

Technical Data Sheet



Date: OCT 2015

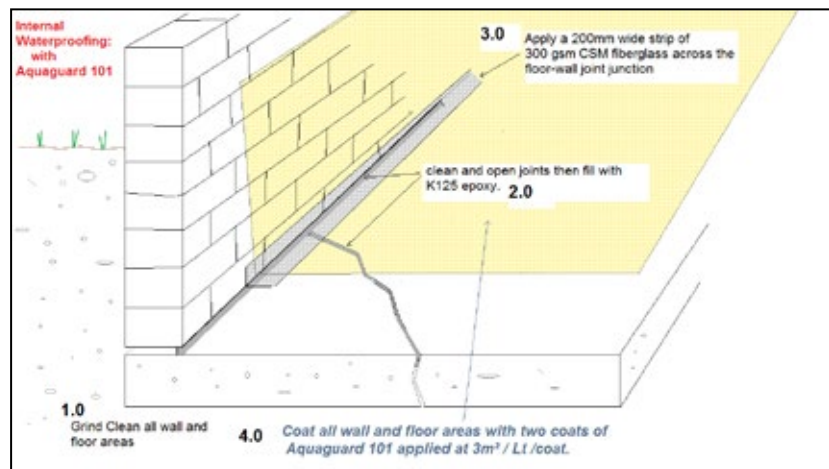
Replaces: Feb 2014

AQUAKEM (AQUAGUARD 101) Waterproofing

GENERIC TYPE:

Waterbased epoxy coating supplied in parts A & B, mixed prior to application. Used for waterproofing walls and floors. Applied to the interior side, it is often used to waterproof interior floors and walls from moisture coming from outside or from under floor slabs. Uses:

- 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.
- A high performance sealer / primer. Resists rising moisture



FEATURES:

- Used for over 40 years in NZ.
- Waterproofing masonry/concrete walls by coating on the inside surfaces.
- Aquakem (Aquaguard 101) is a chemically cured, waterbased epoxy coating which is applied in moderately heavy films.
- 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).
- Moisture vapour permeability BS test method 3177:1959 – 9.4gms, mil.m²/24 hours.
- Non-toxic: approved for potable water (AS4020(int) – 1994).
- Will not flow or sag at elevated temperatures.
- Will bond to oil contaminated surface (read text for details).
- Will stop rising damp.
- Used to waterproof floors prior to carpet, vinyl, tiles etc. Compatible with most floor adhesive types.
- Will bond to green concrete. Provides a means of laying topcoverings on wet concrete. May be applied to damp surfaces including fresh concrete.
- Compliant with NZBC E2 & E3 (see rear section)
- Compliant with BRANZ : Good practice guide: Concrete floors; section 8.6.4

Australia
A Division of Nuplex Industries Limited
www.nuplexconstruction.com.au

New Zealand
Auckland

A Division of Nuplex Industries (NZ) Limited
T: +64 9 5836544 F: +64 9 5253709

This information appearing in this Document (Details) concerning the product which is the subject of the Document (Product), is either based on present technical knowledge and tests done by Nuplex or tests done by, and data supplied from third parties including you, the customer. Since the actual use by you and by others of the Product is beyond the control of Nuplex, no warranty or representation, express or implied is made by Nuplex regarding the suitability for such use, nor does Nuplex accept any liability arising out of the use by you of other products or materials, whether third party or not, that may be referred to in this Document. Nuplex recommends that you carry out your own tests as to the suitability of the Product for your purpose, regarding which you accept full responsibility. In addition, if any of the Details appearing in the Document are based upon tests done by, and/or data supplied by any third party, Nuplex provides no warranties or representations in connection with those Details and you, the customer waives any right you may have against Nuplex in connection with the accuracy, completeness or otherwise of the Details. The information in this Document is not to be construed as absolutely complete or accurate since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations affecting use of the Product. Nuplex does not provide any warranty or representation to you that the Product does not infringe the intellectual property rights of any third party. All orders accepted shall be subject to the standard conditions of sale of Nuplex, which are on the back of our invoice. In accepting the Product you, the customer acknowledge and agree:

- The Product is or may be of a hazardous nature and that you, the customer, are responsible for the disposal of the container housing the Product in accordance with the requirements and regulations of the relevant supervising government.
- The Product has a limited shelf life and must be stored strictly in accordance with the guidelines and specifications related to it.
- Where the Details relate to Product tested by Nuplex, those Details are indicative only, regarding which there may be batch-to-batch variation.
- Nuplex gives no warranty or representation as to the applicability for the particular use by you, the customer, of the Product and you the customer shall be responsible for ensuring that the Product is fit for your intended use.
- Nuplex's liability for breach of any term, condition, guarantee or warranty (express or implied and concerning the information in this Document or the Product more generally) including any liability for direct or indirect consequential loss (including indirect loss of profits), is limited to the maximum extent permitted by law and, at Nuplex's election, to either replacing or repairing the goods or paying the cost of replacing or repairing the goods, or in the case of services, supplying the services again.

www.nuplexconstruction.co.nz • ncpsales@nuplex.com • FreePhone: 0508-882288 • FreeFax: 0508553344

PROPERTIES:

- Safe use product. No solvents, No odours, Waterbased
- White colour.
- Non flammable & very Low odour, Waterbased
- Resists considerable physical damage
- Minimum application temperature +10°C
- Maximum humidity during application and cure 85% RH
- Solids weight – 56% mixed, Solids volume – 42% mixed
- S.G. – 1.25kgs/litre mixed. **Colour:** white, may be tinted to pastel colours. Finish – semi-gloss

SUGGESTED USES: Concrete cure control agent

- Mortar admixes
- Basecoat for Terraflake seamless floor system
- Waterproofing under carpet, vinyl, tiles
- Food processing industries
- Waterproofing floor slab in absence of damp proof course
- Basecoat for Situclad E system
- Tank linings
- Basecoat for Aquacolour topcoat

LIMITATIONS & NOT RECOMMENDED: All cracks and wall / floor transitions should be fibreglassed as described.

