



SAFETY DATA SHEET

CONCRETE BOND WB01

Identification of the Substance / Preparation and Company

Product Details

Trade Name : Concrete Bond WB01
Product No :

Supplier Details

: LIQUID COLOURS (PTY) LTD
P O BOX 2685
Edenvale
1610
South Africa
Tel: +27 11 372-4600
Fax: +27 11 609-8666

Construction

Field of Application

: Polymer for water proofing and bonding slurry for plasters and screeds.

Cement alkalinity activated cross-linking system to give very high performance characteristics in cement systems.

: The reactive function give the following distinctive advantages:

- Rapid early cure and strength development
- High resistance to the effects of aggressive chemicals
- Excellent performance in thin section and high compressive strengths

Composition

: Acrylic Copolymer

Appearance

: Light Blue Emulsion

Ionic State

: Anionic / Nonionic

Solid Content

: 26% ± 2%

pH - Value

: 9 - 10

- Viscosity** : 160 – 200 CPS @ 25°C
- Solubility** : Dilutable with water
- Stability** : Good compatibility with anionic and nonionic products. The product has outstanding stability against electrolytes and inorganic acids.
- Storage Conditions** : Concrete Bond WB01 should be protected from frost and temperatures above 35°C should be avoided. The drum should be sealed airtight after some product has been taken out, as a skin may form on the surface.
- Storage Stability** : Minimum of 1 year from date of manufacture, if stored in the original unopened drums under the stated conditions.
- Packing** : 5 litres, - 25 litres, - 200 litres Plastic containers.

APPLICATION : Industrial and agricultural floors
2 component ceramic tile adhesive and grouts
Cementitious protective coatings
Repair mortars
Roads and run ways
Plaster Screeds

- DRYING** : Concrete Bond WB01 mixed with Portland Cement, fine sand and water will form slurry for plaster and screeds where water-proofing, increased bonding and adhesive to substrate is required.
- : Concrete Bond WB01 can be used in combination with membrane fabric or wire mesh to form durable reinforced cementitious based products as well as water proofing plasters for shower floors and walls, under tiles and screeds, water reservoirs, flower pots and generally in products requiring better hydrophobing and less water absorption than cementitious mixtures only.

SURFACE PREPARATION : Make sure that surfaces to be coated are clean, dust free and sound.
Soak with water prior to application.

MIXING PROCEDURES : Pre-dilute Concrete Bond WB01 and water in 1:1 to 1-3 ratios.
Add into cement, mix until smooth, use water to adjust viscosity.
Apply with brush, broom or squigee.
Wait for a few hours and repeat if thicker coat is required.
Plaster over.

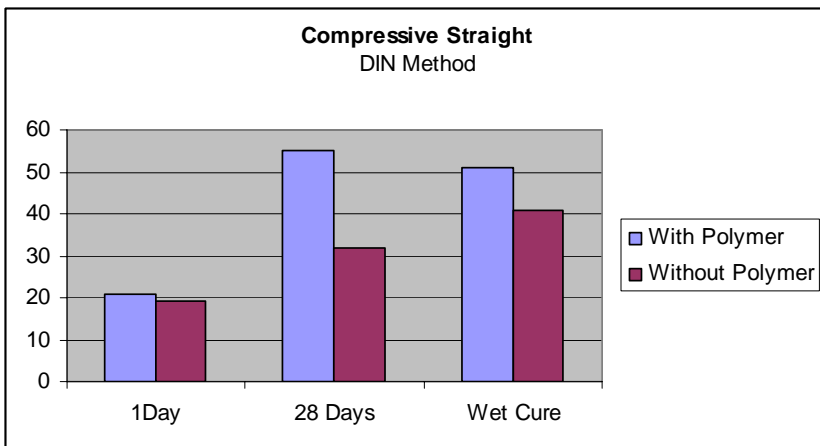
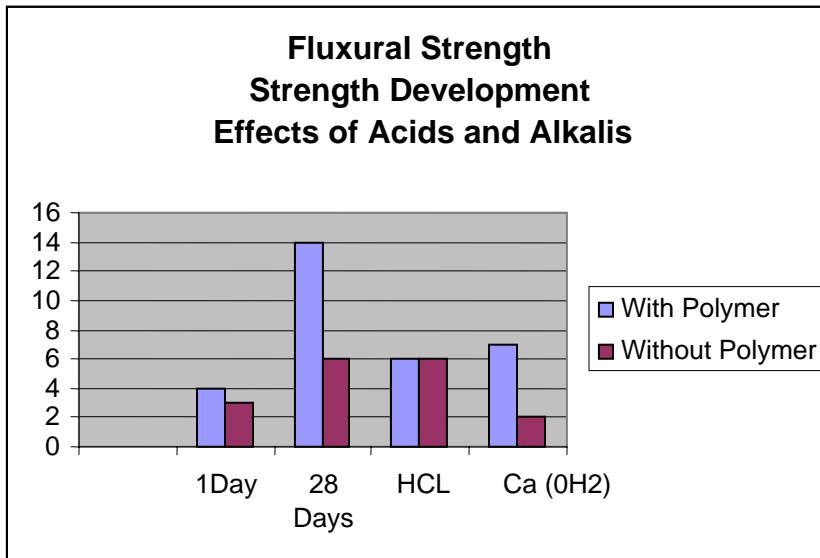
MIXING TABLE

