

## DESCRIPTION:

A chemical resistant, vinyl-ester resin based, glass flake reinforced coating system (pre-filled).

Normally used as a highly durable overcoat for Situclad VE (Fibreglass Laminate) or Surechem VE (Resin Flooring) as a very high chemical resistant system.

It is a Performance Protective Finish:- it is not decorative | It is not flexible.

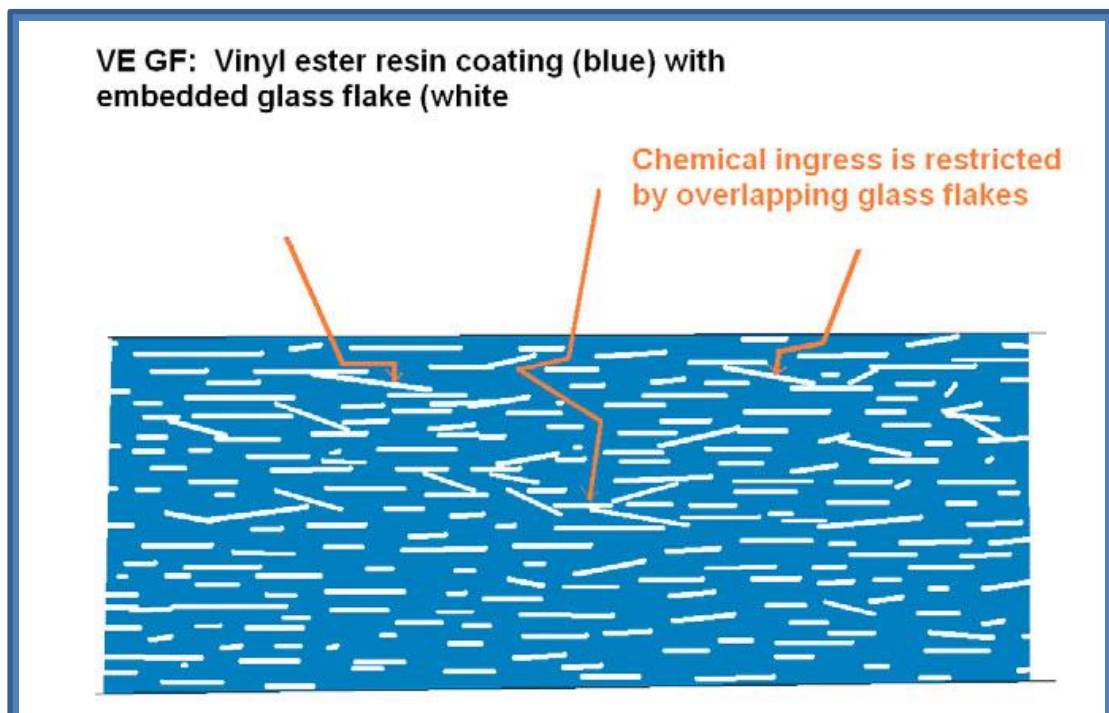
## TYPICAL FEATURES | BENEFITS:

Situclad VE GF is a glass flake reinforced coating system applied in situ to provide a smooth, jointless, chemical & impact resistant, hygienic surface, which follows the substrate contours, profiles etc.

Situclad VE GF has been specifically designed to provide excellent all round chemical resistance at both ends of the Ph. scale. I.e. Concentrated acids and alkali compounds.

The **fine internal glass flakes** self-reinforce the film and provide a tough, **chemical and heat resistant** coating. The flakes provide strong permeability resistance.

- Good stain and chemical resistance.
- Short application period.
- May be applied to a wide variety of surfaces.
- Excellent adhesion to properly prepared substrates.
- May be used in food safe areas.
- Easily repaired and maintained.
- Finish – Semi-gloss.
- Based on chemical resistant vinyl-ester resin.
- Very good abrasion and scuff resistance.
- Tolerant of application to a slightly damp surface.
- Resistant to peeling and flaking.
- Complies with Food environment regulations
- Easily cleaned.
- Cured Film is non-toxic.



**PERFORMANCE DATA:**

Minimum Application Temperature: Air	+10°C
Maximum Application Relative Humidity: Air	80%
In-service temperatures:	-20 to +100°C
Laminate hardness:	Barcol (934-1) 45
Chemical Resistance:	Resistant to chemical spillage – Cured 7 days @25°C. Refer: Chemical resistance literature – see below.

**COLOURS:**

Colour: White

**RECOMMENDED USES:**

- Chemical bunds – refer to chemical resistance chart.
- Construction and Mining Industry.
- Feed Lanes – Animal Wintering Sheds
- Food storage and processing facilities.
- Pulp and Paper mills.
- Storage tanks / bunds. - walls and floors.
- Concrete and steel protective finish.
- Commercial kitchen walls
- Chemical and Oil Industry.
- Brine and chemical tanks.
- Pharmaceutical filling and processing areas.
- Sewerage treatment plants.
- Silos.

