

3M™ Scotchkote™ Epoxy Metal Surfacer FG 502

Data Sheet and Application Guide

Product Description

Scotchkote Epoxy Metal Surfacer FG 502 has been specifically developed as a 100% solids epoxy coating for resurfacing and reforming metal machinery and equipment.

Product Features

- Combines good application characteristics with good erosion and corrosion resistance.
- Designed for application by stiff brush or squeegee.
- Provides outstanding slip resistance in combination with 3M™ Scotchkote™ Granular Aggregate 091 on drive rollers.
- Primarily designed for resurfacing and recasting metal components.
- Exhibits excellent adhesion to correctly prepared metal surfaces.

General Application Steps

1. Remove oil, grease and loosely adhering deposits.
2. Abrade by appropriate means to create a coarse profile.
3. Apply Scotchkote Epoxy Metal Surfacer FG 502 to the required thickness.
4. Allow to cure.
5. Visually inspect the system for defects.
6. Repair any defects.
7. Carry out machining as required.

Properties

Property	Value
Colour	Grey
Ratio	2:1 By volume 5:1 By weight
Drying & Cure times at 20°C (68°F)	
Useable life	40 mins
Initial Set	4 hours
Minimum Overcoating	4 hours
Maximum Overcoating	48 hours
Machining	8 hours
Full Cure	7 days
Volume Solids	100%
Film Thickness (Typical)	250 microns (10 mils)
Coverage Rate	1.88m ² /kilo at 250 microns (20ft ² /kilo at 10 mils)
Performance Data	
Tensile Shear Adhesion	20Mpa (2825 psi) (ASTM D1002)
Compressive Strength	63Mpa (9000 psi) (ASTM D695)
Flexural Strength	49Mpa (7000 psi) (ASTM D790)
Heat Distortion	60°C (140°F) (ASTM D648)
Hardness (Barcol)	31 (ASTM D2583)
Maximum Operating Temperature	120°C (248°F) - Dry 70°C (158°F) - Wet
Izol Impact Strength	15J/m (ASTM D256 Method A)
Abrasion Resistance	42.5mgm (0.02cc) loss per 1000 cycles, 1kg load, CS17 wheel (ASTM D4060)



Application Procedures for 3M™ Scotchkote™ Epoxy Metal Surfacers FG 502

Surface Preparation

Heavy contamination due to oil or grease must first be removed using 3M™ Scotchkote™ Cleaner 020.

All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting. Where grinding or needle gunning is used, the surface should be cross-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surfaces. Where possible, abrasive blasting is the preferred surface preparation, especially in fluid flow repairs.

Surfaces should finally be carefully degreased using Scotchkote Cleaner 020. Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, the cleaner should be worked into the surface by brush and washed off using excess cleaner.

Parts (for example, threads or bearing surfaces) which must remain in position during application but must not adhere to Scotchkote Epoxy Metal Surfacers FG502 must be coated with 3M™ Scotchkote™ Release Agent 035.

Product Mixing

Scotchkote Epoxy Metal Surfacers 502, is a two pack product comprising a Part A (Base) and Part B (Activator) component which must be mixed together prior to use.

Two volumes of the Part A (Base) component and one volume of the Part B (Activator) component should be transferred to a clean container. The two components should then be thoroughly mixed to produce a completely streak free material. The mixed material should

Handling and Safety Precautions

Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet, and/or product label prior to handling or use.

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Important Notice

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be used within 40 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

Application Procedures

The mixed material should be applied by stiff brush or squeegee to the prepared area as soon as possible after surface preparation, and certainly the same day to prevent flash rusting. If flash rusting does occur, the surface should be re-prepared.

On deeply pitted surfaces, the mixed Scotchkote Epoxy Metal Surfacers FG 502 must be worked into the surface to ensure complete 'wetting out' and prevention of air entrapment. When a two coat application is specified, the second coat can be applied a minimum of 4 hours after the first application. The maximum overcoating time is 2 days at 20°C (68°F) if this time is exceeded, the surface of the Scotchkote Epoxy Metal Surfacers FG 502 should be lightly abraded prior to application of the second coat.

Where a slip resistant system is required, 3M™ Scotchkote™ Granular Aggregate HD 091 should be scattered into freshly applied product. On applications using formers treated with release agent, these formers can be removed as soon as the Scotchkote Epoxy Metal Surfacers FG 502 has initially set.

All equipment must be cleaned IMMEDIATELY after use, with Scotchkote cleaner 020.

Packaging and Storage

Supplied in 1 and 3 kilo packs

Use within 5 years of date of manufacture. Store in original sealed containers at temperatures between 5°C and 32°C.

Ordering Information/Customer Service

For ordering, technical and product information or to request a copy of the Material Safety Data Sheet, call +44 (0)1609 780170 or fax +44 (0)1609 783762 (Sales) or 788718 (Technical).

For emergencies, please contact +44 (0)1344 858000.

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