

Technical Data Sheet

Aquakem (Aquaguard 101) Waterproofing System



DESCRIPTION:

A two-pack water-based epoxy used for waterproofing walls and floors. Applied to the interior side. Aquakem (Aquaguard 101) is a chemically cured, water-based epoxy coating which is applied in moderately heavy films. It is often used to waterproof interior floors and walls from moisture coming from outside or from under floor slabs. Remedial waterproofing on existing walls / floors where no other DPC exists or further treatment is required. Aquakem (Aquaguard 101) is recommended as a DPC (DPM). It is often used to treat existing floors to create new living spaces.

TYPICAL FEATURES | BENEFITS:

- Used for over 40 years in NZ.
- Will not flow or sag at elevated temperatures.
- User friendly.
- Interior | exterior application.
- Compliant with NZBC E2 & E3 (see rear section)
- Compliant with BRANZ: Good practice guide: Concrete floors; section 8.6.4.
- Waterproofing masonry/concrete walls by coating on the inside surfaces.
- Will bond to **green** concrete. Provides a means of laying top coverings on wet concrete.
- Used to waterproof floors prior to carpet, vinyl, tiles etc. Compatible with most floor adhesive types.
- Aquakem (Aquaguard 101) bonds to damp surfaces.
- Will bond to oil contaminated surface (read text for details).
- Will stop rising damp.
- Excellent adhesion to properly prepared substrates.

PERFORMANCE DATA:

Minimum Application Temperature: Air	+10°C
Maximum Application Relative Humidity: Air	85%
Moisture vapour permeability BS test method 3177:1959	9.4gms, mil.m ² /24 hours.
Non-toxic: approved for potable water	AS4020 (int) – 1994
Exceeds the waterproofing requirement of the US Federal spec 11-P-001411.	Tested to withstand up to 40 psi hydrostatic pressure (Equivalent to 28 metres head of water).

RECOMMENDED USES:

- Concrete cure control agent
- Basecoat for Terraflake seamless floor system
- Waterproofing under carpet, vinyl, tiles
- Waterproofing floor slab in absence of damp proof course
- Mortar admixes
- Basecoat for Situclad EWS system
- Tank linings – Refer Situclad EWS system
- Basecoat for Aquaduo coating system.

LIMITATIONS & NOT RECOMMENDED

- Application below +10°C or when relative humidity is above 85%.
- All cracks and wall / floor transitions should be fibre-glassed as described.
- Use **SITUCLAD EWS** (full laminate system) in areas of poor concrete or if in doubt.
- Not for contact with strong acids, alkalis or aggressive solvents. Refer allnex in this environment.
- Not UV stable if used directly outside. Will not fail but will yellow. Unprotected exterior exposure (overcoat to protect)
- Floors subjected to heavy traffic without protective glaze coating (e.g.: Aquacolour | Terratuff | Supadeck Topcoat | Surecote 200).
- Over untreated steel.
- Application over actively leaking water.
- Not for use on red (clay) bricks, plaster, limed plasters, old paints, old adhesive. See surface preparation below.
- Do not bridge cracks without fibreglass mat.
- Ensure forced air ventilation in very enclosed areas.
- Over incorrectly prepared surfaces.

****Note****

allnex generally recommend applying waterproofing to the exterior of a below ground wall. If at all possible access the below ground exterior wall and use Bituthene 3000 sheet tanking. Aquakem (Aquaguard 101) is not intended for new work rather it is used for remedial work where the wall exterior is no longer accessible.

COLOUR:

Aquakem (Aquaguard 101) is white, may be tinted to pastel colours. Finish –semi-gloss

TINTING: May be tinted to pastel colours with universal paint stainers up to 4% by volume in **Part A** before mixing two parts.

HEALTH & SAFETY: Refer safety data sheets (SDS).

- Wear gloves wherever possible.
- Wash hands with warm, soapy water after any skin contact.
- Re-seal all containers tightly.

SUBSTRATE:

All substrates shall be stable and solid.

QUALITY ASSURANCE:

The allnex Licensed Contractor shall ensure all QA checks have been undertaken prior to the installation process and subsequently during the installation process. The completed documentation must be made available to allnex and the client/clients authorised personnel. The product is to be installed within the required control range to ensure a fully cured hard wearing monolithic floor topping system.

Information to be recorded daily is:

- Material batch numbers used.
- Sequence of mixing, ratios and quantities and formula.
- Substrate moisture content & Substrate temperature.
- Ambient temperature | Ambient relative humidity.
- Daily detail of licenced contractors on-site.

PRODUCT PROPERTIES:

Pot Life (mixed)	+25°C ~50%RH	2 hours
Surface dry:	+25°C ~50%RH	4 hours
Hard Dry	+25°C ~50%RH	24 hours
Recoat time	+25°C ~75%RH	8 hour
Solids weight	56% mixed	
Solids Volume	42% mixed	
SG kg/litre	1.25	
Thinning	Not recommended	
Clean Up	Warm soapy water whilst wet	
Dangerous Good Class ~ Aquakem Resin ~ Aquakem Hardener	Not Regulated Hazard Class 9 Packing Group III	
Packaging ~ Aquakem Resin ~ Aquakem Hardener	8 litre Unit 4 litre 4 litre	20 litre Unit 10 litre 10 litre
Shelf life	12 months from date of manufacture. (After this period consult with allnex)	

SURFACE PREPARATION:

It is essential that concrete surfaces are prepared well.

