

WATERPROOF COATING

AQUELLA

TECHNICAL DATA

1.0 DESCRIPTION

AQUELLA is an inorganic powder based on white cement with a hardening accelerator, mixed with water and applied to the inside of damp walls and floors to prevent the passage of water and moisture.

AQUELLA unites with the substrate to form a surface which is watertight from both sides and sets rock hard with age.

AQUELLA contains no organic binder or stearate. Owing to its minutely dispersed aggregates, AQUELLA fills and closes the microscopic pores of the clean masonry surface to which it is applied.

Contrary to the shrinkage phenomena of most surface coatings, AQUELLA expands minutely upon curing, ensuring a complete filling of the pores and a better bond.

AQUELLA was developed in 1935 by one of the leading industrialists of France. One of the earliest uses of AQUELLA was in the underground fortifications of the Maginot Line, where, due to the great depth and considerable hydrostatic pressure, profuse seepage existed.

AQUELLA has been used extensively throughout Europe, in the USA and Australia as well as in New Zealand and has been previously approved by the following testing authorities.

Laboratories of the Building Trades and Public Works, Paris.

United States Bureau of Standards.

Institute of Civil Engineering, University of Liege, Belgium.

Laboratories of Tests and Studies of Casablanca, Morocco.

AQUELLA has been tested to withstand a water pressure of 24 kPa, which represents 50 times the maximum pressure prescribed by the U.S. Bureau of Standards (Sec 111 BMS-82) which is 10 lb per sq. ft or 480 Pa.

2.0 PHYSICAL PROPERTIES

2.1 Colour	White. Can be tinted to pastel shades.
2.2 Toxicity	Non-Toxic when cured. Wear dust mask during mixing process. Treat as for cured concrete when used with potable water.
2.3 D.G. Classification	Non Hazardous.
2.4 Chemical Resistance	Acid – Poor. Equivalent to good concrete. Chlorinated Water – Good up to 1 part per million chlorine. Alkali – Excellent.
2.5 Coverage	1 – 1.5m ² per kg.
2.6 Shelf Life	24 months in original sealed containers.

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3.0 USES

- 3.1 The chief application for AQUELLA is for waterproofing internal subgrade walls and floors as found in Basements, Tunnels, Lift Wells etc.
- AQUELLA is also used to seal floors without or with damaged damp courses prior to laying carpet or tiles.
- AQUELLA can also be used internally or externally on Tanks and Water retaining structures.
- 3.2 It can be used on the following surfaces: Brick, Concrete, Mortar, Cement Rendering, Breeze Blocks, Stucco, Stone, Terra Cotta Tiles (Roughened), Fish Tanks – Fill and rinse three times before introducing fish.
- 3.3 It is not suitable for: Gypsum Plaster, Metals, Timber, Silicone Treated Surfaces, Bituminous Surfaces, Whitewashed Surfaces, Painted Surfaces and other coated surfaces.

4.0 APPLICATION INSTRUCTIONS

4.1 SURFACE PREPARATION

- Granular or porous surfaces are the most suitable for AQUELLA. Smooth surfaces must be etched, (see following). The following treatments may be employed for the removal of stains, grease, paints, and other extraneous materials:
- 4.1.1 Dust, dirt and loose particles – Wire brush and hose down or stiff fibre brush with 1 part MISTIC ACID to 10 parts clean water.
- 4.1.2 Whitewash – Brush with stiff fibre brush using 1 part MISTIC ACID to 5 parts clean water.
- 4.1.3 Grease – Brush with a stiff brush using a strong solution of trisodium phosphate or 1kg of washing soda to 5 litres of hot water.
- 4.1.4 Oil Paint – If thick and hard burn off or sand blast. If loose or flakey wire brush followed by brushing with a stiff fibre brush, using 1kg washing soda to 5 litres of water.
- 4.1.5 Organic type water proofing – Sand blast.
- 4.1.6 Smoke and Carbon Stains – Hose down with clean water then fibre brush with 3 tablespoons trisodium phosphate to 5 litres of water.
- 4.1.7 Mildew – Brush with a solution consisting of 250ml ammonia, 150gms trisodium phosphate to 4.5 litres of cold water using a stiff fibre brush.
- 4.1.8 Efflorescence – Hose down, brush with a stiff fibre brush using 1 part MISTIC acid to 4 parts of water: after 5 minutes scrub with stiff brush and water.
- 4.1.9 Smooth Surfaces – Lightly sand blast; dry rub with No: 16 carborundum, or use MISTIC Acid diluted 2:1 with water.
- 4.2 Wear rubber gloves and goggles when handling or diluting acid solutions. Plastic brushes and buckets must be used. AQUELLA will not set if any acid is left on the surface and so it is recommended that after thorough washing, the surface be treated with 10% caustic soda or 20% washing soda. The treatment must always be hosed down thoroughly with clean water before the AQUELLA is applied.



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- 4.3 The cleaned surfaces must be saturated with water preferably using a hose and spray. A superficial dampening is not sufficient. Spray the surface from all directions at least four times. Allow sufficient time between spraying for water to soak in.
- 4.4 Surfaces should be uniformly moist without free water on the surface. If they are not saturated much of the mixing water will be absorbed from the AQUELLA, thereby depriving it of moisture required for proper chemical action and hardening. Keep the surface moist for 30 minutes before applying AQUELLA.

