

HEGSEL FRP 343

Novolac Vinyl Ester based laminate system

Description:

HEGSEL FRP 343 is an approx. 3 mm thick; glass mat reinforced lining system based on a Novolac vinyl ester resin. The coating system consists of a trowel applied primer, a laminate layer and optionally a topcoat.

Characteristics:

- Temperature resistant up to +100°C on steel
- Excellent chemical resistance to acids, alkalis, solvents and especially oxidizing agents
- Drivable
- Excellent adhesion to concrete surfaces
- Very good mechanical properties
- Crack-bridging properties. Can bridge cracks of ≤ 0.25 mm in concrete according EN 14879-3

Applications:

HEGSEL FRP 343 is designed as an internal lining for sumps and collecting basins made of reinforced concrete, and it can also be used indoors and outdoors in liquid storage areas. Furthermore, **HEGSEL FRP 343** is suitable as a flooring material where the traffic consists of vehicles with inflated or solid tyres, or with Polyurethane (Vulkollan) or polyamide wheels, mainly in galvanizing plants, pickling plants and HBV (manufacture of water polluting substances) plants where the floors are in contact with oxidizing media. The optional feature of the coating system which ensures the dissipation of static charges enables the storage of flammable liquids.

Chemical resistance:

Information on the chemical resistance is available on request.

Substrate:

Components shall be designed and manufactured in accordance with EN 14879-1. Before start of brick lining work, the suitability of the surface preparation measures according EN 14879-1 must be checked and recorded.

Pot life (20°C):

Product	Time (min)
Primer	ca. 40
Laminate layer	ca. 60
Topcoat	ca. 60

Curing (20°C):

Load Capacity	Time
Accessible	ca. 4 h
Chemical load	ca. 3 Days

Packaging:

The products are supplied in the following standard package sizes:

Product	Size	Article No.
HEGSEL HR 910	0.1 kg	17760543
HEGSEL HR 910	0.4 kg	17760057
HEGSEL FRP 343 SOLUTION	5 kg	17762130
HEGSEL FRP 343 SOLUTION	20 kg	17762100
HEGSEL FRP 343 SOLUTION TOPCOAT	5 kg	17762220
HEGSEL FRP 343 SOLUTION TOPCOAT	20 kg	17762190
HEGSEL FRP 343 POWDER	25 kg	17762160
Cleaner E-200	4 kg	17701830
Cleaner E-200	8 kg	17701833

Storage:

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

Product	Temperature	Shelf Life
HEGSEL HR 910	≤ +20°C	12 Months
Cleaner E-200	5-25°C	60 Months
HEGSEL FRP 343 SOLUTION	≤ +20°C	6 Months
HEGSEL FRP 343 SOLUTION TOPCOAT	≤ +20°C	3 Months
HEGSEL FRP 343 POWDER	-	24 Months

If the storage time is exceeded, the materials must be tested before use. Higher storage and transport temperatures will reduce the shelf life. The containers must be kept tightly closed. Liquid products must be stored frost-proof. In addition, the DIN 7716 must be observed.

1. Surface preparation

C-STEEL

All contaminants, including non-visible detectable contaminants, must be removed in accordance with DIN Fachbericht #28 and EN ISO 8502.

Ferrite steel surfaces shall be abrasive blasted to "Near White Metal" in accordance with EN ISO 12944-4. A standard preparation degree of SA 2½ (SSPC SP-10; NACE #2) as specified in EN ISO 8501-1 must be achieved. The primer must be applied immediately after the blasting.

CONCRETE

Appropriate action shall be taken to prepare the concrete surfaces; dry and free of dust and free of contaminants such as oil or grease. The concrete shall have minimum tensile strength of 1.5 N/mm². The residual moisture content must not exceed 4%.

2. Environmental conditions

The specified environmental conditions must be observed during surface preparation and brick lining and be tested and recorded according EN 14879.