**NOT RECOMMENDED:**

- Application below +10°C.
- Application to green (uncured) concrete. Allow 28 days.
- Application within close proximity of foodstuff (odour may contaminate food products).
- Application to unsound substrates.
- Application to incorrectly prepared surface.

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

- Avoid skin contact.
- Provide adequate ventilation during application and cure.
- Wear safety equipment including clothing and respirators.
- Resin and catalyst fumes can contaminate adjacent foodstuffs.
- MEKP Catalyst is highly corrosive - protect eyes and skin.
- Solvents highly flammable. Erect “no smoking” signs.
- No welding or naked flames permitted during installation.
- Have fire extinguishers readily available.

**SUBSTRATE:**

All substrates shall be stable and solid.

**Concrete: New**

Shall have a surface which has been mechanically trowelled to AS3610:1995 U3/NZ/3114:1987U3 finish.

Concrete shall be cured for a minimum of 28 days prior to the installation of the Situclad VE Glass Flake.

Minimum Compressive Strength at 28 days cure: 25 MPa. (25 N/mm<sup>2</sup>)

The moisture content shall be less than: 75% RH.

Have a suitable vapour resistant membrane beneath the concrete.

**Concrete: Old**

Minimum Compressive Strength: 25 MPa. (25 N/mm<sup>2</sup>)

The moisture content shall be less than: 75% RH.

Have a suitable vapour resistant membrane beneath the concrete.

**Concrete Block:**

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

Have a moisture content less than: 75% RH.

Pointing must be flushed and cured.

**\*\*\*\*Note Well\*\*\*\***

**Concrete Block must have the Situclad VE Fibreglass Laminate System applied prior to the installation of the Situclad VE Glass Flake.**

**Metal:**

Metal must be sound.

Particular attention must be given to the preparation of bolts and securing fixtures and that any damaged items are replaced prior to the installation of the protective coating system.

**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:**

Pot Life	+25°C ~50%RH	25 - 35 minutes
Touch Dry	+25°C ~50%RH	60 - 70 minutes
Hard Dry	+25°C ~50%RH	3 hours
Recoat time ~ Minimum ~ Maximum	+25°C ~50%RH	60 minutes 48 hours: * Refer note #1 below
Light Use	+25°C ~50%RH	10 hours
Full Cure	+25°C ~50%RH	24 -36 hours minimum
SG kg/litre	1.22	
Coating Thickness	1.0mm	
Thinning	Styrene Monomer * Refer: note #2 below	
Thickening	Aerosil 200 * Refer: note #3 below	
Lubrication of tools	Styrene Monomer	
Clean Up	Acetone	
Dangerous Good Class ~ STZ Primer ~ Situclad VE Glass Flake Resin ~ Surechem VE Hardener	Hazard Class 3   Packing Group III Hazard Class 3   Packing Group III Hazard Class 5.2	
Packaging ~ STZ Primer ~ Situclad VE Glass Flake Resin ~ Surechem VE Hardener	20 kg Open top metal container 20 kg Open top metal container 5 kg Plastic Bottle	
Shelf life	3 months from date of manufacture. (After this period consult with allnex)	

**Note #1**

After this time severe abrasion of the surface followed by solvent swabbing with Styrene Monomer will be required to ensure satisfactory adhesion.

**Note #2**

The Situclad VE GF may be thinned by 10% with Styrene to allow for roller application or application by trowel.

However contractors need to be aware that 2-3 coats may be necessary to achieve the required minimum film build of 1mm.

**Note #3**

The Situclad VE GF may be thickened with Aerosil 200 for application by trowel.

**SURFACE PREPARATION:****Metal:**

Remove all contaminants including, dirt, grease, oil, fats, exist by steam cleaning prior to the Blasting sequence

Blast with steel grit to obtain the following finish:

**SA 2.5; Micron Finish 65 – 75**

Particular attention must be given to the preparation of bolts and securing fixtures and that any damaged items are replaced prior to the installation of the protective coating system.

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

Metal does not require priming prior to the application of the Situclad VE Glass Flake

**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](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 VE Glass Flake.

Do not apply over existing coatings. (Unless it is Situclad VE or Surechem VE)

Prefill any large divots with allnex Surechem VE resin/aggregate and diamond grind to remove any highpoints or contaminants.

**FLOOR / WALL INTERNAL JUNCTIONS:**

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

If the Situclad VE Glass Flake is going directly onto concrete then:-

All corners (internal/external) and tank perimeters must be prior reinforced with Situclad VE GF and 300gsm chopped strand E matt.

This provides crack resistance on concrete joints.

