CONCRETE BOND

CEMENT ADMIXTURE AND BONDING COMPOUND.

DESCRIPTION

Shalex Concrete Bond is a new generation high performance acrylic admixture and bonding agent designed to improve the durability, strength and adhesion of concrete.

Concrete Bond can be used as an admix in the preparation of slurries, toppings, screeds, mortars, renders or concrete and will greatly improve cohesive strength, flexibility, adhesive strength and water resistance. When mixed with cement, Concrete Bond forms a strong yet flexible bond and provides a key for cements and mortars over non porous substrates.

Concrete resurfacing mixes or paints made with concrete bond exhibit exceptional flexibility, strength and adhesion.

Unlike many inferior PVA based additives that re-emulsify when wet, Concrete Bond has outstanding water resistance and may be used as a sealer or general bonding agent without mixing with cement.

Concrete Bond can be used to consolidate and strengthen loose or friable masonry surfaces such as crumbling mortars, screeds and renders. It is non-oxidising, UV stable and dries to a clear finish.

Concrete Bond is compatible with most acrylic tile adhesives and is designed to work in high ph environments and on 'green' substrates.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

- All surfaces should be clean, sound and free from dry or loose material. Check for presence of waxes, mould release or bond breaking agents, oils or other contaminants than may affect adhesion before application. Given the wide variety of substrates and site specific conditions, it is advisable to check adhesion prior to job commencement.

TYPICAL USAGE

Shalex Concrete Bond has a broad range of applications. The following ratios are provided as a guide only. Applicators should consider specific site conditions when using this product.

NOTE FOR USE IN RENDERS –

Mortar to masonry bond is developed through absorption of water from the mortar into the masonry and cement fines are absorbed along with the water. If suction of the masonry is too high this may not leave enough water to adequately hydrate the mortar. If suction is too low the transfer of cement fines may not be adequate to ensure a sound bond between the masonry and mortar. Concrete Bond will improve adhesion between the masonry and mortar, control moisture loss, and improve strength of the mortar on drying. As masonry characteristics can vary widely testing is recommended prior to large scale application to determine optimal doseage rates and to assess any timing impacts on screeding, floating and sponging.

ADMIX FOR RENDERS

1 part CB + 10 parts H2O

Add 1 part Concrete Bond to 10 parts water and mix well to control shrinkage, reduce water loss and improve strength on curing.

RENDERING OVER PREVIOUSLY PAINTED SURFACES

1 part CB + 4 parts H2O

Add 1 part Concrete Bond to 4 parts water and apply a thin coat. When dry use as an admix in top coat of render (as above) or use a polymer modified bagged render.

TECHNICAL DATA

Usage rate:	1 part Concrete Bond to 4 parts water
Coverage:	1L = approx 5m^2
Drying Time:	When used as a sealer over a concrete surface: Recoat 1 – 2 hours Dry 4 – 8 hours
Fully Cured:	Cures with cement, mortar or concrete
Cleanup:	when wet: water when dry: solvent
Shelf Life:	12 – 18mths
Store Below:	35°C
Application Temperature:	5°C – 35°
Application	Mix into gauging water when preparing cements or mortar mixes or apply with sprayer, brush or roller.

PRODUCT USES

- Flexible concrete resurfacing
- Admix for rendering over sealed surfaces
- Repairs to concrete, grouts and mortars
- Splash or key coat prior to rendering
- Flexible toppings for driveways or paths
- Use as a tile adhesive
- Bedding mortars for roofing
- Improve water resistance and adhesion of grouts and renders
- Economical concrete sealer for dusty surfaces
- Bonding timber, joinery and crafts

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THIN SECTION RENDERS (<3MM)

1 part CB + 3 parts H2O

Add 1 part Concrete Bond to 3 parts water and mix render to desired consistency to control cracking. When rendering over smooth surfaces eg FC sheet, a splash or key coat is recommended before applying thin set renders.

SPLASH OR KEY COAT FOR RENDERING

1 part sand + 1 part cement + 1 cup CB

Add 1 part sand, 1 part cement and 1 cup (approx. 300ml) Concrete Bond and then add water to achieve desired consistency. Allow splash coat to dry before applying render coat.

FLEXIBLE TOPPINGS

Concrete Bond can be mixed with cement or stencil crete dry mixes to form a decorative topping that exhibits exceptional flexibility, strength and adhesion. Each mix and cement type will vary so trials are recommended to obtain the best balance of cost, strength and flexibility. Graded sand may also be added however these reduce strength of the topping and larger sand particles will create a rougher texture than using cement alone.

Mix the following ratios:

7L CB + 1L H2O + 1x20kg cement + coloured oxides up to 2kg

Concrete Bond 7 litres and clean water 1 litre. Add to 1 x 20kg bag of cement until desired consistency is achieved. This mix may be applied by trowel, spatula, brush, roller or through a hopper gun. Colour oxides may be used as required.

Allow at least 4 hours to dry (at 24°C) before walking over and keep heavy vehicles off for at least 48 hours.