Environmental conditions	Value
Relative Humidity	≤ 80%
Surface Temperature	≥ +10°C up to +30°C
Application Temperature	+20°C ± 5°C recommended
Dew Point Distance	min. 3K

3. Application

The execution of the brick lining work is only permitted, if the requirements of "Surface Preparation" and "Environmental Conditions" are met.

HEGGEL FRP 343 PRIMER is applied onto the prepared substrate by using a roller, mortar trowel or grout spreader. As the troweled primer hardens, **HEGGEL FRP 343** solution is applied and the first layer of 450 g/m² glass mat is laid into the solution. It is then saturated with **HEGGEL FRP 343** solution and rolled on reasonably free from bubbles by using a roller (segmented roller). The glass mats need to be placed with approximately 5 cm overlapping onto each other.

Before the previous layer hardens, the second layer of 450 g/m² glass mat is placed, saturated with **HEGGEL FRP 343** solution and rolled on reasonably free from bubbles. The overlapping distance between the subsequent layers need to be minimum 50 cm. Finally, a 30 g/m² surface veil is applied onto the second glass mat, fresh in fresh and reasonably free from bubbles. Then **HEGGEL FRP 343 Topcoat** can be applied as a sealing and final layer.

To improve the slip resistance of **HEGGEL FRP 343**, the fresh laminate coating can be sanded with silicon carbides (0.5mm; Consumption: 1.5 kg/m²).

4. Work tools

The following tools are essential for the application:

- Stirrer (max. 300 r/min.)
- Measuring cup & Mixing vessels
- Flat / wide brush / roller
- Laminate roller
- Scissors
- Miscellaneous (safety glasses, rubber gloves etc.)

5. Mixing ratio

MIXING PRIMER

Pour **HEGGEL FRP 343 SOLUTION** in a mixing vessel and add **HEGGEL HR 910** at the specified mixing ratio. The stirring of the merged components should be at least 3 minutes and must result in a homogeneous mixture. Then add **HEGGEL FRP 343 POWDER** in the recommended mixing ratio to this mixture and stirrer again. The stirring of the merged components should be at least 3 minutes and must result in a homogeneous mixture. Then pour the mixture into a clean pail and mix again briefly.

MIXING HEGGEL FRP 343 SOLUTION

Pour **HEGGEL FRP 343 SOLUTION** in a mixing vessel and add **HEGGEL HR 910** at the specified mixing ratio. The stirring of the merged components should be at least 3 minutes and must result in a

homogeneous mixture. Then add **HEGGEL FRP 343 POWDER** in the recommended mixing ratio to this mixture and stirrer again. The stirring of the merged components should be at least 3 minutes and must result in a homogeneous mixture. Then pour the mixture into a clean pail and mix again briefly.

Primer	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL FRP 343 SOLUTION	100	2.00
HEGGEL HR 910	2	0.04
HEGGEL FRP 343 POWDER	80	2.24

HEGGEL FRP 343	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL FRP 343 SOLUTION	100	2.00
HEGGEL HR 910	2	0.04

Topcoat	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL FRP 343 SOLUTION Topcoat	100	2.00
HEGGEL HR 910	1	0.02

6. Consumption

Layer	Product	Coverage (g/m²)
Primer	Primer	ca. 500
Laminate Layer	HEGGEL FRP 343	ca. 2000
	2 x Fibreglass mats 450 g/m²	ca. 1000
	1 x Surface veil 30 g/m²	ca. 33
Topcoat	HEGGEL FRP 343 Topcoat	ca. 500

7. Cleaning

Clean all equipment with **Cleaner E-200** immediately after use. The cleaning is done while the material is still not hardened.

8. 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	Standard	Unit	Value
Resistance to Ground	DIN 14879-6	Ω	> 10 ⁶
Density (Mixture)	EN ISO 2811 (ASTM D1475)	g/cm³	1.4
Compressive Strength	EN ISO 604	N/mm²	60
Hardness Shore D	-	-	> 60
Max. Operating Temperature Liquids	-	°C	+ 100

Note: The indicated temperatures are dependent on the present load and may vary

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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 actual 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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