, tough surface with improved scrub resistance and water repellent qualities. Application areas include patching and resurfacing, spray and fill coats, stucco, spray-deck systems, industrial concrete floors, and thin toppings.

When used as an admixture to cement based mixes, **ACRYLBOND™** establishes a superior concrete curing characteristic, which is very important to the complete hydration of thin applications of Portland cement mixes or plasters. It forms a surface skin that reduces water evaporation and adds the chemical ability as a polymer to attract and hold water for a more complete concrete cure.

As a bonding agent/compound

When used as a "paint-on" bonding agent adhesive, the **ACRYLBOND™** glue line becomes an integral part of the interface between the newly applied cementitious material and the surface to be bonded. It creates a multiple bond (chemical and mechanical) between materials assuring top-level adhesive performance.

If ACRYLBOND is used as a surface-applied bonding agent, timing becomes critical. It is important that stucco and patching applications happen before **ACRYLBOND™** dries, or bonding will not occur. As an alternative to the problem of premature drying, Lambert Corporation recommends using **ACRYLBOND™** as an additive in the cement mixing water as described in the Coverage section. Test application should be made prior project use.

Installation

Before using this product, please refer to the Material Safety Data Sheet for additional information. Proper handling precautions MUST be followed. The conditions of use, handling, and application of this product and information (whether verbal or written), including any suggested formulations and recommendations, are beyond Lambert Corporation's control. Therefore, it is imperative that testing be performed to determine satisfaction and suitability for intended use and health, safety, and environmental issues. The following information is meant as a guideline of best industry practices. While Lambert Corporation does suggest adherence to these guidelines, unforeseeable variables and/or developed successful installer practices may cause variation in methods and/or results.

Surface Preparation

All spalling, scaling, and/or crumbling material must be removed from surfaces and crevices, and the area rendered structurally sound. Dust, dirt, oil, wax, chalky or loose paint, mildew, rust and other foreign material must be removed for adequate bonding. New concrete must be allowed to cure according to industry standards (ASTM C-926). A painted surface must be sound, washable, and paint firmly adhered to substrate. Do not apply over water soluble calcimine paints or rusted surfaces. Wait 60 days before applying **ACRYLBOND™** over a newly painted surface. Glossy painted surfaces should be dulled and roughened with abrasive/wire brush. Do not paint fresh stucco - portland cement systems. Fresh cementitious substrates are high in alkalinity (ph of 12 or more) and if painted, will peel, blister and delaminate in a relatively short time.

Do not apply **ACRYLBOND™** where hydrostatic pressure is present in the substrate or over frozen concrete. When water beads on the surface, as it does on wax paper, a bonding problem will occur. These areas need to be sandblasted, bush-hammered, or acid etched to produce an acceptable open surface for bonding. If surface is questionable, apply a test patch with the products specified.

Efflorescence is a white soluble salt that destroys the bond of any cement-based product. Never apply cement plaster or toppings where efflorescence is present. These areas need to be sandblasted or acid etched to produce an acceptable sound and open substrate for bonding.

Application Instructions

Admixture in Toppings 1/2" or Less

Stir **ACRYLBOND™** prior to use. Mix 1 part **ACRYLBOND™** to 1 part water. Mix thoroughly before adding to cement topping as replacement for water. Minimum application temperature is 45°F (7.2°C) and rising. Pre-wet all concrete and wood surfaces. Place mixture on base within 20 minutes of adding **ACRYLBOND™** to the mixture. In thin resurfacing, wood float immediately after screeding. For swimming pools when used as a "marcite" bonding agent, allow at least 72 hours, preferably 96 hours, for surface to dry prior to adding water to pool.

ACRYLBOND™ modified mixes are air-curing systems. In exposed locations where rapid drying conditions exist (periods of high wind and heat), brush coat entire surface with straight **ACRYLBOND™** to obtain maximum curing and durability.

Packaging:

55-gal (208.2L) Drum

5-gal (18.9L) Pail

Cautions

When batching with **ACRYLBOND™**, always premix both dry and wet ingredients separately, then combine and mix to desired consistency. Pre-wet area - avoid steel trowel or over trowel of thin sections as it may cause bond failure.

Thick Cement Mixes 1/2" or More

A cement bonding slurry coat is recommended prior to placement of thick cement mixes. Mix thoroughly 2 parts **ACRYLBOND™**, to 1 part water. Then premix 1 bag (94 lbs - 42.6kg) portland cement and 100 lbs. (45.4 kg) clean dry sand. Combine liquid with dry to make a bonding slurry grout. Brush on as a slurry coat 1/8-inch (3.2mm) thick. Apply cement-topping mix while slurry coat is still soft.

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Bonding Agent

Use straight from container undiluted. Prewet all concrete and wood surfaces. Apply **ACRYLBOND™** uniformly like a coat of paint using spray, brush, or roller to form a continuous film over the entire surface to be bonded (no skips). Bonding film must be wet (tacky) when applying topping or any other cement products. Prior to application of cement plaster inspect bonding agent application to assure a continuous film is over entire bonding surface. Re-apply over areas not satisfactorily covered. Protect film from dirt and debris until cement finish is in place. For two-coat application of cement plaster stucco, apply scratch coat a minimum of 3/8-inch (9.6mm), allow to dry, then apply finish coat a minimum of 1/8-inch (3.2mm). Where two coats of cement plaster are necessary, only the first coat is bonded by **ACRYLBOND™**. The first coat should be a minimum of 3/8" (9.6 mm) thick and permitted to cure sufficietntly to support the weight of the second coat.

