

HEGSEL FRP 343

Vinyl Ester based Laminate System

You Build, We Protect!

Description:

HEGSEL FRP 343 is a glass fiber reinforced coating system based on high-performance Vinyl Ester resin, composed of **HEGSEL FRP 343 Primer**, Optional **HEGSEL FRP 343 pre-filling** and **HEGSEL FRP 343 Solution** reinforced with glass fiber mat and glass fleece.

Applications:

HEGSEL FRP 343 is designed as a lining to protect concrete and metal substrates against a wide range of industrial processes. **HEGSEL FRP 343 Laminate** can be used as a crack-bridging seal (crack width ≤ 0.4 mm) of catch areas made of steel concrete within buildings and outdoors. The laminate is suitable for floors that need to be passed with pneumatic full rubber tyres, with Vulkollan tyres or with polyamide tyres.

Chemical Resistance:

Information on the chemical resistance is available on request.

Pot Life (20°C):

Product	Time
HEGSEL FRP 343 Primer	Approx. 30 min
HEGSEL FRP 343 Laminating-Solution	Approx. 30 min
HEGSEL FRP 343 Pre-filling	Approx. 30 min
HEGSEL FRP 343 Conductive Lacquer	Approx. 40 min

Note: Depending on the actual ambient temperature, the pot life may vary. Higher temperatures could shorten the pot life, while lower temperatures would prolong it. For further information, please consult HEGSEL!

Curing (20°C):

Load Capacity	Time
Accessible	Approx. 4 hrs
Chemical / Mechanical Load	Approx. 3 days

Packaging:

The products are supplied in the following standard package sizes:

Product	Size	Package
HEGSEL FRP 343-Solution	25 kg	Drum
HEGSEL FRP 343-Solution RAL 7032*	25 kg	Hobbock
Carbon fiber fine	1 kg	Bucket
HEGSEL FRP 343-Accelerator	2.5 kg	Can
HEGSEL FRP 343-Hardener	1 kg	Barrel
HEGSEL Filler 80	25 kg	Bag
Glass Fiber Mat 450 g/m²	1.27 m wide	Roll
Glass Fleece 30 g/m²	1.00 m wide	Roll

Storage:

The products must be stored in a cool and dry place, away from direct sunlight. At the indicated storage temperatures, the shelf life of the products is at least the below mentioned periods:

Product	Temperature	Shelf Life
HEGSEL FRP 343-Solution	20°C	6 Months
HEGSEL FRP 343-Solution RAL 7032*	20°C	6 Months
Carbon fiber fine	20°C	24 Months
HEGSEL FRP 343-Accelerator	20°C	24 Months
HEGSEL FRP 343-Hardener	20°C	12 Months
HEGSEL Filler 80	20°C	24 Months
Glass Fiber Mat 450 g/m²	-	unlimited
Glass Fleece 30 g/m²	-	unlimited

Note: The colours may differ slightly from the RAL colour template. Other colours on request.

If the shelf life is passed, the materials must be tested prior to use. Higher temperatures by storage and transport would reduce the shelf life, whereas lower temperatures would extend the minimum shelf life. The containers are to be kept closed tightly. All liquid products must be stored in frost-proof conditions.

1. Surface Preparation

1.1. Steel: Refer to DIN EN14879-1.

All The steel surface shall be sandblasted to a metallic bright finish. A preparation degree of SA 2 ½ as specified in DIN EN ISO 12944-4 and a roughness grade "medium (G)" as specified in DIN EN ISO 8503-1 must be achieved; minimum surface roughness Rz = 70 µm. After blasting, a new formation of rust is to be avoided by appropriate procedures, e. g. immediate application of a primer.

Concrete: Refer to DIN EN14879-1.

Appropriate action must be taken to prepare the concrete surfaces. Normally, blasting the concrete, screed or steel surface is required. Please note that mechanical cleaning with hard brushes, wire brushes or with industrial vacuum cleaners is usually inadequate. The concrete and screed substrate must be strong, dry, dust-free and free of contaminants such as oil or grease and also laitance, cement skin, loose and friable material, broken out parts and cracks. They may not be sanded nor floured. The residual moisture content shall not exceed 4%.

2. Environmental Conditions

The specified environmental conditions must be complied with during surface preparation. During the application, the substrate must be kept completely dry. No moisture (condensate, mist, etc.) may get onto the surfaces that are to be protected. The construction site has to be protected against direct sunlight, rainfall and draught.

Environmental conditions	Value
Relative humidity	≤ 80%
Surface & material temperature	≥ +10°C up to +35°C
Optimum processing temperature	+20°C
Dew Point Distance	min. 3°C

Elevated or decreased temperatures could affect the working time and consistency of the mixture. As a result, consumption, application performance and layer thickness may vary.