- Use **SITUCLAD EWS** (full laminate system) in areas of poor concrete or if in doubt.
- Nuplex 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. Therefore Aquaguard is not intended for new work rather it is used for remedial work where the wall exterior is no longer accessible.
- Not for contact with strong acids, alkalis or aggressive solvents. Use Aquaguard 102 in this environment.
- Not UV if used directly outside. Will not fail, but will yellow. Unprotected exterior exposure (overcoat with Aquacolour).
- Floors subjected to heavy traffic without protective glaze coating (eg: Aquacolour).
- 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.

a) **APPLICATION:** **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. On concrete surfaces the weak concrete surface layer must be removed by grinding, sandblasting, shotblasting or acid etching. Acid etching has proved simple and effective with Aquaguard (remember Aquaguard bonds to damp surfaces).

Paint and/or adhesive is removed by the use of commercial angle grinders, water blasting or sand blasting.

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

(i) **Cracks or floor joints:**

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

(ii) **Fine Cracks**

If these cracks are suspected of, or have the potential for movement then the cracks must be pretreated. 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). 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.

NB: 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.

b) **Mixing and Application**

Ensure that you have **part A** and **part B**. Mix them individually. Add them in measured equal volumes. Stir until uniform with an electric drill and paint stirrer.

Once mixed the product may be applied with brush or roller. Apply evenly. The first coat should make the surface uniformly **white** (not grey). 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. Allow one full day to cure prior to the application of adhesive, levelling compounds etc.

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. **Warmth and air movement help cure.** Set fans up to run.

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 waterbased 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). A layer of floor levelling compound (eg: Nuplex screed systems) is often used over the Aquakem (Aquaguard 101) to absorb adhesive moisture. This has been found to be effective.

System: Apply Aquaguard & cure fully, apply one coat of Neoprime, cure 30 minutes, perform floor levelling and then install vinyl.

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).

NB: Prior to the installation of flooring levelling compounds, prime the Aquakem (Aquaguard 101) with Neoprime before levelling.

SOLID PLASTER:

If applying solid plaster over cured Aquakem (Aquaguard 101), prime with Neoprime then prepare a slurry coat of cement and ARAPLEX 2000 and "rough coat" the wall with this mixture prior to full plastering.

GREEN CONCRETE:

Aquakem (Aquaguard 101) can be laid on green concrete. Normally the age of the concrete should be 30 or more days. Aquakem (Aquaguard 101) however may be applied at around 7 days. It is expected that laying in this situation, the concrete will have been protected from rain since laying. Green / saturated concrete is not a suitable base.

In all instances normal preparation (shotblasting or grinding) is still required prior to laying Aquakem (Aquaguard 101).

FLOOR COATING:

(Trafficable)

If Aquakem-Aquaguard 101 is to be used as a floor coating, it then requires overcoating with two coats of either Terratuff or Surecote 200. (**NB:** Ensure the AG101 is cured 48hrs prior application)

Terratuff is a low film build economical epoxy coating. 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 in (i) above **or** fully laminate the deck with 300gsm CSM (overlapped). This is the basis of the Situcad EWS system (refer to that data sheet). Once dry, apply a further coat of Aquakem (Aquaguard 101). Once cured, coverings may be applied eg: Terraflake system, floor levelling, carpet, tiles, Aquacolour topcoat

Coatings and Sealants

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

APPLICATION METHOD:

Brush, roller , or spray (if sprayed then follow-on with roller).

MIX RATIOS:

Either by volume or weight, 1:1 part A and B. Mix the two parts with a paint mixer bit and a power drill.

PRODUCT REQUIREMENTS: Coverage

Total requirement (2 coats) is worked out on 1.5m²/litre or
3m² /Lt / coat

Examples: A 12m² floor requires 8 litres (4Lts A plus 4 Lts B). This will do the 2 coats at the coverage rate above.
Or a 20lt kit (10A + 10B) will finish 30m² (2 full coats). This will do the 2 coats at the coverage rate above.

8Lt kit: 12m² 20 Lt kit: 30m²

THINNING: Not recommended,

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

DRY TIMES:

(25°C 50% RH) Surface dry: 4 hours

Hard dry: 24 hours

Full cure: 2 days

Pot life (mixed): 2 hours

Do not use beyond pot life. If overcoating with solvent based products allow at least 2 days to cure.

NB: These cure times assume good ventilation and cure temperatures. Allow long times if the conditions are poor.

CLEAN UP:

Warm water and detergent while wet. Semi gelled material may be removed with Nuplex Cleaning solvent. Cured material is difficult to remove.

Note well

- Safe use product. No solvents, No odours, WATERBASED
- Wear gloves. Prolonged contact may cause mild skin sensitisation in some individuals.
- Provide adequate air movement in confined areas. This will aid drying and curing.
- Do not allow condensation to form on film during cure.

PRODUCER STATEMENT:

Nuplex 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.

PACKAGING:

8 litre kit: 4 litres A plus 4 litres B (boxed kit)

20 litres: 10 litres A, plus 10 litres B (pails)

