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Since 1967

Technical Data Sheet

CONCRYL™

ACRYLIC LATEX ADMIXTURE & BONDING ADHESIVE

PART 1: GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

BULL-BOND® CONCRYL™ is an acrylic co-polymer liquid solution that is non re-emulsifiable and 100% water resistant. This water-based latex is used as an admixture to greatly improve the properties of Portland cement based mixes. This polymer cement modification is suitable for bonding slurries over smooth surfaces to provide adhesion, concrete repair, concrete leveling, concrete resurfacing, renders, smoothing irregular and deteriorated profiles, plastering and underlayments. Some of the benefits of producing latex-modified cementitious mixes with CONCRYL™ are superior substrate adhesion, an increase tensile and flexural strengths, improved abrasion resistance, extended durability, water reduction, enhanced workability and better flow. CONCRYL™ is also used as a non-rewetable bonding agent and as a primer to provide an adhesive medium that prepares and seals concrete substrates for the application of cementitious mixes over existing concrete surfaces. This type of use is ideal for surfaces with frequent exposure to water and for exterior plastering applications. Meets ASTM C-1059 Type II and ASTM C-932.

1.2 BASIC USES:

- Cement modifying latex polymer admixture that increases performance of:
  - -Bonding Slurries
  - -Repair Mortars
  - -Patching Mixes
  - -Resurfacing Mortars
  - -Toppings
  - -Concrete Mixes
  - -Water-Tight Plasters
  - -Micro-Toppings
  - -Underlayments
- Water resistant bonding agent
- Pore sealing primer prior to the installation of self-leveling underlayments or cementitious toppings.

BULL-BOND® CONCRYL™ is suitable for interior, exterior and submerged conditions on vertical and horizontal surfaces for the previously mentioned applications.

1.3 SUITABLE SUBSTRATES:

- Concrete
  - -Smooth
  - -Porous
- Masonry
- Cement Board
- Plaster

1.4 ADVANTAGES:

- Promotes superior adhesion and bond strength
- Bonds new modified concrete to existing concrete surfaces
- Improves compressive strength
- Improves tensile strength
- Improves flexural strength
- Improves abrasion resistance
- Excellent water resistance
- Non re-emulsifiable polymer
- Water reducer
- Increases durability and wethearability
- Enhanced workability
- Concentrated – dilutes with water
- Water-based
- Compatible with most water-reducers and plastizicers (PAC/PC and PCE)

1.5 LIMITATIONS:

- Excessive sun exposure should be avoided during application and for a minimum of 1 hour immediately after application.
- Avoid walking on installed surface for at least 24 hours after installation, depending upon temperature and humidity conditions.
- Never install over non-dimensionally stable materials.
- Overwatering can cause mixture to segregate resulting in uneven surface strengths. Surfaces with reduced strength must be removed mechanically.
- The minimum dosage rate for CONCRYL™ to improve the properties of cementitious mixes is with a p/c ratio of 4% (0.04).
- If used as a primer proper dilution is compulsory to avoid bond breakage.
- CONCRYL™ is non re-emulsifiable, if used as a bonding agent the application of the cementitious ovelay must be done before the product is cured to avoid bond breakage.

PART 2: TECHNICAL DATA

2.1 PRODUCT CHARACTERISTICS:

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BULLBOND®CONCRYL™	
COMPOSITION	Acrylic Co-polymer
COLOR	Milky White, dries Clear
WEIGHT SOLIDS	30%
DENSITY	8.4 lb/gal
pH	8.5-9.0
SHELF LIFE	12 months

2.3 SUGGESTED MIXES:

DILUTION RATIO TABLE	
MIX	**RATIO**
Bonding Slurries	Undiluted CONCRYL™
Large Overlays and Toppings	2 Part CONCRYL™ to 1 parts water (2:1)
Micro-Toppings and Resurfacing Mortars	1 Part CONCRYL™ to 1 parts water (1:1)
Repair Mortars, Patching Mixes	1 Part CONCRYL™ to 2 parts water (1:2)
Concrete Mixes, Plasters and Underlayments	1 Part CONCRYL™ to 3 parts water (1:3)

PART 3: INSTRUCTIONS

3.1 SURFACE PREPARATION

• All substrates must be structurally sound, thoroughly clean and free of oil, wax, grease, dust, asphalt, existing patching materials or any other contaminant that might act as a bond breaker.
• Remove any loose material, deteriorated concrete, paint, sealer, mold or water-soluble materials. Clean the surface with a high pressure water hose.
• Test by sprinkling water on various areas of the substrate. If water penetrates, then a good bond can be achieved; if water beads, surface contaminants are present, and loss of adhesion may occur. Contaminants should be mechanically removed before installation. Concrete must be free of efflorescence and not subject to hydrostatic pressure.
• Smooth concrete surfaces must be mechanically abraded to ensure a good bond. Preparation work can be done by high pressure water blast, scabbler, or other appropriate mechanical methods to obtain a CSP profile of 1-4.
• Saturate surface with clean water and remove all standing water. Substrate should be saturated surface dry (SSD).
• Ambient temperature, surfaces and materials should be below 90°F. It is recommended to install the material during the freshest moments of the day, be it during the morning or afternoon. It is also recommended to use cold mixing water to reduce heat in the cementitious mix.

3.2 MIXING

3.2.1 As a Cement Modifying Admixture:

1. Always premix the CONCRYL™ concentrate to ensure any material that may have settled during extended storage is well-dispersed. Once the concentrate is homogenous, proceed with portioning for dilution.
2. Dilute CONCRYL™ according to the desired application as designated on the dilution ratio table (section 2.3) to create properly proportioned admixtures.

