

HEGGEL® Fix 811

High-Tech Corrosion Resistant Rubber Repair Mortar

You Build, We Protect!

Description:

HEGGEL Fix 811 is a two-component repair mortar known for its strong adhesive strength and superior corrosion resistance, specifically designed for repairing rubber and glass-lined vessels and equipment. **HEGGEL Fix 811** employs advanced technology that combines organic and inorganic molecules, resulting in a thermally stable and highly crosslinked structure. With extensive chemical resistance, it withstands temperatures above 225°C after ambient curing. Suited for hard/soft rubber-lined vessels and HEGGEL Corr coated equipment, **HEGGEL Fix 811** also offers high sliding abrasion resistance and a smooth finish, improving fluid flow and preventing sludge buildup.

Characteristics:

- Recommended for repairing glass/rubber-lined vessels and equipment
- Outstanding adhesion to a broad spectrum of substrates, including steel and both hard and soft rubber-lined surfaces
- Solvent-free
- Self-priming, single-coat
- Excellent broad range chemical resistance
- Resistant to CUI conditions
- Curing at ambient temperature
- Can be cleaned with high-temperature steam

Chemical Resistance:

- Sulphuric acid 98%
- Hydrochloric acid 37%
- Glacial acetic 100%
- Nitric acid 50%
- Sodium hydroxide 50%
- Molten sulphur and acidic vapors
- Conc. methanol, ethanol and derivatives
- Sodium hypochlorite
- MEK, Toluene, Xylene, Acetone, Ammonia
- Any chemical solution rich in chlorides or sulphates
- Methylene chloride, vinyl chloride, benzyl chloride
- Mono and tri ethylene glycol at all concentrations

Application Data:

Mixing Ratio (Parts by Weight)	Base: Hardener = 57 : 43
Colour	Black / Brown
Finish	Medium Gloss
Number of Coats	1
Practical Consumption	2.5 kg/m ² @ 800 microns DFT
Pot Life (20°C / 30°C / 40°C)	55 min / 35 min / 20 min
Tack Free/ Drying Time (20°C)	150 min

Technical Data:

Title	Standard	Value
Density (Mix)	-	2.1 g/cm ³
Mixed Viscosity	20°C	60,000 +/- 5000 mPa.s
Solids Content	-	100 %
Abrasion Resistance	ASTM D4060 Taber CS-17/1kg/1000 cycles	20 mg weight loss
Adhesion Strength	ASTM D4541	>25 MPa (cohesive failure)
Impact Resistance	ASTM G14	Forward: 13 Joules Reverse: 3 Joules
Elongation to Break	BS 6319 Part 7 1985	1.8 %
Temperature Resistance	NACE TM0174	Immersed: +225°C Non-Immersed: +280°C

Packaging:

1 kg kits

Storage:

+36 months minimum in unopened containers when maintained between 5 and 35°C. Protect against heat and freeze!

1. Surface Preparation

All loose material around the defect must be removed to leave sound firmly bonded coating. Clean the surface of oil or grease using solvents like methyl ethyl ketone (MEK) or acetone, ensuring no residue is left post-evaporation. Spot grit blast the defect to bare metal having at least Sa 2.5 cleanliness with a minimum 75 microns profile. Also, sweep blast 5 cm of surrounding sound coating to roughen it in order to accept overlap of the repair. Afterward, eliminate any residual dirt and grit with a vacuum. Surfaces previously immersed in salt water should be thoroughly rinsed with fresh water prior to blasting. Before final grit blasting, new surfaces must be completely degreased.

Immediate coating of the prepared surface is crucial to prevent oxidation and contamination.

2. Mixing

For optimal product performance, it is essential to mix the components properly. Before mixing, make sure that both the base and hardener components are kept below 30°C and always keep them in the shade before, during and after mixing. When you open the base container, be sure to include any material from the lid into the mix. Continuously mix the base while gradually adding the hardener. Once the hardener is added, mix for an additional 2 minutes. Simultaneously, scrape the inside wall of the container with a firm spatula or palette knife to ensure all the material is properly mixed.

3. Environmental Conditions

Prior to the application of the coating, make sure that the temperature of the surface is no less than 15°C, the temperature of the air is at least 3°C above the dew point, and ensure the relative humidity is less than 80%. In case the substrate's temperature falls below 15°C, it may be necessary to use external heating to elevate the ambient

temperature and subsequently heat the substrate. For outdoor applications, create an enclosure around the equipment to be coated using plastic sheeting and then pump warm air into this enclosed area. Be careful to prevent recontamination of the surface which is prepared from close sources. Avoid applying the coating in windy conditions unless there is no other choice; in these instances, encase the equipment in plastic sheeting as mentioned earlier.

4. Application Tools

The mixture should be applied using a spatula or a stiff natural bristle brush, which is 7.5 cm wide with bristles no longer than 5 cm. If using a new brush, prepare it by thoroughly bending and pulling the bristles to remove any loose ones. This conditioning step is crucial to prevent bristle contamination of the coating during application.

5. Application

Apply a stripe coat to corners, edges and welds. Begin applying **HEGGEL Fix 811** by firmly brushing it into the damaged areas to ensure proper surface wetting, then build up to the desired film thickness in a single-coat application. Regularly use a wet film thickness gauge to monitor the wet film thickness. After using every two kits of the product, clean the brush with MEK or acetone-based thinners.

6. Quality Control

Between 12 to 24 hours post-application, verify the continuity of the applied coating with a wet sponge holiday detector set to 90V DC. To ensure comprehensive coverage, repeatedly pass the sponge over the coated surface until it is thoroughly wet. Alternatively, you can use a wire brush high voltage spark tester set between 800-1000V. For a quantitative assessment of the dry coating thickness, employ an

inductance type electronic dry film thickness tester.

7. Repairing Defects

If the coating has been applied 25% beneath specification, repairs should be made. Use a distinctive marker pen to identify pinholes, misses, and areas with thin coating for repair.

Any loose material surrounding the defect must be removed to leave behind firmly adhered coating. Subject the defect to spot grit blasting until the bare metal surfaces with at least SA 2.5 cleanliness and a minimum profile of 75 microns are achieved. Also, it is imperative to sweep blast 5 cm of the surrounding sound coating to create a rough surface as repair overlap. Prior to applying the repair of **HEGGEL Fix 811** clean the blasted area with xylene. Brush firmly into the surface profile to ensure complete wet out and then build to required thickness in a single coat. Apply the repair mix firmly into the surface profile with the brush to guarantee complete wet out, subsequently building to the needed thickness.

8. Cure Schedule

After approximately 150 minutes the applied coating would be touch dry at 20°C. A minimum curing period of 3 - 4 days at temperatures above 20°C should be provided before exposing to a chemical load. Optimal chemical resistance can be achieved by subjecting the product to 130°C steam for 4 hours, at any point following the 3 - 4 day ambient cure and before it is put into service.

9. 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.

HEGGEL Fix 811; Revision No: 2.20 / Last Revision Date: 15.09.2023

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