

# Technical Data Sheet

## Situclad EWS Fibre- reinforced waterproofing system

### DESCRIPTION:

Situclad EWS is a protective laminate system applied in situ to provide a smooth, jointless system, which follows the substrate contours, profiles etc. is impact resistant waterproof surface. It forms a continuous membrane which is fully bonded to the substrate. Based on the proven Aquakem (Aquaguard 101) epoxy waterproofing, Situclad EWS is used as a more comprehensive waterproofing and protection system by forming a laminate membrane, it is more durable than straight applied Aquakem (Aquaguard 101).

**Situclad EWS (Epoxy Waterproofing System) is a NO odour system: - Ideal for working in tanks.**

### TYPICAL FEATURES | BENEFITS:

- Compliant with **E3 Internal Moisture**: Internal, Watersplash, section 3.1.1.eg bathroom floor and shower base use.
- Is a solution for **E2/AS1 External Moisture** for waterproofing walls and floors on the internal side
- Compliant with **BRANZ good Trade Practice** guide. Concrete Floors section 8.6.4.
- Based on the proven Aquakem (**Aquaguard 101**) epoxy system.
- Tolerant of application to a slightly damp surface.
- Will bond to **green / fresh** concrete - see cautions below.
- Resistant to peeling and flaking.
- 40 plus years of use in New Zealand.
- Cured Film is non-toxic. – Non-flammable
- Non-toxic. Non-flammable.
- No odour during application.
- Chemical resistance: good all-round performance
- Easily cleaned.
- Excellent adhesion to properly prepared substrates.
- Water-based - No solvents.
- Easily repaired and maintained
- May be used in food safe areas.
- Good impact and abrasion resistance.
- Very good abrasion and scuff resistance.
- Will not contaminate foodstuffs during application.

### COLOURS:

Situclad EWS is available in White.

### PERFORMANCE DATA:

Minimum application temperature: Air	+10°C
Maximum application relative humidity: Air	85%
In-service temperatures:	-20 to +60°C
Laminate hardness:	DIN-SHORE 65; PENCIL 6H
Hydrostatic pressure resistance; US Federal spec 11-P-001411	Minimum 40 psi (equivalent to 28 metres head of water).
Moisture vapour permeability BS test method 3177:1959	9.4gms, mil.m <sup>2</sup> /24 hours.

### RECOMMENDED USES:

For creating a smooth and easy clean hygienic finish over Masonry | Concrete | Precast | Plywood | Tilt Slab and Insulated Panel in the following:

- Internal wet areas: Bathrooms, kitchens, laundries: on Concrete, plywood, fibre-cement
- For external waterproofing of concrete prior to the installation of tiles, pavers, exterior carpet etc.
- Concrete water tanks
- Fibreglass reinforced, exposed floor finishes. (Must be over-coated Refer: allnex Construction Products)
- Planters.
- Silos.

**NOT RECOMMENDED:**

- Application below +10°C.
- Application to unsound substrates.
- Application to incorrectly prepared surface.
- Over existing coatings.
- Application over actively leaking water.
- Continuous immersion in strong acids, alkalis or aggressive solvent
- Do not apply to structures with excessive joint movement.
- Do not use exposed to exterior UV situations. (May be over-coated with Flexiglaze or refer to allnex for specific advice)
- For exposed to UV, exterior decks, roofs etc. Refer: Terraflex system: <http://www.allnexconstruction.com/pdf/Terraflex.pdf?v=1.2>
- As an exposed floor or wall surface (must be over-coated) ***If required as an exposed floor or wall surface refer: allnex Situclad WCS***

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

- Avoid skin contact.
- Provide adequate ventilation.
- Wear safety equipment including clothing.

**SUBSTRATE:**

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.

Pointing must be flush finished.

