

Flowchem VE GL Flex

Product description

Flowchem VE GL Flex is a modified and thermal shock resistant, shrinkage compensated and modified vinyl ester based lining system. Is used with Flowchem VE Chopped strand mat M2 and Flowchem VE Surface tissue.

Features and Key Benefits

- Fast curing.
- High thermal shock resistance. Can take heavy thermal shocks with a delta T of over 220°C.
- Excellent temperature resistance. In service up to 145-165°C.
- Very high chemical resistance to a wide range of acids, alkalis, bleaches and solvents.
- High mechanical resistance. Tolerates heavy loads. High elongation and toughness.

Product Information

Applications

Flowchem VE GL Flex is used ideal for in liquid nitrogen environments, flooring, chemical storage areas, walls, secondary containments areas, vessels, ducts etc ..., against a wide range of aggressive chemicals and thermal attack in heavy duty/ potentially heavy duty areas.

Certificates/approvals

CE according EN 13813 (when used as part of complete system)

Environment and Health

Follow the appropriate Occupational Health and Safety Guidelines applicable to the location where the application is undertaken.

For more information, please refer to the safety datasheets for the individual components.

Technical Information

Technical Characteristics (liquid state)

Appearance	A: Flowchem VE GL Flex resin- resin pigmented liquid B: Flowchem VE Accelerator – purple liquid C: Flowchem VE Curing Agent – transparent liquid D: Flowchem VE Topcoat Additive – transparent liquid Glass matt and tissue as required.
Mixing ratio (A/B/C/D*)	100 / 0.3 / 2 / 1.5 by weight
Density at +23°C (EN ISO1183)	1.12 kg/dm ³
Pot life at 10 / 20 °C	90 / 45 min
Curing time at +20 °C:	Full cure: after 24 hours
Foot traffic at +20°C	6 hours

* Part D is only used in the final layer..

Technical Characteristics (cured state)

Volume shrinkage at 20°C – Rili4 2.5.3.2.1	< 0.004%
Tensile Strength (EN ISO 527)	143 MPa
Tensile elongation at yield (EN ISO 527)	5-6 %
Flexural Strength (EN ISO 178)	204 MPa
Glass transition temperature (EN ISO 11357)	120 °C
Barcol Hardness (EN ISO 59)	35 (model GYZJ 934-1)

Colour

See system build-up, satin gloss

Packaging

The Flowchem VE GL Flex components are supplied in the following pack sizes:

- Flowchem VE GL Flex resin: in lacquered metal drums of 25 kg.
- Flowchem VE Accelerator: in metal cans of 1 kg
- Flowchem VE Curing Agent: in plastic bottles of 1 kg
- Flowchem VE Topcoat Additive: in metal cans of 1 kg

Storage

Store in dry area, in unopened, original containers in temperatures +5 °C to +25 °C. Protected from freezing, out of direct sunlight, moisture or contaminant ingress.

Shelf-life

Flowchem VE GL Flex-resin: 6 months from manufacture day when stored correctly in the original, unopened packaging as supplied.

Flowchem VE Accelerator, Curing agent and Topcoat Additive: 9 months from manufacture day when stored correctly in the original, unopened packaging as supplied.

Usage Guidelines

Application conditions

Ambient temperature range:	+5°C - +30°C
Substrate temperature range:	+5°C - +30°C
Ambient relative humidity:	< 95 %
Substrate relative humidity	<4.5 % (Tramex scale or 75% RH BS8203)

- To ensure best application behaviour of material it is recommended to condition the containers for at least 24 hours in +15 °C - +25 °C prior to application.
- The recommended substrate temperature is 15 - 25°C, but not less than 5°C and more than 30°C.
- **During application and initial curing of product, substrate temperature needs to be at least 3°C higher than dew point temperature.**
- To assess possibility of application outside of these conditions or application temperatures, please consult our Technical Department.
- The styrene in the resin component can be smelt at very low concentrations (from 2 ppm onwards). Follow the appropriate national guidelines.

Surface Preparation

Substrates must be mechanically prepared to be free of cement laitance, dust, oil and any other contamination, any surface defects and blowholes must be prefilled and levelled.

The substrate pull-off value must be tested to be at least 1.5 MPa and the surface profile / roughness of the concrete must be at least 0.5 mm.

For further details see our "General preparation and application guidelines for Flowchem VE floor protection systems".

Mixing

Mix the whole drum of Flowchem VE GL Flex Resin with an electric drill and paddle to disperse any possible settlement.

Weigh out the required quantity and add 0.3% (b/w) of Flowchem VE Accelerator and mix well for 2 mins (Note: the % of the accelerator required can increase at lower temperatures please consult our Technical Department for specific advice).

Add 2% (b/w) of Flowchem VE Curing Agent and continue to mix thoroughly for 2-3 mins and then the resin is ready for application.

Note: Never mix the Accelerator directly with the Curing Agent.

Application

Priming the surface

The prepared concrete surface must first be sealed with Flowchem VE Flex Primer

Application of Flowchem VE GL Flex

A 1st coat of the mixed FLOWCHEM VE GL Flex is applied with a laminating roller or brush, or spray equipment on the primed substrate.

While the Flowchem VE GE Flex is still wet, a 1st layer of 300-450 g/m² pre-cut chopped strand glass fibre mat is applied. Roll with the laminating roller to de-aerate and allow to cure. Overlap adjoining layers of mat by 100 mm.

Apply a 2nd coat of Flowchem VE GL Flex onto the glass fibre matt until saturated and then de-aerate the resin layer using a Teflon de-aerating roller.

Repeat this process with a 2nd layer of the selected chopped strand glass fibre mat and then apply a surface tissue (30g/m²) that also needs to be de-aerated with the Teflon de-aerating roller.

Apply an additional coat of the Flowchem VE GL Flex on top of the surface tissue and allow to harden.

Finally abrade the surface (as necessary) to remove any protrusions or roughness and apply a final topcoat of the Flowchem VE GL Flex. Add 1.5% Flowchem VE Topcat Additive in the final layer. This paraffin mixture will give a harder and more silky like surface.

Coverage

The consumption of Flowchem VE GL Flex is about 3-4 kg/m², depending on the grade of the glass fibre matt used.

Note: Dependent on the site conditions including, temperature, surface profile, slope and geometry of the structure, the quantity of resin per coat and the number of coats applied can be varied to suit the project requirements. The overall consumption remains the same and is according to the grade (weight and thickness – 300 or 450 g/m²) of the Glass Fibre Matt reinforcement used.

For more detailed information please refer to the “Flowchem VE Application Manual”.



Cleaning

Clean using Flowchem VE Equipment Cleaner. **Acetone should be used during the application** to clean the Teflon or Metal deaeration rollers! Not styrene (it will make everything sticky).

Technical Service

Contact Tremco CPG "Country"

Guarantee

Tremco CPG "Country" warrants all goods to be free from defects and will replace materials proven to be defective but makes no warranty as to appearance of colour. The information and recommendations herein are believed by Tremco CPG "Country" to be accurate and reliable.