

# Technical Data Sheet



## Aquaduo Water-based Epoxy Coating System

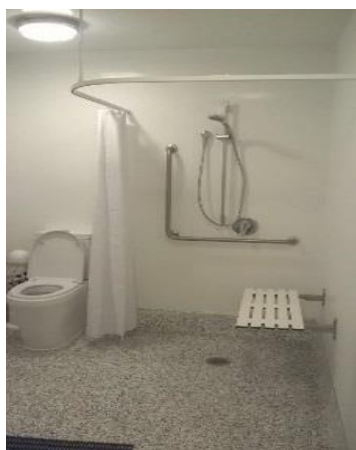
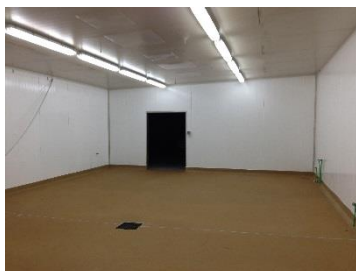
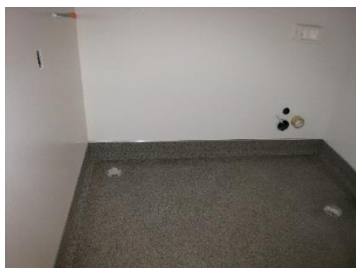
### DESCRIPTION:

Aquaduo is a system is configured through a combination of Aquakem (Aquaguard 101) and Aquacolour.

- *Aquakem (Aquaguard 101): water-based two-part epoxy polyamide basecoat*
- *Aquacolour: water-based two-part epoxy-acrylic gloss topcoat.*

A two-pack water-borne coloured epoxy coating system. Aquaduo gives a smooth glossy finish with excellent wear resistance. It is a general-purpose epoxy coating designed for commercial and industrial applications. Aquaduo may also be used in many other situations where protective coatings are a requirement.

### TYPICAL FEATURES | BENEFITS:



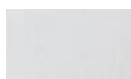
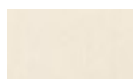
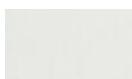
- Non-flammable – No odour for use in confined spaces.
- Excellent ease of use – water-based.
- Non-toxic when cured.
- Excellent flow and adhesion properties.
- Very good abrasion and scuff resistance.
- Attractive Surface Finish – Semi-gloss.
- May be used on walls and floors.
- Will bond to **green / fresh** concrete **\*\*See cautions below\*\***
- Easily cleaned.
- Not susceptible to alkaline concrete
- Abrasion, chemical, stain, graffiti resistant surface for wall and floor coatings.
- Will withstand cleaning with aggressive solvents to remove graffiti, etc.
- Will form a waterproof membrane.
- Fibreglass Laminate lining system. (Refer separate Situclad WCS technical literature)
- Excellent resistance to a wide variety of chemicals and petroleum products – refer to chemical resistance chart.
- Suitable for frequent washing with hot water and detergents.

### COLOURS:

Aquacolour is available in White.

May be tinted to a range of pastel colours in the standard BS5252F, AS2700 and RAL colours (refer to allnex).

The colours shown are a guide only.



**PERFORMANCE DATA:**

Minimum Application Temperature: Air	+10°C
Maximum Application Relative Humidity: Air	85% Requires good ventilation and cross air movement to aid drying
In-service temperatures:	-20 to +70°C
Pencil Hardness	6H
Flexibility - 6mm mandrill	Pass
Chemical Resistance	Resistant to chemical spillage –cured 7 days at 25°C. Refer: Chemical resistance literature.

**RECOMMENDED USES:**

- Ablution areas.
- Construction and Mining Industry.
- Food processing facilities.
- Refineries.
- High Performance finish coating for industrial protection on outside of chemical transport and storage tanks.
- Slip resistant floor finishes.
- Bulk retail.
- Chemical and Oil Industry.
- Pulp and Paper mills.
- Residential garages and workshops.
- Sewerage treatment plants.
- Silos.
- Warehouses.

**LIMITATIONS:**

- Application below +10°C.
- Application to green (uncured) concrete. - *see note below.*
- Contact with water within 36 hours after application.
- Continuous immersion in strong acids, alkalis or aggressive solvents.
- Application in very cold, damp, unventilated conditions. (Use Terratuff in these conditions)
- Weathering | UV - Some chalking will occur in time but will maintain good film integrity.  
- Some yellowing will occur.
- Application to unsound substrates.
- Application to incorrectly prepared surfaces.

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

- Avoid skin contact.
- If spraying wear a suitable respirator.
- Wear safety equipment.

**SUBSTRATES:**

All substrates shall be stable and solid

**Concrete:**

This system may be applied to damp concrete and concrete that is greater than 7 days old.