**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 joists at 1200mm.

**Insulated Panel:**

Refer: allnex Construction Products ***Situclad WCS***

**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 Protective Lining 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: SITUCLAD EWS LAMINATE 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:
Light Use	20°C ~50%RH	24 hours
Full Cure	20°C ~50%RH	3 days **Low temperature cure will extend this period**
Laminate Thickness -approximately	1.00mm	
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) Resin ~ Aquakem (Aquaguard 101) Hardener	Hazard Class 9   Packing Group III Not Regulated Hazard Class 9   Packing Group II	
Packaging ~ Aquakem (Aquaguard 101) Kit ~ Aquakem (Aquaguard 101) Resin ~ Aquakem (Aquaguard 101) Hardener	8 litre 10 litre 10 litre	
Shelf life	12 months from date of manufacture. (After this period consult with allnex)	

**SURFACE PREPARATION:****Concrete | Concrete Block:**

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](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 Situclad EWS.

Do not apply over existing coatings.

Prefill any large divots with allnex K125 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:**

Fill screw holes with allnex Fairing Cream.

All joints must be left with a uniform finish.

Mechanically sand all areas with 100 grit paper.

Install Situclad EWS Reinforcement bandage to all plywood joints. (refer: "**Joints Section**" below)

**FLOOR / WALL INTERNAL JUNCTIONS:****Concrete:**

Walls: fill holes with K125 epoxy (e.g. gaps in masonry)

Wall / floor interface and gaps to form a fillet with K125 epoxy (refer diagram).

**Fibre-cement sheet:**

Install Covs using either:

- Supascreed cove mix
- Supaset

**Plywood:**

Install Covs using:

- Timber fillets

**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. (Situclad EWS is medium build fibreglass laminate system 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 Situclad EWS 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).

**SITUCLAD WCS COVERAGE:**

System Stage	Material	Coverage Rates   Usage M <sup>2</sup>
Primer	Aquakem (Aquaguard 101) Resin/Hardener	5 m <sup>2</sup> litre
Resin Body-coat	Aquakem (Aquaguard 101) Resin/Hardener	1.5 m <sup>2</sup> litre
Fibreglass Reinforcement	Chopped Strand Matt ~ 300 gsm	1 m <sup>2</sup>
Resin Body-coat	Aquakem (Aquaguard 101) Resin/Hardener	1.5 m <sup>2</sup> litre

**SITUCLAD EWS MIXING RATIO: *By volume***

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

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

***Refer Cautions Section***

The mix ratio must not be altered.

The mix ratio is the only acceptable formula.

Adding more hardener will make the mix softer and it will be uncured.

Increased hardener levels will result in a weaker product.

**APPLICATION CONDITIONS:**

Products such as this require good drying conditions to allow water to evaporate from the coating.

Do not apply in temperatures less than 10°C or when wet weather is likely.

Good air movement is the best method of drying water-based products.

**JOINTS:**

All joint gaps should be filled with a polyurethane mastic applied with a broad knife.

After priming and joint filling lay a self-adhesive strip of **Joint Safe tape** over all joints.

It is important to identify movement joints and treat with the joint safe tape as shown below.

All joints are then taped prior to the full membrane application. Most joints will require an 80mm wide strip of glass CSM.

Another option is to use 75mm reinforcing tape. This gives a lower profile. Use slip joint lap prior to glass strips.

Wider strips will be needed to form over coves.

Coves should be laid over cove formers e.g. timber for plywood.

Allow to fully dry (test), prior to the full membrane installation.

**SITUCLAD EWS MIXING:****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.

\*\*\*\*DO NOT THIN\*\*\*\*

## **INSTALLATION:**

### **Primer:**

Roller | Brush

Prime the correctly prepared areas with minimum, one coat of mixed Aquakem (Aquaguard 101).

Maximum coverage 5m<sup>2</sup>/litre/coat.

Allow to cure for 24 hours

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

If left more than 3 days, it must be sanded and re-primed.

### **Laminate Application Method:**

Roller | Brush | Laminating Rollers

Hand lay-up using laminating rollers to exclude air.

Apply evenly by way of roller/brush the resin body-coat across the area to be laid up.

A wet edge must be maintained across the work face to allow the next section of resin to be worked in without showing a ridge.

Install the pre -prepared 300gsm chopped strand matt into the wet resin body-coat.

***The salvage edge of the fibreglass matt must be "teased" prior to installation.***

The fibreglass is to have a 75mm minimum overlap.

The fibreglass matt is to be worked with a "Parsley Cutter" (laminating roller) to bring the resin through the matt thus ensuring a complete "wetting out".

