

HEGGEL® EL 3318

High Chemical Resistant Pre-Vulcanized Soft Rubber Lining

You Build, We Protect!

Description:

HEGGEL EL 3318 is a two-ply, pre-vulcanized soft rubber lining designed for on-site applications, offering exceptional chemical resistance and durability. It provides excellent protection for steel structures exposed to aggressive chemicals, high temperatures, and mechanical stress. With its superior formulation, it delivers the highest level of resistance against concentrated hydrochloric acid, mineral acids, and bases, making it ideal for demanding industrial environments. Commonly used in the chemical, chlorine, and steel industries, it ensures long-term corrosion protection for storage vessels, filter cells, mixing tanks, crystallization and condenser reactors or other industrial equipment.

Characteristics:

- Outstanding chemical resistance to acids, bases, and oxidizing media
- Good flexibility in a wide range of temperatures
- High durability against mechanical and thermal stress
- Good resistance in oxidizing media
- Thickness range between 3 and 6 mm (including an approx. 0,8 mm white adhesion under layer).

Chemical Resistance:

Information on the chemical resistance is available on request.

Technical Data:

Title	Standard	Value
Press Vulcanization	-	45 min @160°C
Density	ASTM D297	1.15 g/cm ³
Adhesion to Substrate	ASTM D429/E	≥ 5 N/mm
Elongation at Break	ASTM D412	≥ 340%
Tear Strength	ASTM D624	≥ 30 N/mm
Hardness	ASTM D2240	57 ± 5 Shore A
Tensile Strength	ASTM D412	≥ 5 MPa
Modules at 200%	ASTM D412	≥ 3.5 MPa
Max. Operating Temperature	-	< 80°C

Note: These guidelines offer technical instructions, but real-case applications require common sense, professional judgment, and flexibility to achieve the best outcomes

Note: The values are derived from specimens produced under reproducible laboratory conditions. However, they may vary slightly in equipment linings due to the vulcanization conditions at the factory.

Packaging:

The adhesives are supplied in the following standard package sizes:

Product	Size	Package
HEGGEL Bond 2210 Primer	20 kg	Can
HEGGEL Bond 2235	20 kg	Can
Activator	0.75 kg	Can
Cleaning Solution	20 kg	Can

Storage:

The products must be stored in a dark and dry place at a temperature of max. 25°C in accordance with DIN 7716. The materials should not be exposed to freezing conditions, heat, flame, or spark. Check expiration dates and dispose of outdated and contaminated products. At the specified storage temperatures, a shelf life of the products is given of at least for the following periods:

Product	Temperature	Shelf Life
HEGGEL Bond 2210 Primer	20°C	24 Months
HEGGEL Bond 2235	20°C	12 Months
Activator	20°C	6 Months
Cleaning Solution	25°C	24 Months
HEGGEL EL 3318 Double sheet	20°C	36 Months

Depending on storage conditions it may be possible to use rubber linings beyond the recommended shelf life however additional testing must be completed. Please contact HEGGEL for recommended test procedures. A sample of the rubber lining can also be sent back to HEGGEL for verification.

1. Surface Preparation

The substrate which is to be protected must meet the requirements contained in DIN 28051-97, DIN 28053-97, NACE RP0178-95. Bonding to both steel and concrete is possible. Bonding to other metallic substrates (such as titanium, copper, etc.) can be achieved provided that it is consulted with our technical department.

The metallic substrate must be blasted to achieve a minimum blast cleaning grade of SA 2½ with "medium" profile according to ISO 8501/1-95, ISO 8503/1/2-85 and SSPC SSPC-SP-5.

It is advisable to apply the primer to the blasted surface as soon as possible, and definitely before any traces of rust can reform.

If bonding to concrete is required, the substrate needs to be free of cement skin, cement slurry, loose and friable parts, defective spots and detaching material. The concrete needs to be blasted. The concrete surface has to have a residual moisture content of < 4%.

2. Environmental Conditions

The substrate must be dry and warmed if necessary, during application. Uncured material should be protected from moisture (condensation, fog, precipitation or other water source). Temperature of the substrate must be 3° C above the dew point temperature and should not be allowed to drop below that point throughout the lining process. (5°C dew point distance is highly

recommended for ambient temperature lower than 10°C.)

3. Consumption

Component	Consumption per Coat	Number of Coats
HEGGEL Bond 2210 Primer	150 g/m ²	1 coat
HEGGEL Bond 2235	200 g/m ²	4 coats
Activator	3% W/W of the quantity of HEGGEL Bond 2235	-
Cleaning Solution	150 g/m ²	1 coat

Note: The above value may change in the different work conditions.

4. Application

HEGGEL EL 3318 is supplied as a two-ply, pre-vulcanized material. The adhesion cycle includes **HEGGEL Bond 2210 Primer**, the two-component **HEGGEL Bond 2235** (which requires activation), and a cleaning solution.

First, apply one coat of **HEGGEL Bond 2210 Primer** to the blasted substrate. Then, wash the white layer of the **HEGGEL EL 3318** rubber sheet with the cleaning solution. **HEGGEL Bond 2235** must be activated before use by adding 3% (W/W) activator, with a pot life of 60 minutes. Apply two coats on both the substrate and the white layer of the rubber sheet.

The rubber sheets should be washed with

the cleaning solution and bonded to the substrate according to DIN 28055-1 specifications. The rubber sheet is applied by pressing in accordance with DIN EN 14879-4 and DIN 28055/1-02. Finally, the lining must undergo spark testing per DIN 28055/2-02 and NACE RP 0188-90 at 3kV/mm.

5. Vulcanization

No vulcanization or heat treatment is needed.

6. Safety Measures

During the implementation of all work, ventilation must be ensured. Ventilation is mandatory for all work performed in pits and confined spaces. All the vapors generated during processing must be continuously exhausted at ground level or below. Only as much material as is necessary for the continuation of the work is to be stored at the work site. It must be observed and ensured that even the lowest quantities of each single component or the mixtures prepared shall not enter the sewage system. All local laws, regulations and international standards for accident prevention of the employer's liability insurance association need to be strictly adhered to.

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.

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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.

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