**With an increase in latex content and an increase in application thickness more precautions have to be taken to ensure proper curing.*

Mixing in a pail:

1. First pour 3/4 of the required amount of the liquid component of the mix (dilution of CONCRYL™ or concentrated) on the mixing pail.
2. Slowly add the cementitious mix (cement/sand/aggregates) to the poured liquids, while mixing with a heavy-duty electric drill and mixing paddle at 800 rpm.
3. Next add the remaining 1/4 of liquid component to achieve the desired consistency of the mix.
4. Thoroughly mix for 2 minutes to a lump free, homogenous consistency.
5. Let it rest for 1 minute and then mix for an additional minute. It is important to prepare enough material for the complete application thus avoiding the formation of cold joints.

Concrete mixer:

1. Stop mixing paddles and pour 3/4 of the required amount of the liquid component of the mix (dilution of CONCRYL™) to the mixer.
2. Start the mixer at slow speed and the cementitious mix (cement/sand/aggregates) of the mix design. During the mixing process, adjust the quantity of the remaining liquid component to ensure a plastic consistency. Thoroughly mix to a lump free, homogenous consistency.
3. Do not overmix. Overmixing can cause excesive air entrapment.
4. Do not add more liquid than recommended, or the system will not perform as desired.
5. It is important to prepare enough material for the complete application thus avoiding the formation of cold joints. Do not mix more material than can be applied within a workable period.

3.2.2 As a Bonding Agent:

For bonding agent applications use neat (concentrated) CONCRYL™.

3.2.3 As a Pore Sealing Primer:

1. For concrete pore sealing primer applications before the application of self-leveling underlayments use a dilution of 1 Part CONCRYL™ to 3 parts water (1:3). Porous concrete may require additional coats (at the same dilution rate) to avoid surface defects in the self leveling underlayment application.
2. Stir using a low-speed mixer (at 300 to 500 rpm) and a “jiffy” mixing paddle. Do not overmix at high speeds, which could cause the product to foam.

3.3 APPLICATION

3.3.1 As a Cement Modifying Admixture:

1. Before the application of the cementitious mix, apply a scrub-coat of a bonding slurry mix of CONCRYL™ onto a saturated surface-dry (SSD) and properly prepared concrete surface.
2. While the scrub-coat of the bonding slurry mix is still wet, apply the cementitious mix to the required thickness using a margin trowel or the required tool for the given application. Work the cementitious mix into the bonding slurry to promote a mechanical adhesion to the substrate. Do not apply over a dry or partially dry bonding slurry because it will act as a bond breaker.

**With an increase in latex content and an increase in application thickness more precautions have to be taken to ensure proper curing.*

3.3.2 As a Bonding Agent:

1. Apply one coat of undiluted CONCRYL™ at 200-350 ft^2/gallon using a roller or brush evenly working it into the concrete substrate. Additional coats may be required over extremely porous concrete. Apply a thin even coat over all the substrate to be worked on.
2. Apply the cementitious mix while the bonding agent film is still wet/tacky.

**Do not allow the bonding agent to dry. The cementitious mix must be applied while the primer is still wet/tacky to avoid bond breakage. If the bonding agent dries, immediately apply more product directly over the dried area to re-saturate the concrete.*

3.3.3 As a Pore Sealing Primer:

1. Make sure concrete substrate and ambient room temperatures are between 50°F and 95°F (10°C and 35°C) before application. Temperatures must be maintained within this range for at least 72 hours after the installation of primer and finished material.
2. Apply one coat of a dilution of 1 Part CONCRYL™ to 3 parts water (1:3) at 500 ft^2/gallon on the concrete substrate, evenly working it into the substrate with a push broom or brush. Do not use roller to apply. Additional coats may be required over extremely porous concrete. Apply a thin even coat over all the substrate to be worked on. Apply up to three coats if the concrete has excesive porosity.

3. Prior to installing the cementitious mix, brush or vacuum off puddles and excess primer. Let it cure for 10-20 minutes on exterior applications, for 3 hours on interior applications or until the film is tacky and transparent. Lower substrate temperatures and/or humid conditions could extend the drying time before application of leveler.

**Do not allow the bonding agent/primer to dry. The cementitious mix must be applied while the primer is still tacky to avoid bond breakage. If the primer dries, immediately apply more primer directly over the dried area to re-saturate the concrete.*

3.4 CURING

1. Protect from excessive heat and wind during the first 24 to 72 hours of curing. Alternatively use damp burlap, polyethylene sheeting or water-based curing compound with the purpose of retaining moisture. Excessive heat and/or wind could cause premature surface drying and result in cracking. Do not use solvent-based curing compounds.
2. Cure cementitious mixes modified with CONCRYL™ for at least 5 to 7 days before total water immersion or 3 to 5 days before application of waterproofing coatings.

3.5 CLEANUP

Wash hands and tools promptly with water before material hardens. Cured material must be mechanically removed.

PART 4: PRECAUTIONS

Avoid breathing product vapors or mist. Use only with adequate ventilation. Can cause eye, nose and throat irritation. Could be harmful if swallowed. KEEP OUT OF REACH OF CHILDREN. Carefully read and follow all cautions and warnings on product label and SDS.

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Check our website for the latest version of the Technical Data Sheet

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BULL-BOND® Since 1967

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