

3M™ Scotchkote™ Urethane Ceramic Lining FG 514

Data Sheet and Application Guide

Product Description

Scotchkote Urethane Ceramic Lining FG 514 has been specifically developed as a 100% solids polyceramic coating with a degree of flexibility for lining and resurfacing equipment operating in fluid flow environments.

Product Features

- Combines good application characteristics with good cavitation and erosion resistance.
- Designed for application by stiff brush or squeegee.
- Provides outstanding protection against impingement.
- Primarily designed for use on propellers, kort nozzles, guide vanes, turbines etc.

General Application Steps

1. Remove oil, grease and loosely adhering deposits.
2. Abrasive blast clean steel surfaces to NACE No. 2/SSPC-SP10 Near White Metal, ISO 8501:1, Grade SA2½.
3. Apply Scotchkote Urethane Ceramic Lining FG 514 to the required thickness.
4. Allow to cure.
5. Visually or electrically inspect the coating for defects.
6. Repair all defects.

Properties

Property	Value
Colour	Grey
Ratio	3:1 By volume 3:1 By weight
Drying & Cure times at 20°C (68°F)	
Useable life	20 mins
Touch Dry	2 hours
Hard Dry	4 hours
Maximum Overcoating	24 hours
Full Cure	7 days
Volume Solids	100%
Specific Gravity	1.2 (Average Mixed)
Film Thickness (Typical)	Upto 1mm.
Coverage Rate	0.8m ² /kilo at 1mm (8.6ft ² /kilo at 20 mil)
Performance Data	
Tensile Strength	20Mpa (2825 psi) (ASTM D412)
Dielectric Strength	> 20KV (ASTM D149)
Abrasion Resistance	95mgm (0.08 ml) loss per 1000 cycles, 1kg load, CS17 wheel (ASTM D4060)
Impact Resistance	20 Joules (ASTM D256)
Corrosion Resistance	Unaffected after 5000 hours exposure (ASTM B117)
Maximum Operating Temperature	80°C (176°F) - Dry 50°C (122°F) - Wet



Application Procedures for 3M™ Scotchkote™ Urethane Ceramic Lining FG 514

Surface Preparation

Steel surfaces should be abrasive blasted to NACE No. 2/SSPC-SP10 Near White Metal, ISO 8501:1, Grade SA2½. A minimum blast profile of 75-100 microns should be achieved. Where blast cleaning cannot be carried out the surface should be mechanically abraded to remove all loose scale and produce a surface which is clean, dry and free from rust or dust.

When treating existing equipment which may have become salt impregnated due to service conditions, surfaces should first be wet blasted then dry blasted and tested for presence of salts. This process should be repeated until all salts are removed.

Product Mixing

Scotchkote Urethane Ceramic Lining FG 514 is a two component material comprising Part A (Base) and Part B (Activator) components which must be mixed together prior to use.

Add all the contents of the Part B (Activator) container into the Part A (Base) container and mix thoroughly, alternatively measure three volumes of Part A (Base) and one volume of Part B (Activator) into a clean container and mix thoroughly.

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

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.

3M and Scotchkote are trademarks of 3M Company.

Important Notice

All statements, technical information and recommendations are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using the 3M™ Scotchkote™ Product, you must evaluate it and determine if it is suitable for your intended application. Because conditions of product use are outside of 3M control's and vary widely you assume all risks and liability associated with such use. Any product related statements not contained in current 3M publications, or any contrary statements contained in your purchase order, shall have no force or effect unless expressly agreed to in writing by an authorised officer of 3M.

Warranty; Limited Remedy; Limited Liability.

3M warrants that the 3M™ Scotchkote™ Product will conform to 3M published specifications upon shipment. If the product is proven not to have met the specifications your exclusive remedy within 12 months of sale by 3M of the product and 3M's sole obligation will be, at 3M's option, to replace the Product or to refund the purchase price of the Product. Except where prohibited by law, this warranty is made in lieu of all other warranties, express or implied, including, but not limited to, any implied warranty of suitability or fitness for a particular purpose, or those arising from a course of dealing, custom or usage or trade.

3M has no obligation under this warranty with respect to any product that has failed due to inadequate or improper storage, handling, surface preparation, application, or maintenance; failure to follow product instructions or recommendations or alteration or damage to the Product caused by accident, neglect, or misuse. OTHER THAN IN THE CASE OF DEATH OR PERSONAL INJURY CAUSED BY ITS NEGLIGENCE AND EXCEPT WHERE PROHIBITED BY LAW, IN NO EVENT SHALL 3M BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGES (INCLUDING LOST PROFITS) ARISING FROM THIS PRODUCT, REGARDLESS OF THE LEGAL THEORY ASSERTED.

Application Procedures

Scotchkote Urethane Ceramic Lining FG 514 should not be applied when the relative humidity exceeds 90% or when the surface to be coated is less than 3°C above the dew point.

The mixed product should be applied by stiff brush or squeegee and should be applied to give a uniform even thickness.

Ideally Scotchkote Urethane Ceramic Lining FG 514 should be applied in a single high build coat. If a second coat is required for any reason, overcoating must be carried out within 24 hours of application of the preceding coat. If the overcoating time is extended thorough mechanical abrading or flash blasting of the first coat should be carried out once the coating is hard dry.

Clean all equipment immediately after use with 3M™ Scotchkote™ Thinners PU71.

Packaging and Storage

Supplied in 1 kilo packs

Use within 2 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.



Infrastructure Protection Division (IsPD) 3M United Kingdom plc

23 Standard Way Industrial Estate
Northallerton
North Yorkshire DL6 2XA
United Kingdom
Phone: +44 (0)1609 780170
Fax: +44 (0)1609 780438
www.3M.co.uk/scotchkote

Infrastructure Protection Division (IsPD) 3M United Kingdom plc

3M Centre
Cain Road, Bracknell
Berkshire RG12 8HT
Phone: 01344 858000
Fax: 01344 857970
www.3M.co.uk

Please recycle. Printed in UK.
© 3M 2013. All rights reserved.
FG514-0113