



3M™ Scotchkote™ Epoxy Coating 175UC

Data Sheet and Application Guide

Product Description

Scotchkote Epoxy Coating 175UC has been specifically developed as a lining for the internals of tanks, vessels and other equipment in contact with aggressive chemicals.

Product Features

- Combines good application characteristics with excellent corrosion protection and ultimate chemical resistance.
- Designed for application in two or more coats by brush or roller, or in one or more coats by plural feed hot airless spray.
- Can be used on steel and concrete surfaces.
- **Adhesion** - Excellent to correctly prepared surfaces.
- **Abrasion Resistance** - Good resistance to abrasion and mechanical damage.
- **Chemical Resistance** - Suitable for continuous immersion in inorganic acids. Resistant to the following @ 20°C, 98% Sulphuric Acid, 36% Hydrochloric Acid, 75% Phosphoric Acid - Please consult Chemical Resistance Chart.
- **Temperature Resistance** - Suitable for use up to 105°C in immersion service conditions (aqueous solutions) and up to 177°C in dry service conditions. May be suitable for higher temperatures in certain applications - Consult Technical Service.
- **Autoclave Chemical/Pressure/Temperature Resistance** - Excellent adhesion, no coating loss or blisters in aqueous, hydrocarbon or gas phase.

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. Scarify or lightly blast concrete surfaces and seal with 3M™ Scotchkote™ Epoxy Sealer SP 810.
3. Apply Scotchkote Epoxy Coating 175UC at the specified thickness.
4. Allow to cure.
5. Visually or electrically inspect the coating for defects.
6. Repair all defects.

Properties

Property	Value
Colour	Light and Dark Grey
Ratio	2:1 By volume
Drying & Cure times at 20°C (68°F)	
Usable Life	30 mins
Touch Dry	4½ hours
Minimum Overcoating	4½ hours
Maximum Overcoating	16 hours
Note: For overcoating see Application Procedures over. If sprayed please refer to the detailed Application Guide.	
Full Cure	7 days
Volume Solids	100%
Specific Gravity (Average Mixed)	1.15
Film Thickness (Typical)	Wet/Dry 300 microns per coat
Film Thickness (Oil and Gas Applications)	Refer to Oil and Gas Detailed Application Guide
Note: Normally applied as a two coat system by brush to achieve a minimum dry film thickness of 500 microns. Can be applied in single coat by hot airless spray at 500 microns. Specific application instructions in the form of detailed Application Guides are available on request.	
Theoretical Coverage Rate	2.9 sq metres per kg at 300 microns dft.
Performance Data	
Abrasion Resistance	55mgm weight loss per 1000 cycles @ 40°C - 1kg load-CS17 Wheel (ASTM D4060)
Impact Resistance	2.2 Joules (19½ in lbs) (ASTM G14)
Maximum Distortion Temperature (Water)	177°C (350°F) - Dry 130°C (265°F) - Wet (ASTM D2485)
Temperature Resistance	105°C at 50 psi (Autoclave)
Direct Pull Adhesion	>30Mpa (4350 psi) - Carbon Steel 3.5Mpa (500 psi) - concrete (Concrete Failure) (ASTM D4541)
Water Vapour Permeability	1.5gm/mm/m²/24hrs (ASTM D1653)
Salt Fog Resistance	5,000 hours exposure (ASTM B117)
Humidity Resistance	5,000 hours exposure (BS 3900 - F2)
Flexibility	1.8°/pipe diameter (CSA.Z245.20)
Hardness (Shore D)	70-7 days @ 20°C (ASTM D2240)

Application Procedures for Scotchkote Epoxy Coating 175UC

Surface Preparation

Steel Surfaces - Steel surfaces should be abrasive blasted in accordance with NACE No 2/SSPC-SP10 Near White Metal, ISO 8501-1 grade Sa2½ or equivalent. The blast profile is generally specified by the client, a typical profile is 75-100 microns (3-4 mil). All loose abrasive dust and debris must be blown clear or vacuum cleaned away. Steel surfaces do not require priming.

Concrete Surfaces - Surfaces should be lightly abrasive blasted or mechanically scarified, taking care not to expose the aggregate. All dust and loose residue should then be removed and surfaces then sealed using 3M™ Scotchkote™ Epoxy Sealer SP 810.

Prior to coating, the concrete should be dry and the moisture content should be checked using a proprietary surface moisture indicator such as an Elcometer 7420 Digital Moisture Meter. When tested in accordance with the manufacturers instructions the reading should be classified as 'dry'.

Product Mixing

Stir the contents of the Part A (Base) component, continue stirring and gradually add the total contents of the Part B (Activator) container, stir the combined mix until completely homogenous.

The mixed materials should be used within 30 minutes of mixing at 20°C. This time will be reduced at higher temperatures and extended at lower temperatures.

Application Procedures

Do not apply when the relative humidity exceeds 85% or when the surface to be coated is less than 3°C above the dew point.

Best application results are obtained at a minimum substrate and product temperature of 20°C. For optimum chemical resistance the product must be applied and allowed to cure at a minimum temperature of 20°C for at least 7 days before chemical contact.

Scotchkote Epoxy Coating 175UC is designed for application by brush, roller or spray application techniques. Good quality brushes or short to medium pile rollers should be used for these methods of application. The product should be applied to give a uniform even coating thickness. For optimum performance air and substrate temperatures should be maintained at a minimum temperature of 15°C, ideally at 20°C during application and cure.

Clean all equipment immediately after use with 3M™ Scotchkote™ Thinners SA65 or industry acceptable equivalents.

Packaging and Storage

Supplied in 2, 5 and 20 kilo packs or the Part A (Base) and Part B (Activator) supplied in 180 litre containers (2 Part A (Base) and 1 part B (Activator)). Use within 5 years of date of manufacture. Store in original sealed containers at temperatures between 5°C and 32°C. Short term exposure to temperatures outside this range will not be deleterious to product quality. **Note:** The Part B (Activator) component can change colour on long term storage which in some instances may affect the finish colour, this will not affect the products performance.



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