3. Mixing Instruction

HEGGEL FRP 343	Components	Weight (kg)
HEGGEL FRP 343 Primer or Laminating Solution	HEGGEL FRP 343 Solution	4.250
	HEGGEL FRP 343 Solution RAL 7032	
	HEGGEL FRP 343 Accelerator	0.110
	HEGGEL FRP 343 Hardener	0.090
HEGGEL FRP 343 Pre-filling	HEGGEL FRP 343 Solution	2.160
	HEGGEL FRP 343 Accelerator	0.065
	HEGGEL FRP 343 Hardener	0.055
	HEGGEL Filler 80	2.160
HEGGEL FRP 343 Conductive Lacquer	HEGGEL FRP 343 Solution	3.020
	HEGGEL FRP 343 Accelerator	0.090
	HEGGEL FRP 343 Hardener	0.090
	HEGGEL Filler 80	1.120
	HEGGEL Carbon Fiber	0.230

HEGGEL FRP 343 Primer, HEGGEL FRP 343-Solution, HEGGEL FRP 343-solution RAL7032: Pour **HEGGEL FRP 343-Solution / HEGGEL FRP 343-solution RAL7032** in to the mixing vessel and mix thoroughly until a homogeneous and lump-free mixture is achieved. Only then- otherwise there is a risk of explosion! - add the **HEGGEL FRP 343-Hardener** and mix thoroughly until homogeneous mixture is created.

HEGGEL FRP 343 Pre-filling and HEGGEL FRP 343 conductive varnish: After mixing the component in the above-mentioned sequence, add **HEGGEL Filler 80 (HEGGEL Filler 80 and carbon fiber to HEGGEL FRP 343 conductive varnish)** and mix thoroughly until homogeneous lump free mixture is achieved.

4. Application

If there are any large holes, cavities or surface unevenness detected after surface preparation, **HEGGEL FRP 343** Pre-filler is necessary. It is applied using a smoothing tool. The filler surface then needs to be free of trowel stroked and filler burrs. If not primed, lamination solution is presented. Avoid puddles. The Glass Fiber Mats are freshly embedded in the filler or the laminating solution in two layers with the necessary overlap (approx. 5 cm). After each layer, laminating solution is applied with the lambskin roller and pressed on and deaerated with the disc roller. Offset the overlapping seams between the layers by

at least 20 cm.

The last layer is the Glass Fleece 30 g/m², which must be freshly embedded in one operation after the last Glass Fiber Mat.

To create an electrically conductive surface, the mixed **HEGGEL FRP 343 conductive varnish** is applied to the cured laminate. First, electrical diverting vanes need to be applied on the cured laminate and led to the on-site earthing.

The **HEGGEL FRP 343 conductive varnish** is applied within 24 hours after the laminate has hardened. The material is applied with the velour roller. During processing and until the coating has cured, do not expose the laminate to water, steam or chemicals.

Faulty, damaged or to be connected areas are exposed down to the substrate by means of a grinding machine. The edge zones must be chamfered and roughened. Clean the area, apply the primer and build up the new coating.

The edge zones should overlap approx. 10 cm.

5. Consumption

The additional consumption for the necessary overlaps of the glass fibers, glass fleece and the laminating solution must be taken into account.

Material	Consumption (kg/m ²)
HEGGEL FRP 343 Primer	on concrete: approx. 0.300 on steel: approx. 0.200
HEGGEL FRP 343 Laminating -Solution	2.500 (2xGlass Fiber Mat 450 g/m ² and 1 x Glass Fleece 30 g/m ²)
HEGGEL FRP 343 Laminating -Solution RAL 7032	2.700 (2xGlass Fiber Mat 450 g/m ² and 1 x Glass Fleece 30 g/m ²)
HEGGEL FRP 343 Pre-filling	on concrete: 0.700 to 1.500
HEGGEL FRP 343 Conductive Lacquer	0.400

Note: The above consumption refers to the use of original HEGGE Glass Fibers and Glass Fleece. Other makes may have different consumption.

6. Cleaning

Any tools that are contaminated with uncured material can be cleaned using **HEGGEL Cleaner**. Only clean in areas with good ventilation and observe safety measures.

7. Safety Measures

The material safety data sheets of the individual components, the safety instructions on the packing (label) as well as the legal requirements for handling hazardous materials must be observed.

Technical Data	DIN	ASTM	Value	Unit
Adherence to Concrete / Screed	DIN EN ISO 4624	-	> Inherent tensile strength	MPa
Modulus of Elasticity	DIN EN ISO 178	ASTM C580	18,300	MPa
Elongation at Tear	DIN EN ISO 527	ASTM C307	2.8	%
Temperature Resistance (under bricks and tiles)	-	-	120	°C

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All information contained herein is based on the current state of our knowledge and practical experience at the time of release. Therefore, please make sure that this is the latest edition of the Technical Data Sheet. All data are only intended as a guideline for informational purposes and do not constitute a legally-binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications. All information contained in this technical datasheet is subject to change without notice.

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