Aquakem (Aquaguard 101) works by bonding tenaciously to **concrete** surfaces.

All paint, adhesive or other coatings must be removed by the use of commercial angle grinders, water blasting or sand blasting.

On concrete surfaces the weak concrete surface layer must be removed by grinding, sandblasting or shot-blasting.

The concrete must not be “polished” if using a grinding process as the surface preparation technique. The surface must show a profiled finish.

The International CSP3 (Light Captive Shot-blast) is the recommended surface preparation for floors.

Note Well

Aquakem (Aquaguard 101) will **not** work if it is applied to paint, flaking paint, old adhesive, lime concrete, plaster or lime plaster.

Cracks or floor joints:

Large Cracks:

Aquakem (Aquaguard 101) will **not** fill or cover large cracks. Fill these with allnex epoxy K125 prior to application of Aquakem (Aquaguard 101)

Fine Cracks:

If these cracks are suspected of or have the potential for movement then the cracks must be pre-treated.

Laminate a strip of 300gsm chopped strand fibreglass matt (CSM) over the joint using mixed Aquakem (Aquaguard 101)

The strip is normally 150-200mm wide. Ensure the strip is fully saturated with Aquakem (Aquaguard 101)

Note

Ensure this is well dry prior to application of the first coat of Aquakem (Aquaguard 101)

A wall-floor junction of, for example, concrete blocks and a concrete floor may well benefit from a laminated tape from the wall to the floor. This strip may well stop any fine crack seepage. **Refer: Diagram on Page 5.**

Note

Masonry blocks may have many cracks that require fibreglass mesh.

Consider using a full layer of fibreglass mat over the whole wall if in doubt.

This is the basis of the Situclad EWS system (refer to that data sheet).

AQUAKEM (AQUAGUARD 101) KIT COVERAGE:

Aquakem (Aquaguard 101) Part A	10 litre	4 litre
Aquakem (Aquaguard 101) Part B	10 litre	4 litre
Mix Total - litres	20 litre kit	8 litre kit
Kit Coverage @3m ² / litre /coat ~ 2 x coats	30m ²	12m ²

AQUAKEM (AQUAGUARD 101) MIXING:

Mix Ratio: *By volume*

Aquakem (Aquaguard 101) Part A	1 part
Aquakem (Aquaguard 101) Part B	1 part

Mixing:

Ensure that you have **Part A** and **Part B**. Mix them individually.

Add them in measured equal volumes to a suitable container.

Power mix at low speed (approximately 300rpm) for 3 minutes ensuring both compounds are homogeneously blended.

Scrape the pail sides with a long broad-knife and then mix again Mix slowly to avoid air entrapment.

Note: ensure no unmixed materials remain on the sides, rims or lips of the containers.

DO NOT THIN

APPLICATION METHOD:

Brush | Roller | Spray (if sprayed then follow-on with roller)

Note Well

Do not use beyond pot life.

Once mixed the product may be applied with brush or roller. Apply evenly.

The first coat should make the surface uniformly **white** (not grey).

*** Note***

This full white colour implies the application of the correct coverage rate of material.

As soon as the surface can be walked on, the second coat may be applied. **Normally** the two coats are applied on subsequent days.

Drying Conditions: Aquakem (Aquaguard 101) cures by first **drying** and then the **curing** of the epoxy system occurs.

Good ventilation to remove moisture vapour must be available. Open windows and doors. Heat rooms if very cold.

Note

Warmth and air movement help cure. The use of fans will assist in the drying process.

USE UNDER TOPCOVERINGS:

Aquakem (Aquaguard 101) is used to stop moisture coming up under vinyl, carpets, tiles etc.

For use under vinyl certain techniques must be used as water-based adhesives will not dry between the Aquakem (Aquaguard 101) and vinyl i.e. they are both impervious.

Contact adhesives may be used to bond the vinyl to the Aquakem (Aquaguard 101). Refer: The Vinyl manufacturers Technical Data Sheets Alternatively: -

A layer of floor levelling compound (e.g.: allnex screed systems) is often used over the Aquakem (Aquaguard 101) to absorb adhesive moisture. This has been found to be effective. Refer Floor levelling below.

FLOOR LEVELLING:

Old floors often require both waterproofing and floor levelling. It is essential that the Aquakem (Aquaguard 101) is applied first to the prepared concrete. Floor levelling compounds are then applied to the Aquakem (Aquaguard 101).

System:

- Apply Aquakem (Aquaguard 101) & cure fully for a minimum of 48 hours.
- Apply one coat of Neoprime (cure 30 minutes),
- Install floor levelling.
- Install vinyl.

SOLID PLASTER:

If applying solid plaster, the following system is used.