Some experimentation may be required to achieve the best result. Adding a higher ratio of water to Concrete Bond will reduce flexibility of the topping and result in a harder coating. Coloured oxides can also be added and should be pre-mixed with the dry ingredients prior to adding the wet ingredients. When using coloured oxides add up to 10% of cement weight to dry mix eg for each 20kg bag of cement, add 2kg of oxide and premix well before adding wet ingredients.

Note: Ensure all lumps are removed and cement or dry mix is fully 'wet out'. Sieving the dry ingredients through a mesh screen may assist in removing lumps to ensure a homogenous mix.

PATCHING CONCRETE

3 parts CB + 1 part H2O

Prep – Dilute 3 parts Concrete Bond with 1 part water and brush on to all surfaces of the area being repaired. Allow to dry before patching.

1 part CB + 4 part H2O

Patch – Add 1 part Concrete Bond to 4 parts water and add to cement or mortar mix.

Note: If patching off-form or tilt panel concrete ensure all release agents are removed from the surface prior to application as these may interfere with adhesion. Dusty surfaces should be washed down first.

TILE GROUT

1 part CB + 10 parts H2O

Dilute 1 part Concrete Bond with 10 parts water.

Mix 1 part cement to 3 parts fine sand and coloured oxides if required (add oxides at up to 10% of cement weight).

Mix wet and dry ingredients well before use.

Note: Care should be taken to wet porous tile surfaces to prevent oxides being absorbed into the face of the tiles. Remove any unwanted grouting mix from tile surfaces promptly.

TEST DATA

Description	ASTM	Results
Compressive Strength	ASTM C-109	4800 psi (35 MPa)
Flexural Strength	ASTM C-78	1150 psi avg (8.2 MPa)
Tensile Strength	ASTM C-190	620 psi (4.1 MPa)
Sheer Bond Strength	ASTM C-1042	2080 psi avg. (14.2 MPa)

Results achieved using a modified 1 to 2 (cement to sand) mix with Concrete Bond to required consistency

PRODUCT FEATURES

- Complies with AS1478.1 – chemical admixes for concrete
- More than doubles flexural strength, impact resistance and bond strength of mortars and concrete
- Excellent adhesion
- Superior bond strength
- Excellent waterproofing characteristics
- Cost effective concentrated formula with broad range of uses

NOTE:

The use of Concrete Bond at high concentrations will improve strength, water repellence, and adhesion but may reduce the workability of the render making it 'stickier' and harder to both screed and float. Concrete Bond will assist in controlling cracking and is useful when applying thin section renders over substrates that may exhibit movement.

HELPFUL TIP!

Concrete bond will delay curing by retarding evaporation. If using accelerants or quick set cement this should be considered. While concrete bond is compatible with a wide range of accelerants, tests are advised prior to large scale application to assess performance, curing time, optimal dosage rates, etc.

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TILE ADHESIVE

1 part CB + 4 parts H2O

Dilute 1 part Concrete Bond with 4 parts water.

Mix 1 part cement to 2 parts fine sand

Add wet ingredients to dry mix to achieve desired consistency. Let stand for 5 minutes, mix again and add more wet ingredients if required.

FLEXIBLE ROOF POINTING / BEDDING MIXES

1 part CB + 1 part H2O

Dilute 1 part Concrete Bond with 1 part water.

Mix 1 part cement to 6 parts sand and coloured oxides if required (add oxides at up to 10% of cement weight).

Mix well and apply with spatula or trowel, packing into all voids. Wet spatula and rub over surface to obtain a smooth finish.

This mix is suitable for application on porous terracotta or cement roof tiles. For non-porous or glazed roofing tiles first apply a neat coat of Concrete Bond to all surfaces with a brush and allow to dry before applying the bedding mix.

Adding more cement in place of sand will result in a more rigid pointing.

SEALING CONCRETE FLOORS

1 part CB + 5 parts H2O

Prep – Apply a coat of Concrete Bond diluted 1 part to 5 parts water.

1 part CB + 3 parts H2O

2nd coat – Allow to dry and apply second coat diluted 1 part to 3 parts water.

CONSOLIDATE FRIABLE MASONRY

Concrete bond is an effective solution to consolidating old and crumbling masonry. It will soak in and bind loose particles together, providing a tough yet flexible bond.

1 part CB + 6 parts H2O

Apply a diluted coat of Concrete Bond diluted 1 part to 6 parts water. Apply slowly to ensure surface is wet out thoroughly and reapply to soak affected area while still wet. Avoid over application on vertical surfaces such as bricks and wipe off runs from surfaces and from non-porous materials.

ADHESIVE

Concrete Bond can be used in place of PVA style wood glue for arts, crafts and timber joinery work. Concrete Bond has superior strength, adhesion and water resistance than most PVA's while retaining some flexibility to accommodate movement. Apply neat concrete bond to both surfaces and clamp together until set. Small amounts applied to both surfaces provide the best result and will cure more rapidly. Avoid using as a gap filler as this will result in greatly extended curing times.

TRANSPORT / STORAGE	
Pail Sizes	125ml Trial Pack, 1Ltr, 5Ltr, 15Ltr, 200Ltr, 1000Ltr
Weights	150g, 1.1kg, 5.5kg, 16.5kg, 224kg, 1060Kg
Dangerous Goods Class	N/A

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