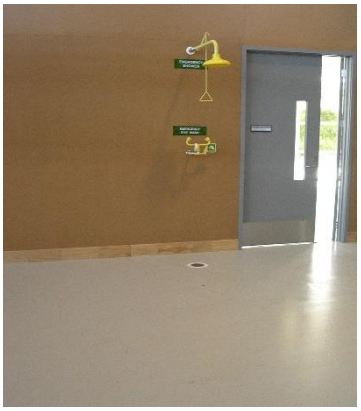
Technical Data Sheet

Aquacolour Water-based Epoxy Coating System

DESCRIPTION:
Aquacolour is a water-based two-part epoxy-acrylic gloss coating system. Aquacolour gives a smooth glossy finish with excellent wear resistance. It is a general-purpose epoxy coating designed for commercial and industrial applications. Aquacolour may also be used in many other situations where protective coatings are a requirement.

TYPICAL FEATURES | BENEFITS:



- Excellent ease of use – water-based.
- Non-flammable.
- No odour for use in confined spaces.
- Non-toxic when cured.
- Long pot life
- Heat resistance – up to 70^0C
- Excellent flow and levelling properties.
- Excellent adhesion to most substrates; damp and dry.
- Very good abrasion and scuff resistance.
- Attractive Surface Finish – Semi-gloss.
- May be used on walls and floors.
- Will bond to **green / fresh** concrete when used in conjunction with Aquakem **See cautions below**
- Easily cleaned.
- 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. (when used in conjunction with Aquakem)
- 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 25^0c. 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 $^{+}10^{0}$C.
- Application to green (uncured) concrete. - *see note below*.
- Application to unsound substrates.
- Application to incorrectly prepared surfaces.
- Contact with water within 48 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.

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. When used in conjunction with Aquakem. (Refer: Aquaduo Technical Literature)
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:

Pot Life	+20^{0}C ~75%RH	8 hours
Touch Dry	+20^{0}C ~75%RH	4 hours
Hard Dry	+20^{0}C ~75%RH	12 hours
Recoat time ~ Minimum ~ Maximum	+20^{0}C ~75%RH	 12 hours 24 hours
Full Cure	+20^{0}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^{0}C (After this period consult with allnex Construction Products)	

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_Preperation_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
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
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 Aquacolour 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).

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 @8m2 / litre /coat ~ 2 x coats ~ 3 x coats	40m^2 26.6m^2
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^2/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^2/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^2	Application
0.54	Microcells	2.78 grams	Mixed into kit - applied in second coat ~ 100 grams per 4 litres of mixed material
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 Aquacolour using allnex K130 Epoxy or Bostik Seal n Flex sealant.

MAINTENANCE:
Repairs:
Chemically clean.
Mechanically abrade surface.
Repair any divots with allnex K125 or Fairing Cream.
Apply Aquacolour 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 Aquacolour 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.

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	Aquacolour		Test Media	Concentration	Aquacolour
ACIDS				**ALKALIS**		
Hydrochloric Acid	10%	G		Caustic Soda	10%	G
Sulphuric Acid	10%	G				
Acetic Acid	10%	G		**SOLVENTS**		
Hydrogen Sulphide	All	E		MEK		F
				Xylene		G
PETROCHEMICALS				**DISINFECTANTS & CLEANERS**		
Kerosene				Detergent (DET 18)	100%	G
				Bleach (2.5% Sod Hyd Cl)		G
				MEKP – M50		G
OTHERS						
Water Resistance 25^{0}C		E		**SALT SOLUTION**		
Water Resistance 100^{0}C		G		Salt Spray ASTM B117-57T 1000 hours		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.
- Application in adverse conditions.
- Intermittent or continuous contact.
- Risks of evaporation from spillage causing concentration to rise adversely.

****Note****
Chemical spillages should be cleaned up immediately.

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 <u>are not</u> an acceptable fixing method.

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