4.5 WEATHER CONDITIONS

The minimum application and curing temperature for AQUELLA is 5°C. Surfaces subject to quick drying conditions require careful curing (see Section 4.8)

Exterior work should be carried out early in the morning or in the evening, preferably in damp humid weather, to avoid rapid drying by wind or sun.

4.6 MIXING

AQUELLA is prepared by mixing approximately 2 parts AQUELLA with 1 part water. The powder is added to the water gradually, stirring constantly until all lumps have disappeared and a "Cream" consistency obtained (that is, not paint thin). If any lumps remain, strain through a coarse sieve. Allow to stand for 10 minutes before using.

The mixture should be stirred frequently to keep it uniform and must be used within 30 minutes or it will begin to set. Up to 10% water may be added during the work as and when AQUELLA thickens.

- 4.6.1 COLOURING – AQUELLA may be tinted to pastel shades using oxide pigments normally used with Portland cement but not exceeding 4% of the weight of AQUELLA. A concentrate of the pigment should be made in the form of a paste, with water, the day before the AQUELLA is to be mixed. The pigment paste may then be added to the mixed AQUELLA at the appropriate rate to obtain the desired shade. By this means, uniformity of shade can be obtained in successive mixes.

4.7 APPLICATION

- 4.7.1 BY BRUSH – The AQUELLA must be well brushed into the surface avoiding pinholes. A stiff brush is suitable followed by a damp soft hair paintbrush a few minutes after AQUELLA is applied. This will give a smooth finish if required. A soft plastic hearth brush is also suitable. Apply smoothly and avoid "peaks" or thin areas where the substrate is still visible.
- 4.7.2 BY SPRAY – Low-pressure equipment is recommended, with AQUELLA feeding from the bottom of the pressure pot which must include an agitator. The mix should be used within 30 minutes. Ensure that no pinholes are left in the surface. Brushing the surface with a damp, soft paintbrush, immediately after spraying, can often prevent this.



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4.7.3 One coat of AQUELLA is sufficient, applied so that no colour from the substrate is visible. Do not over apply.

4.7.4 For plugging holes – mix 2 parts AQUELLA with 1 part quick setting cement and moisten to a stiff paste.

4.8 CURING

AQUELLA must not, under any circumstances, be allowed to dry quickly. It should not be applied to surfaces exposed to sun and wind.

When it has hardened sufficiently, 1-2 hours, AQUELLA should be kept moist for a further 48 hours by using a fine spray of water at frequent intervals.

The slower the curing, the harder the finish. A damp surface before application, maintained during the work if necessary, will ensure satisfactory results.

Wait at least 7 days before filling treated tanks. For tanks that will contain drinking water, cure longer if possible, and then rinse with fresh water several times (and discard). Initially, the drinking water may need pH adjustment using citric acid or similar water treatment chemicals.

4.9 RE-COAT

A second coat is seldom required but if thought necessary, apply when the first coat is firm but not hard. If the first coat is hard, it must be acid etched, i.e., treated as a smooth surface as indicated above. After acid etching, the surface must be thoroughly and completely flushed with water to remove all traces of acid residue.

4.10 PAINTING

AQUELLA, once cured, can be painted with any paint suitable for use on concrete surfaces.

5.0 PRECAUTIONS

For successful performance, it is vital that the instructions on this data sheet and the product label are followed. Possible problems that may arise from not following the instructions are:

Poor surface preparation: Improper surface preparation may lead to areas of AQUELLA not bonding to the surface, particularly for smooth or contaminated surfaces. If acid is used, any residual acid will stop the AQUELLA from hardening.

Contamination of the surface with other chemicals: AQUELLA may discolour or stain or not set properly if iron or other leachates transported in water are present in the substrate or ground water.

Insufficient wetting of the surface prior to application of AQUELLA may result in a “chalky” or soft finish of the AQUELLA.

Curing: Poor curing (insufficient application of water at regular intervals) or rapid drying conditions can prevent AQUELLA from hardening sufficiently to stop the passage of water.

Penetration of the cured AQUELLA: After successfully applying AQUELLA, do not use screws or nails to adhere timber (such as joinery or carpet strips) to the AQUELLA as these will penetrate the AQUELLA and possibly allow water to penetrate through the AQUELLA.



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6.0 LIMITATIONS

AQUELLA must not be applied over any existing coatings. Refer to this data sheet for details on applying second coat of AQUELLA over an existing AQUELLA application.

AQUELLA is not suitable as a waterproof coating in any application where chemical attack would affect concrete.

AQUELLA must not be used for applications:

- requiring waterproofing certification, as required under the relevant clauses of the NZBC.

- where the area it is applied to is inaccessible after the application as it must be open for inspection if any damage occurs due to substrate movement, chemical attack, etc.

The specification, selection, determination of suitability and application of AQUELLA are the responsibility of the buyers, users or specifiers of AQUELLA. Please refer to the data sheet footer for more details.

7.0 PACKAGING

2kg, 4.5kg, 10kg and 22.5kg containers.



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