Cautions

ACRYLBOND™ latex emulsions have a minimum temperature below which the polymer spheres will not coalesce to form a tough durable film. This placement temperature is 45°F (7.2°C). Placement at temperatures above 85°F (29.4°C) is cautioned because the film drying time and working time is generally too short (film must be tacky).

Fast-set patching cements must be applied while **ACRYLBOND™** film is still tacky.

Prolonged exposure of **ACRYLBOND™** modified cement mixes to solvents may create a slight softening prior to its full cure (generally 14-28 days). Apply concrete sealers after the 14-28 day cure period.

Delay between Coats of Portland Cement Plaster/Stucco: Within the past 25-years, the time delay before applying the second coat (brown coat) has been reduced from seven days to one day or less. The full thickness of the base coats is being applied as rapidly as the two coats can be put in place. The second coat (brown coat) is applied as soon as the first coat (scratch coat) is sufficiently rigid to resist, without cracking, the pressures of the brown-coat application. Under certain conditions, this means applying both, first and second coats in a single day. The short delay, or even no delay between first and second coats, promotes a more intimate contact between the two and more complete curing of the base coats. No stoppage of plaster application is allowed within the panel, from joint line to joint line.

Limitations and Preparations

When used with air entraining admixtures, accelerators, or with high-speed mechanical mixers, a test for air content of the mix must be made prior to job usage. Adjustments to air entrainment may be necessary.

Minimum application temperature is 45°F (7.2°) and rising. Placement of concrete products at temperatures below 45°F (7.2°C) is not recommended because of poor cement hydration. High humidity/excessive moisture will retard curing time of ACRYLBOND™ modified mixes. Do not store product at temperatures below freezing. Prolonged freezing may damage contents. Frozen material should not be applied. If ACRYLBOND can be stirred easily and is creamy smooth after freeze/thawing, in most cases bonding qualities have not been lost. Make test application to determine acceptability.

Technical Data

Applicable Standards

• ASTMC-932 • ASTM C-1042 • MIL-B-19235C • ASTM C-1059, Type II

ASTM C-932 requires a minimum of 150 PSI (1.0 MPa). All sample preparation and strength testing was done in accordance with ASTM C-932 test procedures.

Tensile Bond Strength Test (Rupture/Pull Apart): Briquets for tensile strength determinations were made with a neat cement paste using high-early cement and molded in accordance with the method outlined in ASTM C-190. Specimens were cured in the molds in the moist room for 48 hours at a temperature of 70°F (21.1°C), with relative humidity of 50%. Specimens were then sawed in half and one of the halves replaced in the molds. The inside of each of the sawed specimens was coated with **ACRYLBOND™** by brushing. Samples were then filled with cement paste and tested for tensile strength in accordance with ASTM C-190. Test performed by H.B. Fuller Co. - Research and Development Laboratory.

• ASTM C-1042, "Bonding Strength of Latex Systems Used with Concrete" • ASTM C-1059, "Latex Agents for Bonding Fresh to Hardened Concrete"
• Test Results: Bond Strength, 1280 PSI (8.8 MPa) • Test Performed by Twin City Testing Corporation

Coverage

Pre-dampen concrete and wood substrates with potable water. Do not leave standing water.

Admixture Use

Portland Cement Plaster Mixes:

The normal ratio of **ACRYLBOND™** to water is 1:3 (1-part **ACRYLBOND™** to 3-parts water). The ratio is adjustable stronger or more diluted depending on actual project requirements. Recommendations are as follow:

- Over Solid Bases (CMU and Concrete): For scratch coats, mix 1-part **ACRYLBOND™** to 2-parts water. Where bonding is more critical, increase the mix ratio to 1:1 by volume. For brown coats, mix 1-part **ACRYLBOND™** to 3-parts water.
- Over Lath on Solid Bases: For scratch coats, mix 1-part **ACRYLBOND™** to 3-parts water for each coat.
- Portland Cement Plaster Mixes – Smooth Substrate: Use mix ratio of 1-part **ACRYLBOND™** to 4-parts water
- Portland Cement Plaster Mixes – Rough Substrate: Use 1-part **ACRYLBOND™** to 5-parts water.

Bonding Agent/Compound Usage (Surface-applied):

Use undiluted as a "paint-on" bonding agent. Apply at 250 to 300 sq. ft. per gallon (6.1-7.4m²/L). Projected coverage is an estimate only and is highly dependent on substrate texture and porosity.

Clean-Up

In case of spillage, flush area with large amounts of water, place into appropriate container, and dispose of in accordance with applicable local regulations. Uncured ACRYLBOND™ can be removed with water. Cured **ACRYLBOND™** can be liquefied with lacquer thinner.

First Aid

Inhalation – Remove to fresh air. Seek medical attention if necessary.
Eye and Skin Contact – Promptly wash eyes with plenty of water for 15 minutes. Seek medical attention if irritation persists. Wash skin with soap and water.
Ingestion – Drink plenty of water; may cause irritation of the mouth, throat, or stomach. Do not induce vomiting. Seek medical attention for all over-exposures.

KEEP OUT OF REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY