Technical Data Sheet

Date July 2014
Replaces Jan 2010

Protective Finishes

SITUCLAD VE GLASS FLAKE (GF)

GENERAL DESCRIPTION:

A vinyl-ester resin based, glass flake reinforced cladding system (pre-filled); Normally used as a highly durable overcoat for Situclad VE or Surechem VE . White as standard colour.

PROPERTIES/ FEATURES:

- Situclad VE GF is a GRP cladding system applied in situ to provide a jointless, impact, and chemical resistant, hygienic surface.
- 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.
- Excellent stain and chemical resistance.
- Short application period.
- Excellent impact and abrasion resistance.
- Easily cleaned.
- May be applied to a wide variety of surfaces.
- Easily repaired and maintained.
- Complies with Health, Agriculture and Fishery Department requirements.
- Cured films are non toxic.
- Will not peel or flake.
- Finish - semi gloss/white.
- Minimum application temperature +10°C.

TYPICAL PROPERTIES OF THE CURED LAMINATE:

Thickness	1.00mm
Hardness	Barcol 45
Heat resistance up to 100°C	
Fibreglass reinforcement	Internal glass flakes

SUGGESTED USES:

- Food storage and processing plant
- Sewage & wastewater facilities for liquid protection and gas-phase (Hydrogen Sulphide) protection.
- Chemical storage and bund areas.
- Brine and chemical tanks.
- Chemical processing areas.
- Pharmaceutical filling and processing areas.
- Hygiene areas.
- Normally used as an overcoat for Situclad VE or Surechem VE.
- Concrete and steel protective finish.

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NOT RECOMMENDED:

- Application to damp surfaces.
- **Application** when humidity exceeds 80% R.H. or surface dew point has been reached.
- **Application** within close proximity of foodstuffs (odour may contaminate food products).

Limitation:

- Normally Situclad VE Glass flake is applied over Situclad VE laminate or Surechem VE floor topping as a very high chemical resistant system.
- It is a performance protective finish; it is not decorative.
- It is not flexible.

CHEMICAL RESISTANCE @ 25°C (AMBIENT)

	Concentration	Effect
Acetic Acid	70%	NC
Brine	Sat	NC
Citric Acid	Sat Soln	NC
Distilled Water	All	NC
Hydrochloric Acid	37%	NC*
Hydrofluoric Acid	20%	EF
Hydrogen Peroxide	35%	NC*
Hydrogen Sulphide	All	NC
Iodorphors		NC*
Lactic Acid	All	NC
Nitric Acid	30%	NC*
Nitric Acid	40%	EF*
Oxalic Acid	Sat	NC
Phosphoric Acid	85%	NC
Potassium Hydroxide	45%	NC*
Sodium Hydroxide (Caustic Soda)	50%	NC*
Sodium Hypochlorite	(Refer Nuplex Industries for	specific recommendation)
Sulphuric Acid	70%	NC*

NR Not Recommended
NC Not Corrosive
EF Evaluate further
* Staining may result

Solutions are Aqueous unless otherwise stated and result apply to fully cured resin.

Note:

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

1. Temperature of chemical concentration.
2. Intermittent or continuous contact.
3. Application in adverse conditions.
4. Risks of evaporation from spillage causing concentration to rise adversely.
5. 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 Nuplex Industries Ltd for specific advice on this, or chemical contamination other than those listed.
6. Chemical resistance and general physical properties can be improved by post cure treatment (refer to Nuplex Industries Ltd for specific advice).

Mixing and Application:

New Pails are marked as unpromoted. Nuplex supply the VE in 20 ltr pails with open top lids enabling the Cobalt to be mechanically mixed into the resin base. Buy another 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: - Train staff & mix cobalt and mark all resin in a separate operation on the same day as use. Then take the promoted material to the workface for catalyst addition.**

0.25%. or 50grams GRAMS COBALT TO ADD PER 20Kg:

Check the Cobalt's age and stability by doing a TRIAL prior to work start. Promote at the correct level, then add a high catalyst % to check that the reaction starts. Even if high catalyst levels are added, unpromoted 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 processes. Mistakes are costly.

APPLICATION:

(i) Prepare all concrete surfaces by grinding or shot blasting. All surfaces must by **dry**.

(ii) Application to a metal surface: the metal must be blasted to clean and to obtain a profile.
Surface preparation requirements. Blast with steel grit to obtain the following finish: SA 2.5; Micron Finish 65 – 75.
Application over metal does not normally require priming.

(ii) Prime all concrete surfaces with **STZ Primer**. Overcoat within 18 hours.
Normally Situclad VE Glass flake is applied over Situclad VE or Surechem VE as a very high chemical resistant system.
Apply these systems, then proceed.

(iii) 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. Likewise treat all concrete cracks. Any holes are to be prefilled with Surechem VE resin and aggregate.

(iv) Promote resin as above then Mix Situclad VE GF with VE Catalyst at 1.5 – 2.5% by weight. Mix well.

(v) Situclad VE GF may be applied by airless pump, roller or brush. It may be applied by spray and finished with a roller.
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. Therequirement for this system is 1mm minimum.

(vi) Apply two coats to obtain the specified 1mm film build.

COVERAGE RATE:

STZ Primer	0.125 kgs/m²
Situclad VE GF	1 litre/m²

Note:
The above rates are theoretical and do not take into account losses through surface irregularities, mixing and application.

DRY TIMES @ 25°C:
(1% MEKP Catalyst)

Resin gel time	25-35 minutes
Recoat minimum	60 minutes
Recoat maximum	48 hours

(After this time severe abrasion of the surface followed by solvent swabbing will be required to ensure satisfactory inner coat adhesion.)

Hard dry	3 hours
Light use	10 hours
Full cure	24-36hrs min.

THINNING: Not recommended. If necessary consult Nuplex Industries Ltd for advice.

THICKENING: Add Aerosil 200 to increase viscosity.

CLEAN UP: Acetone, Styrene Monomer.
Lubricate and clean equipment using Styrene Monomer only.

CAUTION:

- Provide adequate ventilation during application and cure.
- 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 extinguisher readily available. Wear suitable protective breathing mask.

SHELF LIFE: 12 months in unopened containers.

PACKAGING:

Situclad VE GF	20 Lt metal pails
STZ Primer	20 Lt metal pails

NZ DANGEROUS GOODS CLASS: Refer msds online