However; it is preferable to allow as long as possible for the concrete to cure and dry. E.g. allow 28 days cure time after the placement of the concrete.

**Concrete Block:**

Concrete Block must be installed to the manufactures specifications and comply with current building codes.

**Fibre Cement Sheet:**

Fibre cement sheet must be a minimum of 9mm with rebated edges that can be stopped to flush the joints.

Fibre cement is loose butted and is to be mechanically fastened by corrosion resistant screws (preferably 30mm 316 stainless screws) at 200mm centres around the perimeter and 300mm centres within the sheets. (All fastenings must be countersunk 0.5mm).

Frame centres should be at a maximum 600mm. Centre nog joists at 1200mm. (Refer to the Manufacturer's installation instructions).

**Plywood Sheet:**

Plywood must comply with AS/NZS2269 for structural plywood and be a minimum 12mm (walls) and 17mm (floors) H3.2 treated CCA (water-based treatment) with a square edge.

Plywood is loose butted and is to be mechanically fastened by corrosion resistant screws (preferably 50mm stainless screws) at 150mm centres around the perimeter and 200mm centres within the sheets. (All fastenings must be countersunk 0.5mm).

Frame centres should be at a maximum 600mm.

Centre nog at 1200mm.

**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 coating system.

Information to be recorded daily is:

- Concrete sub-base or prefill mix.
- 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: - AQUAKEM (AQUAGUARD 101) SYSTEM**

Pot Life Pot life is based on 100gram samples. Large quantities of mixed epoxy will generate heat and the pot life may be significantly reduced.	20°C ~50%RH	45 minutes
Touch Dry	20°C ~50%RH	3 hours
Hard Dry	20°C ~50%RH	10 hours
Recoat time ~ Minimum ~ Maximum	20°C ~50%RH	60 minutes 18 hours
Full Cure	20°C ~50%RH	3 days **Low temperature cure will extend this period**
Aquakem (Aquaguard 101) Solids Volume	42%	
Aquakem (Aquaguard 101) Solids Weight	56%	
SG kg/litre	1.25	
Thinning	Not recommended	
Clean Up	Warm soapy water	
Dangerous Good Class ~ Aquakem (Aquaguard 101) Kit ~ Aquakem (Aquaguard 101) Part A ~ Aquakem (Aquaguard 101) Part B	Hazard Class 9   Packing Group III Not Regulated Hazard Class 9   Packing Group II	
Packaging ~ Aquakem (Aquaguard 101) Kit ~ Aquakem (Aquaguard 101) Part A ~ Aquakem (Aquaguard 101) Part B	8 litre 10 litre 10 litre	
Shelf life	12 months from date of manufacture. (After this period consult with allnex)	

**PRODUCT PROPERTIES: AQUADUO TOPCOAT - (Aquacolour)**

Pot Life	+20°C ~75%RH	8 hours
Touch Dry	+20°C ~75%RH	4 hours
Hard Dry	+20°C ~75%RH	12 hours
Recoat time ~ Minimum ~ Maximum	+20°C ~75%RH	12 hours 24 hours
Full Cure	+20°C ~75%RH	7 days
Unaffected by water	>48 hours	
SG kg/litre	1.3	
Solid Content	40% mixed	
Thinning	Dilution – 5-10% Clean potable water 5-10% Methylated Spirits for a stronger diluent effect. (Will evaporate faster in colder temperatures)	
Clean Up	Warm water & detergent. Final clean with Methylated Spirits, Kerosene or allnex Solvent HA (flammable)	
Dangerous Good Class ~ Aquacolour Part A ~ Aquacolour Part B	Not Regulated Hazard Class 9   Packing Group III	
Packaging ~ Aquacolour Part A ~ Aquacolour Part B	<u>10 litre Unit</u> 7.1 litre – (8.66kg) - Packaged in a 10 litre Pail 2.9 litre – (4.33kg) - Packaged in a 4 litre Pail	
Shelf life	24 months from date of manufacture ~ Store above +2°C (After this period consult with allnex)	

## SURFACE PREPARATION:

### Concrete:

Prepare concrete by mechanical abrasion method to: - **CSP3**. (Concrete Surface Profile Scale - International Concrete Repair Institute)  
See technical literature: - [http://www.allnexconstruction.com/pdf/Floor\\_Preparation\\_Requirements.pdf](http://www.allnexconstruction.com/pdf/Floor_Preparation_Requirements.pdf)  
Remove all concrete curing agents, contaminants and any other material likely to affect the adhesion of the Aquacolour.  
Do not apply over existing coatings.  
Prefill any large divots with allnex K125 or Epoxy Fairing Cream and diamond grind to remove any highpoints or contaminants.

### Fibre Cement Sheet:

All joints must be flushed in accordance with the Manufacturer's instructions.  
All screw holes must be filled as per the Manufacturer's instructions.

### Plywood:

Edges must be sealed with Aquakem (Aquaguard 101) prior to installation of the plywood.  
Fill screw holes with allnex Fairing Cream.  
All joints must be left with a uniform finish.  
Mechanically sand all areas with 100 grit paper.

## COVES:

Where required:

See technical literature – Details: - [http://www.allnexconstruction.com/pdf/Details\\_resin-floor-toppings.pdf](http://www.allnexconstruction.com/pdf/Details_resin-floor-toppings.pdf)

Install Coves:

- Small Pencil Coves: Supaset | Supascreed | Sureshield
- Other Coves: Supascreed | Sureshield

Install allnex cove upper termination metal strips: **5.2mm or 9.2mm rebated strip**.

Use a rebated wall cut if the coving strip cannot be used.

Install fibreglass CSM cloth in floor/wall internal junctions. (Required on surfaces other than Concrete upstands)

## STZ PREFILL: (for adding falls, slope modification and floor angles)

Where required:

STZ prefill system types: See STZ technical literature. [http://www.allnexconstruction.com/pdf/stz\\_prefill.pdf](http://www.allnexconstruction.com/pdf/stz_prefill.pdf)

The falls must be specified pre-tender. (Aquaduo is medium build floor coating and prefill may involve significant extra materials).  
The quantities of materials required to raise the floor height at wall perimeters is often underestimated. To do this may involve significant extra costs and should be discussed and agreed. It is a very common for STZ prefill system to be used under Aquaduo to create falls to drains and other filling applications. Normally for new work falls are laid in the concrete and fall to drains. However, in refurbishment the drains and falls are incorrect. Sometimes new drains are installed. The Prefill create falls of at least 1: 50 to ensure no ponding water. (1:100 will fall but will have standing water in places).

## PRIMER | BASECOAT:

### AQUADUO PRIMER | BASECOAT (AQUAKEM) MIXING RATIO: *By volume*

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

### Mixing:

Measure correct quantities and pour into a suitable container.

Power mix at low speed (approximately 300rpm) for 3 minutes ensuring both compounds are homogeneously blended, and the colour is uniform.

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.

## APPLICATION METHOD:

### Primer | Basecoat:

Roller | Brush | Spray

Prime | Basecoat the correctly prepared areas with minimum, two (2) coats of mixed Aquakem (Aquaguard 101).

Concrete | Concrete Block: Maximum coverage 3m<sup>2</sup>/litre/coat.

Fibre Cement Sheet | Plywood: Maximum coverage 5m<sup>2</sup>/litre/coat.

\*\*\*Note\*\*\*

Aquakem (Aquaguard 101) must be fully cured for a minimum of 48 hours prior to the installation of the Aquacolour Topcoats.

## TOPCOATS:

### AQUADUO TOPCOAT - AQUACOLOUR KIT COVERAGE & FILM BUILD:

Aquacolour Part A	7.1 litre (8.66kg)
Aquacolour Part B	2.9 litre (4.33kg)
Mix Total - litres	10 litre kit (12.99kg) kit
Kit Coverage @8m <sup>2</sup> / litre /coat ~ 2 x coats	40m <sup>2</sup>
~ 3 x coats	26.6m <sup>2</sup>
Theoretical Film Build - Minimum 160 microns	

\*\*\*\*Note\*\*\*\*

These rates are based on undiluted material. Allowances must be made based on the rate of dilution, application losses and surface irregularities.

### AQUACOLOUR MIXING: By weight

Aquacolour Part A	100 parts
Aquacolour Part B	50 part

### MIXING METHOD:

Add complete contents of Aquacolour Part A and Aquacolour Part B to a suitable container. Power mix at low speed (approximately 300rpm) for 2 minutes ensuring both compounds are homogeneously blended, and the colour is uniform. 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.

Allow material to stand for 2-3 minutes prior to use.

### APPLICATION METHOD:

Roller | Brush | Conventional Spray | Airless Spray

\*\*\*\*Note\*\*\*\*

If spraying, care must be taken in cleaning equipment and to avoid "setting" of the Aquacolour in equipment if left to stand.

### Two Coat Topcoat System:

Apply two (2) coats of Aquacolour at 8m<sup>2</sup>/litre/coat

### Three Coat Topcoat System:

Three (3) coats are recommended if being used as a floor coating with a non-slip media.

Apply three coats of Aquacolour at 8m<sup>2</sup>/litre/coat

The non-slip media is applied in the second coat of Aquacolour.

