

# 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 Producer Statement – Details 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:

Properties	Values	
Minimum Thickness:	0.280mm	
Minimum Application Temperature: Air	+10°C	
Maximum Application Relative Humidity: Air	85%	
Moisture vapour permeability BS test method 3177:1959	9.4gms, mil.m <sup>2</sup> /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 <i>(Equivalent to 28 metres head of water).</i>	
In-service temperatures - wet : on fully cured system	-20 to +55°C	
Adhesion to correctly prepared substrate	1.5MPa minimum – Concrete Failure GB2567-2008. 2.77(KJ/m <sup>2</sup> ). - Concrete failure	
Heat resistant	+55°C	
Solids Volume - Mixed	42%	
Solids Weight - Mixed	56%	
SG kg/litre	1.25	
Surface Dry:	+25°C ~50%RH	4 hours
Hard Dry:	+25°C ~ 50%RH	24 hours
Recoat time	~ Minimum	+25°C ~ 50%RH 2 hours <i>In good conditions (Heat   Air flow) the second coat could be done on the same day. If you can walk on the basecoat without it “sheering” under your feet then you can apply the second coat of Aquakem. Generally the first coat will be dry enough after two (2) hours at 25°C</i>
	~ Maximum	+25°C ~ 50%RH 24 hours

## 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 and Situclad WCS 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 fibreglass laminate system*) in areas of Concrete Block or poor concrete, or if in doubt.
- Not for contact with strong acids, alkalis or aggressive solvents. *Refer: allnex for installations 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 it is at all possible to access the below ground exterior wall - 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 approved Applicator 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 coating system.

Information to be recorded daily is:

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

## SURFACE PREPARATION:

All substrates shall be stable and solid.

## APPLICATION:

*In all situations listed below:- Refer Aquakem Method Statement / Specification document.*

### Note

*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 with fibreglass mesh.

### **Masonry Blocks:**

Must be fibreglass reinforced. *Refer: Situclad EWS Technical Data and Specification documents.*

### **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 or modified Urethane Adhesives may be used to bond the vinyl to the Aquakem (*Aquaguard 101*). *Refer: The Vinyl Manufacturers Technical Data Sheets for adhesive compatibility.*

### **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*).

*Refer: Aquakem Method Statement Document*

### **SOLID PLASTER:**

Solid plaster may be applied over the Aquakem (*Aquaguard 101*)

*Refer: Aquakem Method Statement Document*

### **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:

Internal Applications: Aquacolour | Terratuff | Supadeck UV Topcoat | Surecote 200 or use the Terraflake System.

External Applications: Supadeck UV Topcoat or the Terraflake System.

### **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.

Terraflake is a very decorative coating system.

### **EXTERIOR CONCRETE DECKS**

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*).

*Refer: allnex Ultratuff or Terraflex or Refer: allnex Construction Products for specific advice.*

### **TANKED FLOORS (Concrete)**

Use Situclad EWS system in this situation (*Refer to that Technical Data and Method Statement*).

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 101*).

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.

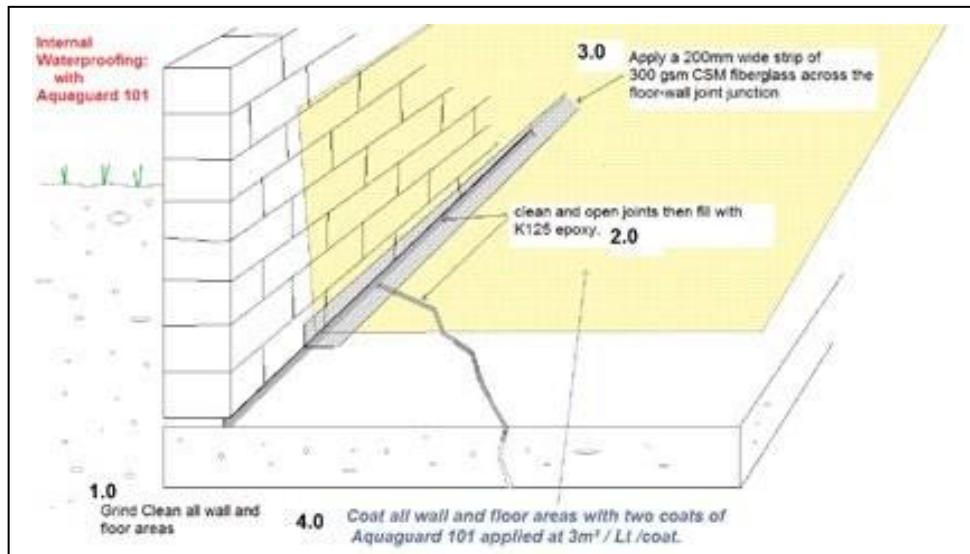
### PRODUCER STATEMENT:

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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