

3M™ Scotchkote™ Urethane Coating 165HBL

Data Sheet and Application Guide

Product Description

Scotchkote Urethane Coating 165HBL has been specifically developed as a 100% solids lining with a degree of flexibility for the internals of tanks, vessels, cooling towers and other equipment in contact with fresh water, sea water and effluent. The product can also be used on externals of pipes where an abrasion-resistant system is required.

Product Features

Scotchkote Urethane Coating 165HBL combines good application characteristics with excellent corrosion protection and chemical resistance.

Scotchkote Urethane Coating 165HBL is designed for high build application by plural feed airless spray.

Scotchkote Urethane Coating 165HBL is suitable for use on both steel and concrete surfaces.

- **Adhesion**—Excellent to both blast cleaned and mechanically scraped surfaces.
- **Corrosion Resistance**—Excellent even under aggressive immersion conditions.
- **Chemical Resistance**—Virtually unaffected by most industrial chemicals.

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™ Urethane Sealer 165CSL.
3. Apply Scotchkote Urethane Coating 165HBL at the specified thickness.
4. Allow to cure.
5. Visually or electrically inspect the coating for defects.
6. Repair defects, if any.

Properties

Property	Value
Colour	Light Grey, Blue Note: Not colour stable, where a colour stable finish is required it must be overcoated with an appropriate top coat.
Ratio	3:1 By volume
Drying & Cure times at 25°C	
Usable Life	5-6 minutes
Touch Dry	3 - 4 hours
Hard Dry	16 - 20 hours
Full Cure	7 days
Volume Solids	100%
Specific Gravity	1.35 - 1.40
V.O.C (As supplied)	0.8g/ltr, as calculated
Film Thickness (Typical)	Wet/Dry 500-2000 microns. Note: The actual thickness to be applied should be agreed between the specifier and the manufacturer dependant on operational performance criteria and may be higher or lower than the quoted typical value.
Theoretical Coverage Rate	1 sq metre per ltr at 1000 µ dft.
Performance Data	
Abrasion Resistance	<50mgm weight loss per 1000 cycles - 1kg load - H10 wheel (ASTM D4060)
Dielectric Strength	> 20V / µ (ASTM D149)
Water Vapor Transmission	0.3gms/Sq meter/24 hours (ASTM E96)
Impact Resistance	27 Joules (BS 3900 Part E3)
Tensile Elongation	51% (ASTM D638)
Direct Pull Adhesion	14.65N/mm²-Blasted Steel (ASTM D4541)
Operating Temperature	0-80°C (ASTM D2485)
Salt Fog Resistance	Excellent, unaffected after 10,000 hours exposure (ASTM B117)
Cathodic Disbondment	Pass <5mmr (28 days @ 25°C) (ASTM G95)
Humidity Resistance	Unaffected 5,000 hours exposure (BS 3900 Part F2)
Tensile Strength	18.57N/mm² (ASTM D638)
Hardness (Shore D)	70 (ASTM D2240)
Accellerated Weathering	Unaffected after 5,000 hours other than colour change (ASTM G154)
Chemical Resistance (10% H ₂ SO ₄ , 30% NaCl, 30% NaOH, Diesel Fuel)	<0.5% change in weight (ASTM D543)



Application Procedures for 3M™ Scotchkote™ Urethane Coating 165HBL

Surface Preparation: Steel Surfaces

Steel surfaces should be abrasive blasted to NACE No 2/SSPC-SP10 near white metal, ISO 8501:1 Grade Sa2½. Slivers, rough welds, or other defects in the steel shall be ground out prior to abrasive blasting. The blast profile is generally specified by the client; a typical profile is 75–100 microns.

Concrete Surfaces

Surfaces shall 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™ Urethane Sealer 165CSL.

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 Digital Moisture Meter. When tested in accordance with the manufacturers instructions the reading should be classified as 'dry'.

Application Procedures

Scotchkote Urethane Coating 165HBL should not be applied when the relative humidity exceeds 85% or when the surface to be coated is less than 3°C above the dew point.

Scotchkote Urethane Coating 165HBL can be applied upto 1mm thickness in single coat. For higher thicknesses multiple coat/passess may be required. If a second coat is required after hard dry, thorough mechanical abrading or flash blasting of the first coat should be carried out.

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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Scotchkote Urethane Coating 165HBL is intended for application by plural feed airless spray. Base component shall be preheated to 35–60°C while being agitated. A transfer pump at a minimum fluid to air ratio of 5:1 is recommended to feed the plural component pump. Activator component shall be transferred to the plural component pump with a minimum 2:1 ratio pump and must be at a minimum temperature of 20°C. Avoid condensation of moisture and contact with water.

- Airless Spray Minimum 45:1 pump ratio
- Tip Size 19–27 Thou orifice;
- Tip pressure typically 3000–4000 psi

Note: When airless spray is being used, excessively high tip spraying pressures should be avoided. The minimum pressure at the pump conducive with good atomization should be used.

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

Repair Procedure

Small areas of damage in the coating may be fixed by grinding the defective area with angle grinder or equal fitted with an abrasive disc and then be coated using 3M™ Scotchkote™ Urethane Coating 165HBL BG. Larger repairs shall be performed by spray application.

Packaging and Storage

20 and 203 litre units (3 x Part A + 1 x Part B)

Use within 2 years of date of manufacture. Store in original sealed containers under shed at temperatures between 5°C and 35°C.

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165 HBL