

HEGSEL® Flake 770

Epoxy Novolac Vinylester Glass Flake Coating

You Build, We Protect!

Description:

HEGSEL Flake 770 is a specialized spray coating based on Epoxy Novolac Vinylester containing unique glass flake barrier fillers. The spray application aligns the barrier fillers parallel to the substrate, ensuring exceptional resistance to water vapor diffusion and permeation.

Characteristics:

- Exceptional diffusion resistance
- High chemical resistance
- Temperature resistance up to 80°C (immersed) and up to 200°C (non-immersed)

Applications:

HEGSEL Flake 770 is formulated as a spray-applied glass flake coating intended for ducts, tanks, and stacks within flue gas desulphurisation plants, along with other components of industrial facilities.

Application Data:

Mixing Ratio (Parts by Weight)	Primer	HEGSEL Flake 770 Primer		100
		HEGSEL Flake 770 Accelerator		2
		HEGSEL Flake 770 Hardener		2
	Spray Coating	HEGSEL Flake 770 Solution		1.000
		HEGSEL Flake 770 Accelerator		0.015
		HEGSEL Flake 770 Hardener		0.020
	Spray Coating Blue	HEGSEL Flake 770 Solution		1.000
		HEGSEL Flake 770 Accelerator		0.015
		HEGSEL Flake 770 Hardener		0.020
		HEGSEL Flake 770 Solution Blue		0.005
Curing Time (20°C)	Product	HEGSEL Flake 770 Primer	HEGSEL Flake 770 Spray Coating	HEGSEL Flake 770 Spray Coating Blue
	Until Further Processing	Approx. 6 hrs.	Approx. 6 hrs.	Approx. 6 hrs.
	Maximum Waiting Time (Between operations)	Approx. 78 hrs.	Approx. 78 hrs.	Approx. 78 hrs.
	Mechanical Loads	-	3 days	7 days
	Chemical Loads	-	3 days	7 days
Pot Life (20°C)		Approx. 55 min	Approx. 60 min	Approx. 60 min
Chemical Resistance		Information on the chemical resistance is available on request.		

Note: Depending on the actual ambient temperature, the pot life may vary.

Packaging:

The products are supplied in the following standard package sizes:

Product	Size	Package
HEGSEL Flake 770 Solution Blue	1 kg	Drum
HEGSEL Flake 770 Primer	25 kg	Hobbock
HEGSEL Flake 770 Solution	25 kg	Hobbock
HEGSEL Flake 770 Accelerator	2.5 kg	Bottle
HEGSEL Flake 770 Hardener	1 kg	Bottle

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 Flake 770 Solution Blue	20°C	12 Months
HEGSEL Flake 770 Primer	20°C	6 Months
HEGSEL Flake 770 Solution	20°C	6 Months
HEGSEL Flake 770 Accelerator	20°C	12 Months
HEGSEL Flake 770 Hardener	20°C	12 Months

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

Steel: Refer to DIN EN14879-1.

All contaminants such as those which are not visible but detectable, have to be removed. Steel surfaces require "Near White Metal" cleaning through blasting. Achieve a preparation degree of SA 2½ as per DIN EN ISO 12944-4 and a "Medium (G)" roughness grade according to DIN EN ISO 8503-1, with a minimum surface roughness of Rz = 70 µm. Implement measures to prevent rust formation after blasting.

2. Environmental Conditions

The specified environmental conditions must be complied with during surface preparation and application. 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 and draught.

Environmental conditions	Value
Relative humidity	≤ 80%
Surface / material / air temperature	≥ +12°C up to +25°C
Optimum processing temperature	+20°C
Dew Point Distance	min. 3K (At a relative humidity of above 70 % at least 5K.)

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

3. Working Tools

- Measuring cup
- Scale
- Basket spiral agitator
- Mixing vessel
- Drilling machine
- Mohair roller
- Paintbrush

Airless spraying machine with accessories, gear ratio ≈70:1, operating pressure 3 - 4 bar, Nozzles 519 (primer) and 523 / 527 (flake)

Due to solvents, acidic, alkaline, or abrasive components, materials processed can adversely affect mixing and processing

tools. Therefore, employ only appropriate tools for these tasks.