System:

- Apply Aquakem (Aquaguard 101). & cure fully for a minimum of 48 hours.
- Apply one coat of Neoprime (cure 30 minutes),
- Apply Slurry coat "rough coat" of cement and Araplex 2000.
- Apply full plastering system in usual sequence.

GREEN CONCRETE:

Aquakem (Aquaguard 101) can be installed on green concrete. **Normally the age of the concrete should be 28 or more days.**

Aquakem (Aquaguard 101) however may be applied at around 7 days.

It is expected that when installing in this situation, the concrete will have been protected from rain since placement.

Green / saturated concrete is not a suitable base.

In all instances normal preparation (shot-blasting or grinding) is still required prior to the installation of Aquakem (Aquaguard 101).

FLOOR COATING:

(Trafficable)

If Aquakem (Aquaguard 101) is to be used as a floor coating, it then requires over-coating with either Aquacolour | Terratuff | Supadeck Topcoat | Surecote 200.

Note

Ensure the Aquakem (Aquaguard 101) is cured 48hrs prior to the application of any Topcoats.

Aquacolour | Terratuff | Supadeck Topcoat are low film build economical coating systems.

Surecote 200 - is a high build smoother finish with good gloss.

EXTERIOR DECKS OR TANKED FLOORS (Concrete)

An exterior concrete deck may not be fully waterproofed with just Aquakem (Aquaguard 101). This is because joints and cracks will move and cause cracking in the Aquakem (Aquaguard 101).

Cracks and joints can be treated as above **or** fully laminate the deck with 300gsm CSM (overlapped). This is the basis of the Situclad EWS system (refer to that data sheet). Once dry, apply a further coat of Aquakem (Aquaguard 101).

Once cured, coverings may be applied e.g.: Terraflake system | Floor levelling | Carpet | Coating system.

COATINGS AND SEALANTS:

Aquakem (Aquaguard 101) is generally compatible under sealants and acrylic coatings. If in doubt sample.

FIXING OF FRAMING | PLANT | MACHINERY :

Mechanical fixings into the substrate must be resin fixed. Fixings are generally installed prior to the application of the Aquakem (Aquaguard 10).

Fixings installed post the installation of the Aquakem (Aquaguard 101) must be undertaken in a manner that ensures that the completed installation remains fully waterproof.

Fixings - Installation Materials:

Floors	Walls
- allnex K80 epoxy grout	- allnex K125 epoxy paste

Note

Epoxy injection systems may be used.

Conventional expanding plugs, screws or anchors **are not** an acceptable fixing method.

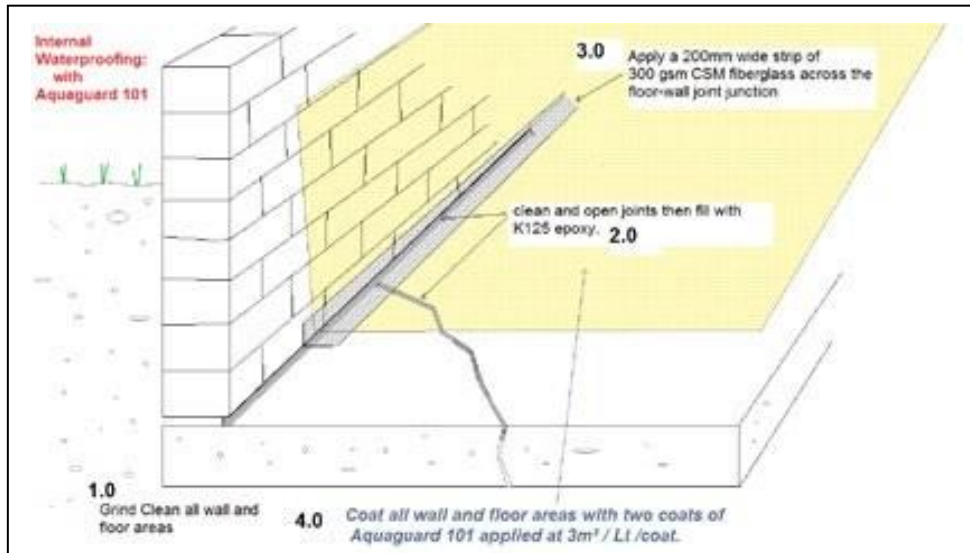
PRODUCER STATEMENT:

allnex Industries Ltd state that Aquakem (Aquaguard 101) is fit for the purpose of waterproofing interior surfaces against reverse osmotic pressure and controlling moisture ingress into a building.

It conforms to the relevant parts of the New Zealand Building Act.

Details:

1. E3 Internal Moisture: 1.0 Condensation control: Aquakem (Aquaguard 101) will prevent water ingress through walls and floors.
- 2.0 E3. Water splash: The use of Aquakem (Aquaguard 101) and fibreglass cloth will act as a waterproof membrane.
- 3.0. E2 AS1 External Moisture
- 12.2.2 DPM materials part (e) Aquakem (Aquaguard 101) is an epoxy waterproofing membrane formulated to prevent moisture entering the structure. This product is normally used in retrofit (post applied) applications.



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