Applying a water mist will help bring up the body coat through the mesh.

It is important that the pressure of the roller brings material up, rather than trying to force it down. This process ensures the underside of the CSM is "wetted" by the Aquakem (Aquaguard 101). The sufficient quantity is indicated by surplus spots being forced up by the action of the roller. In warm conditions keep water misting to ensure 100% wetting of the CSM.

When matt is completely "wetted out" apply more Aquakem (Aquaguard 101) and subsequent coats of Aquakem (Aquaguard 101)

If the surface appears rough and unfilled, apply a further coat across the full surface.

Allow to fully cure.

## **SECONDARY PHASE INSTALLATION:**

Once cured, with cautions, pavers, tiles, exterior carpet etc. may be bonded directly.

Ensure the membrane is not damaged.

## **BONDING TO SITUCLAD EWS:**

### **Floor Levelling:**

Prime with Neoprime, then use: - Lockfast Durabond FLC levelling compound | Superset | Screed 20<sup>+</sup> or Unifloor

### **Pavers/Ceramic Tiles**

NPU polyurethane adhesive or prime with Neoprime & bond with Unifloor levelling & adhesive compound

### **Carpet**

Super 7

### **Timber**

NPU polyurethane adhesive

## **MAINTENANCE:**

### **Repairs:**

Chemically clean.

Mechanically abrade surface.

Apply Situclad EWS as per "Installation instructions".

## **CLEANING:**

### **Smooth Surface:**

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

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

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

## CAUTION:

Situclad EWS is a two-part epoxy that are mixed in the specified ratio.

Only this ratio will produce a hard, non-softening product.

Adding more hardener (with the aim of making the product cure faster) will not work and will only result in making the product softer.

The more hardener that is added, then the softer it will become.

No matter how long it is left, it will never harden.

**Only the stated mix ratio will work and exhibit the stated performance data.**

## \*\*\*\*Note well\*\*\*\*

The consequences of having soft Situclad EWS due to poor mixing may be far reaching and costly to repair.

This is a job that must be done once and done right. Many people do not understand the consequences.

## 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.

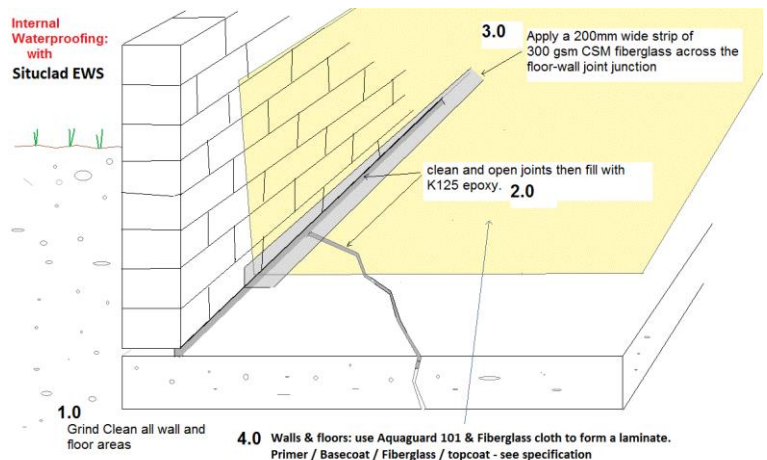
## PRODUCER STATEMENT:

allnex Industries Ltd state that Situclad EWS is fit for the purpose of waterproofing under applied substrates (E.g.: concrete, tiles etc.) and hence conforms to the relevant parts of the New Zealand Building Act.

A 15-year warranty applies upon compliance with our technical application details.

## Compliant with E3 Internal Moisture:

- Internal Section 3.0 Water-splash, section 3.1.1. E.g. bathroom floor and shower base use.
- **A solution to E2/AS1 External Moisture** for waterproofing walls and floors.  
Section 12.2.2 DPM materials. Aquakem (Aquaguard 101) is an epoxy waterproofing material formulated to prevent moisture entering a structure.  
This product is often used in retrofit (post applied) applications. Also used as a flashing.
- Compliant with **BRANZ good Trade Practice** guide. Concrete Floors section 8.6.4.  
Based on the proven Aquakem (**Aquaguard 101**) epoxy system.



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