4. Mixing Instruction

Warning: Strictly follow the prescribed mixing sequence for Vinylester systems to prevent potential explosion hazards.

HEGGEL Flake 770 Primer:

To ensure accurate mixing, start by measuring or weighing the liquid components. For partial quantities, initiate the process by adding **HEGGEL Flake 770 Primer** to the mixing vessel, followed by **HEGGEL Flake 770 Accelerator**. Utilize a basket spiral mixer at a speed of 300 - 500 rpm to gently blend until achieving a uniform mixture. Subsequently, incorporate **HEGGEL Flake 770 Hardener** and thoroughly mix until a consistent mixture is achieved.

HEGGEL Flake 770 Spray Coating:

To ensure accurate mixing, start by measuring or weighing the liquid components. For partial quantities, initiate the process by adding **HEGGEL Flake 770 Solution** to the mixing vessel, followed by **HEGGEL Flake 770 Accelerator**. Utilize a basket spiral mixer at a speed of 300 - 500 rpm to gently blend until achieving a uniform mixture. Subsequently, incorporate **HEGGEL Flake 770 Hardener** and thoroughly mix until a consistent mixture is achieved. Ensuring thorough blending extending to the vessel's wall and bottom.

HEGGEL Flake 770 Spray Coating Blue:

To ensure accurate mixing, start by measuring or weighing the liquid components. For partial quantities, initiate the process by adding **HEGGEL Flake 770 Solution** to the mixing vessel, followed by **HEGGEL Flake 770 Accelerator**. Utilize a basket spiral mixer at a speed of 300 - 500 rpm to gently blend until achieving a uniform mixture. Subsequently, incorporate **HEGGEL Flake 770 Hardener** and thoroughly mix until a consistent mixture is achieved.

Then add **HEGGEL Flake 770 Solution Blue** and thoroughly mix using a basket

spiral mixer (300 - 500 rpm) until a uniform mixture is achieved, ensuring to cover both vessel wall and bottom.

5. Application

Initiate processing exclusively when application conditions are fulfilled and can be maintained throughout the entire processing and curing. Ensure consistent material temperature during the procedure. When utilizing the airless spraying method, ensure that the entire spraying apparatus, including the hoses carrying the material, is not exposed to direct sunlight.

HEGGEL Flake 770 Primer is preferably applied using airless spraying. For smaller areas, consider using a brush or roller as an alternative application method.

HEGGEL Flake 770 Spray Coating and **HEGGEL Flake 770 Spray Coating Blue** are applied alternately, using the airless spraying method onto the tack-free **HEGGEL Flake 770 Primer** during colour change. For smaller surfaces, brush or roller application is an alternative. A greater number of application passes are required here to achieve the intended layer thickness. Prevent the formation of droplet edges!

It is recommended to apply a minimum of 2 coats. For achieving a layer thickness of 1.2 mm, the application should include a total of 3 layers.

6. Cleaning

Any tools that are contaminated with uncured material can be cleaned using **HEGGEL Cleaners**. 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
Density	DIN EN ISO 1183-1	ASTM D 792	1.3	g/cm ³
Flexural strength	DIN EN ISO 178	ASTM C 580	60	MPa
Compressive strength	DIN EN ISO 604	ASTM C 579	80	MPa
Tensile strength	DIN EN ISO 527		40	MPa
Thermal coefficient of linear expansion	ISO 11359-2	ASTM C 531	2.2 x 10 ⁻⁵	1/K

Note: Mean value, determined on annealed samples

HEGGEL Flake 770; Revision No: 0.10 / Last Revision Date: 11.10.2023

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.

HEGGEL GmbH

Huttropstr. 60
45138 Essen
Germany

Tel: +49 201 17003 270

Fax: +49 201 17003 277

E-Mail: info@heggel.de

Web: www.heggel.de