	UNIT	WATERPROOFING SLURRY	PLASTER BONDING
WATER	Litres	10	10
CONCRETE BOND WB01	Litres	20	30
CEMENT	KG	50	50
FINE SAND	KG	0	50
YIELD	Litres	45 (5.6 ± 1.75)	65

Protect from rain, water and sun for 24 hours after application.
 Concrete Bond WB01 must be applied between 5 and 35°C.

TEST RESULTS

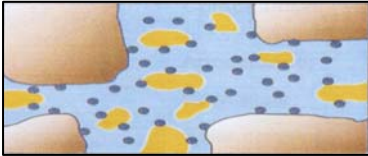
: The following test results were obtained using suggested water proofing slurry recipe.
 The control is the same mixture without any polymer.



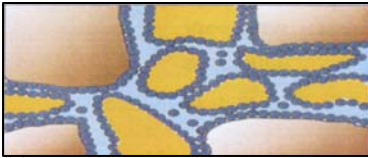
Background to Polymer Modification of cements



(a) Immediately after mixing



(b) First step



(c) Second Step



(d) Third Step (Hardened Structure)

Polymer modification of cement mortars has been employed for at least 30 years. PVA's, Acrylics, Styrene, Acrylics and Ethylene based polymers are all used in both emulsion and powder form. Their popularity is due to the fact that polymers can compensate for disadvantages in mortars made with Portland Cement. These include; low chemical resistance, low tensile strength and problems with drying shrinkage.

Other benefits derived from the use of these polymer modifiers include:

- Moisture retention in air dried conditions thus reducing shrinkage
 - Improvements in Flexural and Adhesive Bond Strengths allowing thinner sections to be used as well as patch repairs.
 - Improved workability
- Improved abrasion resistance resulting in longer service life.

Most of these benefits are attributable to the formation of a co-matrix phase within the mortar which amounts other thins acts as an improved binder system for the aggregates. Figure 1 illustrates this.

In depth discussion of the theory behind this appears in the reference text form which the diagram was taken (1).

The benefits derived from polymer modification may be counteracted to some degree by the following drawbacks:

- Sensitivity to temperature and moisture caused by the thermoplastic nature of most polymer modifiers.
- Lower ultimate compressive strengths caused by the same thermoplastic nature.
- Reduction in mortar density caused by air entrainment. This may be reduced through the use of defoamers however this commonly reduces workability (one of the benefits mentioned previously complicates the formulation and may limit applications.
- Poor or no polymer cure in thick sections this reducing structural integrity.



Un-hydrated cement particles

Polymer particles

Aggregates (Interstitial spaces are water)

Mixtures of un-hydrated cement particles and cement gel (On which polymer particles deposit partially)

Mixtures of cement gel and un-hydrated cement particles enveloped which a close-up packed layer of polymer particles

Cement hydrates enveloped with polymer films or membranes

Entrained air

Other Information

Terms of use

: This summarises at the date of issue our best knowledge of health, environmental hazard and safety information related to the product, how to safely handle, use, store and transport the product. Since Liquid Colours cannot anticipate or control the conditions on which the product may be handled, used, stored or transported, every user must prior to usage review the MSDS in relation to intended use, storage and transport of the product in the workplace and elsewhere. Such information should be communicated to all relevant parties. If further information is required please contact Liquid Colours.

Liquid Colours shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given. Liquid Colours sole and exclusive warranty is that its products comply with Liquid colours published chemical and physical specifications in effect at the time of sale. Liquid Colours liability for claim suits is in all cases limited to the purchase price of the particular quantity of product upon which the claim is based. Under no circumstances shall Liquid Colours be liable for loss of profits or any other indirect and consequential loss or damage.