Install Coves using:

- Surechem VE resin/aggregate

**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 VE Glass Flake is medium build fibreglass coating 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 VE 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 VE COVERAGE:**

System Stage	Material	Coverage Rates   Usage M <sup>2</sup>
Primer	STZ Primer	0.166kg
Resin Coating	Situclad VE Glass Flake Resin/Hardener	1.0kg

**MATERIAL PRE-PREPARATION: (Promotion of Situclad VE Glass Flake Resin)**

New Pails of Situclad VE Glass Flake resin are marked as un-promoted.

allnex supply the VE in pails with open top lids, thus enabling the Cobalt to be mechanically mixed into the resin base.

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

Use a separate catalyst dispenser and mark it for Cobalt use only.

The cobalt can be added up to 12 hours prior to use.

Always add Cobalt first, mix and then add catalyst.

\*\*\*\*Never mix Cobalt and Catalyst\*\*\*\*

Pre-train staff.....The lids are marked as un-promoted – tick or mark once promoted.

\*\*\*\*Good Trade Practice\*\*\*\*

Mix the cobalt into the resin in a separate operation on the same day as use, away from the work area.

Then take the promoted material to the workface for catalyst addition.

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

**Check the Cobalt's age and stability by doing a TRIAL prior to work start.**

Promote at the correct level, then add a 1.5% catalyst to check that the reaction starts.

Even if high catalyst levels are added, un-promoted resins will not cure.

This trial can also be used if confusion occurs about Cobalt addition.

Be well organised and train staff clearly in the promotion and catalysation process - Mistakes are costly.

**CATALYST:**

Use allnex M100 - VE Catalyst only.

**SITUCLAD VE | COBALT | HARDENER MIXING RATIO:**

Product	Cobalt Addition	Hardener
Situclad VE Glass Flake Resin	0.25% ~ 50 grams per 20kg	1.5 - 2.0% **depending on temperature**

**SITUCLAD VE GLASS FLAKE MIXING:****Mixing:**

Measure correct quantities of resin and hardener and pour into a suitable container. Power mix at low speed (approximately 300rpm) for 2 minutes ensuring both compounds are homogeneously blended.

Note: ensure no unmixed materials remain on the sides, rims or lips of the containers.

**INSTALLATION:****Primer:**

Roller | Brush

Prime the correctly prepared areas with minimum, one coat of STZ Primer. Coverage rate and number of coats will vary depending on the porosity of the substrate. Maximum coverage 6m<sup>2</sup>/litre/coat.

**APPLICATION METHOD:**

Roller | Brush | Squeegee | Trowel | Airless Spray

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

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

Apply Situclad VE Glass Flake in a manner as to achieve a minimum film build of 1.0mm.

This may be achieved in a one or two coat application

Allow to cure.

**MAINTENANCE:****Repairs:**

Chemically clean.

Mechanically abrade surface.

Solvent wipe with Styrene Monomer

Apply Situclad VE Glass Flake as per "Installation instructions".

**CLEANING:**

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 VE Glass Flake is a combination of resin/promotor/hardener that is mixed in the specified ratio. Only these ratios will produce a hard, non-softening product.

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

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

The consequences of having soft Situclad VE Glass Flake 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.

**CHEMICAL RESISTANCE CHART: @ +25°C Ambient**

Test procedure ~ Aqueous Solution applied to the surface of test samples.

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

Results ~ Taken after 3 weeks exposure

Test Media	Concentration	Situclad VE	Test Media	Concentration	Situclad VE
<b>ACIDS</b>			<b>ALKALIS</b>		
Hydrochloric Acid	37%	NC*	Potassium Hydroxide	45%	NC*
Hydrofluoric Acid	20%	EF	Sodium Hydroxide (Caustic Soda)	50%	NC*
Sulphuric Acid	70%	NC*	Sodium Hypochlorite		Refer allnex
Acetic Acid	70%	NC			
Hydrofluoric Acid	20%	EF			
Nitric Acid	30%	NC*			
Nitric Acid	40%	EF*			
Citric Acid	SAT SOLN	NC	<b>OTHERS</b>		
Lactic Acid	All	NC	Distilled Water	All	NC
Phosphoric Acid	85%	NC	Iodophors		NC*
Hydrogen Sulphide	All	NC			
Hydrogen Peroxide	35%	NC*	<b>SALT SOLUTION</b>		
Oxalic Acid Sat N	Oxalic Acid Sat	NC	Brine	SAT SOLN	NC

**LEGEND:**

NC	Not Corrosive	NR	Not Recommended
EF	Evaluate Further	*	Staining May Result

Solutions are Aqueous unless otherwise stated

**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.
- Chemical resistance and general physical properties can be improved by post cure treatment.
- Good service may be expected where NR or EF is specified if exposure is intermittent or limited to occasional splash, spill or fumes.
  - Refer to allnex Construction Products Ltd for specific advice on this, or chemical contamination other than those listed.
- Chemical resistance and general physical properties can be improved by post cure treatment.
  - Refer to allnex Construction Products Ltd for specific advice on this.

**\*\*\*\*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 are not an acceptable fixing method

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**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)



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