### SLIP RESISTANT FINISHES:

Typical co-efficient of friction "wet" NZS/AS3661.1:1993:

CF	Non-slip Media	Quantity m <sup>2</sup>	Application
0.54	Microcells	2.78 grams	Mixed into kit - applied in second coat ~ 400 grams per 16 litre Kit ~ 100 grams per 4 litre Kit
0.56	Revtred	12 grams	Broadcast into second wet coat
0.63	J61 Sand	2 kg	Broadcast into second wet coat

### JOINTS:

All concrete control and construction joints should be carried through the Aquaduo using allnex K130 Epoxy or PU40 sealant.

### MAINTENANCE:

#### Repairs:

Chemically clean.

Mechanically abrade surface.

Repair any divots with allnex K125 or Fairing Cream.

Apply Aquaduo as per "Installation instructions".

### CLEANING:

#### Smooth Surface:

Conventional floor cleaning procedures are normally adequate to maintain clean and hygienic surface.

#### Non-slip Surface:

Mopping may **not** adequately remove dirt and grime from the surface profile of the Aquaduo system.

We therefore recommend the use of a soft bristled broom in conjunction with the cleaning solution.

**\*\*\*\* Note\*\*\*\***

Ensure all detergent materials, dirt etc. is thoroughly rinsed from the surface following cleaning.

**FIXING OF PLANT AND MACHINERY:**

Mechanical fixings into the substrate must be resin fixed. This is to ensure that there is no water migration into the substrate. Conventional expanding plugs, screws or anchors are not an acceptable fixing method.

**CHEMICAL RESISTANCE CHART:**

Test procedure ~ Aqueous Solution applied to the surface of test samples. - Solutions are Aqueous unless otherwise stated.

Observation ~ Checked for chemical attack and hardness throughout the testing period

Results ~ Taken after 3 weeks exposure

Test Media	Concentration	Aquaduo	Test Media	Concentration	Aquaduo
<b>ACIDS</b>			<b>ALKALIS</b>		
Hydrochloric Acid	10%	G	Caustic Soda	10%	G
Sulphuric Acid	10%	G	<b>SOLVENTS</b>		
Acetic Acid	10%	G	MEK		F
Hydrogen Sulphide	All	E	Xylene		G
<b>PETROCHEMICALS</b>			<b>DISINFECTANTS &amp; CLEANERS</b>		
Kerosene			Detergent (DET 18)	100%	G
			Bleach (2.5% Sod Hyd Cl)		G
			MEKP – M50		G
<b>OTHERS</b>			<b>SALT SOLUTION</b>		
Water Resistance 25°C		E	Salt Spray ASTM B117-57T 1000 hours		G
Water Resistance 100°C		G			

**LEGEND:**

U	Unaffected (i.e. after 3-week exposure the samples have not changed)	M	Marked (Short term exposure, the test media will leave a mark on the sample)
A	Attacked (Short- or long-term exposure, the mechanical properties will deteriorate)	D	Destroy (Short- or long-term exposure, damage will occur)
E	Excellent	G	Good
EF	Evaluate Further	F	Fair

**Note:**

The table represents a guide only. Variables which may under extreme conditions, influence the chemical or corrosion resistance are:

- Temperature of chemical concentration.
- Intermittent or continuous contact.
- Application in adverse conditions.
- Risks of evaporation from spillage causing concentration to rise adversely.

**\*\*\*\*Note\*\*\*\***

Chemical spillages should be cleaned up immediately.

**Date: Sept 2019**

**Replaces: March 2010**

**Allnex Construction products, a Division of Allnex New Zealand Ltd**

Auckland - 14 Industry Road Penrose phone: 095836544. Hamilton - 18 Somerset Street Frankton phone: 07-847-8658  
 Wellington - 19A Jamaica Drive Grenada North phone: 04-240-0305. Christchurch - 112 Carlyle Street Sydenham phone: 03-366-6802

**Customer Service: 0508-882-288 [cs.constructionnz@allnex.com](mailto:cs.constructionnz@allnex.com)**

[www.allnexconstruction.com](http://www.allnexconstruction.com)

**DISCLAIMER:** 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 allnex 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 allnex, no warranty or representation, express or implied is made by allnex regarding the suitability for such use, nor does allnex 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. allnex 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, allnex provides no warranties or representations in connection with those Details and you, the customer waives any right you may have against allnex 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. allnex 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 allnex which are on the back of our invoice. In accepting the Product you, the customer acknowledge and agree: **a.)** 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. **b.)** The Product has a limited shelf life and must be stored strictly in accordance with the guidelines and specifications related to it. **c.)** Where the Details relate to Product tested by allnex, those Details are indicative only, regarding which there may be batch to batch variation. **d.)** allnex 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. **e.)** allnex'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 allnex'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.