

HEGSEL Fix 831

High Abrasion Metal-buildings Repair Filler

Description:	HEGSEL Fix 831 is a hand applied coating specifically designed for providing very high abrasion resistance to areas suffering erosion and wear damage from impacting particles and especially resistant to fine particle abrasion. Can be applied up to a DFT of 15 mm in a single coat. Top coat with HEGSEL Corr 250 , HEGSEL Corr 210 , HEGSEL Corr 260 or HEGSEL Fix 830 depending upon final service conditions.
Characteristics:	<ul style="list-style-type: none"> • Multi-purpose 100% solids engineering grade repair filler compound specially designed to repair and rebuild machinery and equipment suffering from severe wear and erosion damage • Easy application due to extended potlife with short hardening and service time • Self-priming bonding tenaciously to steel, stainless steel, cast iron, copper, bronze, aluminium, alloys and concrete
Applications:	Coal bunkers, pulverised fuel lines, ash handling systems, mineral storage / clinker silos. Also suitable for leaks and damage to pipes, valves, tanks, flange face rebuild due to corrosion, particle erosion or chemical attack. Not recommended for cavitation erosion – refer to HEGSEL GmbH for a suitable product in this situation.
Physical Properties:	<p>Abrasion Resistance: ASTM D 4060 12 mg weight loss (Tabor CS-17/1kg/1000 cycles)</p> <p>Barcol Hardness: ASTM D-2583 52</p> <p>Adhesive Strength: ASTM D4541 235 kg cm⁻² (cohesive failure)</p> <p>Tensile Strength: BS 6319 Part 7 1985 350 kg cm⁻²</p> <p>Compressive Strength: BS6319 Part 2 1983 814 kg cm⁻³</p> <p>Temperature Resistance: NACE TM0174 90°C Immersed +150°C Non Immersed</p>
Typical Chemical Resistance (full immersion)	<ul style="list-style-type: none"> • Crude Oil (Sweet or Sour) • Kerosene • Sulphuric Acid (50%) • Hydrochloric Acid (35%) • Demineralised Water • Nitric Acid (15%) • Acetic Acid (30%) • Diethanolamine • Diglycolamine • Sour Gas • Sodium Hydroxide (50%) • Sodium Hypochlorite (15%) • Methanol
Coating Data:	<p>Finish: Rough Colours: Grey Solids Content: 100% Mixed Viscosity: 150,000 +/- 5000 cPoise Typical Wet Film thickness: up to 15 millimetres Number of Coats: 1 - 2 Coverage of 1kg kit @ 5 mm: 0.1 m² Pot Life / Working Life at 20°C: 25 minutes Initial Set / Drying Time at 20°C: 240 minutes Machining Time at 20°C: 8 hours Dry Service Time at 20°C: 2 days Immersion Service Time at 20°C: 7 days Storage Life: 72 months minimum in unopened containers when maintained between 5 and 35°C. Packaging: 1 and 2.5 kg composite kits. Specific Gravity: 2.5 gms/cm³ (Base + Hardener)</p>

1. Surface preparation

Remove all loose rust and dirt using a metal scraper. Remove oil or greases from surface using cleaning solvents that leave no residue once evaporated such as methyl ethyl ketone (MEK) or acetone. Surface should be roughened using a needle gun, angle grinder or ideally grit blasted using angular grit to give a surface profile greater than 50 microns (SA 2.5). Remove residual dirt and grit using a vacuum. If surface has been immersed in salt water then surface needs to be washed with fresh water before blasting. Once the surface is prepared it should be coated immediately to avoid surface oxidation and contamination.

2. Mixing

Ensure that the base and hardener temperature is no higher than 20°C before mixing. The base is mixed continuously as the hardener is added. Allow further 1 minutes mixing time after addition of hardener. Scrape inside surface of the container with a pallet knife so that all material receives a good mixing. Do not mix more material than can be used within the pot life period.

3. Application Equipment

Stiff bristle brush or trowel

4. Application of HEGGEL Fix 831

Stripe coat corners and edges. If the surface to be coated is porous and very rough then it may be necessary to thin the mixed coating with 1 – 2% xylene before applying a thin primer layer to wet out and seal the substrate. As soon as this primer coat is dry then apply xylene free main build coat. Press material into substrate so that it is completely wetted out before applying further material to fill the eroded area so that it is flush with the original surface of component. If a second coat is needed then this should be applied the same day otherwise lightly abrade the cured coating surface before applying another layer. After required thickness has been applied lightly brush surface to get even finish. This can be greatly assisted if the brush is lightly soaked in xylene and then used to brush over repaired surface. After coating the brush / trowel should be immediately cleaned with MEK or acetone based thinners. See above Coating Data for details of time required for type of service envisaged.

5. Dry Coating QC

24 hours after application check the continuity of the applied coating using a holiday detector set at a DC operating voltage of 100V/mil. A quantitative measure of the dry coating thickness can be obtained using an inductance type electronic dry film thickness tester. Pinholes, misses and thin areas of coating should be identified for repair using a distinctive marker pen. Repair by spot blasting the defect to bare metal with a profile of at least 75 microns and additionally sweep blasting a 2 inch radius of sound coating surrounding the defect for overlap of the repair. The prepared area is cleaned with xylene before application of the repair.

6. Cure Schedule

Coating is touch dry after ~ 240 minutes at 20°C. Allow minimum period of 3 days at 20°C to reach full cure before exposing to a full chemical load. To maximise chemical resistance after the 3 days ambient cure the coating can be post cured at 100°C for 4 hours.

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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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