

3M™ Scotchkote™ WB Urethane DICOL 170

Data Sheet and Application Guide

Product Description

Scotchkote WB Urethane Dicol 170 is a member of the range of Scotchkote waterborne coatings and has been specifically developed to provide a durable gloss finish for use within the rail, automotive and commercial transport industries.

Product Features

- Combines good application characteristics with excellent gloss and colour retention.
- Being water borne does not present the same handling and application health and safety risks associated with solvent based high performance finishes.
- Tested for limited fire hazard performance in conjunction with 3M™ Scotchkote™ WB Epoxy Primer EA9WB. Compliant with BS6853 Code of Practice
- Widely used throughout the Rail Industry and increasingly in Original Equipment Manufacture involving other forms of passenger transportation, heavy engineering, fabrication and civil engineering work especially for underground and confined locations.
- **Abrasion** - Good resistance to abrasion and mechanical damage.
- **Adhesion** - Excellent on correctly prepared and primed surfaces.
- **Chemical Resistance** - The fully cured coating offers excellent resistance to aqueous solutions, oils, fats and a wide range of industrial chemicals.
- **Temperature Resistance** - Dry service temperature range up to 100°C.

General Application Steps

1. Ensure primed surface is clean, dry and free from contamination.
2. Apply Scotchkote WB Urethane Dicol 170 at the specified thickness.
3. Allow to cure.
4. Visually or electrically inspect the coating for defects.
5. Repair all defects.

Properties

Property	Value
Colour	Manufactured to order from a select range of BS, RAL or NCS colour standards.
Ratio	3.5:1 by volume (colours) 3:1 by volume (clear)
Drying & Cure times at 20°C (68°F)	
Usable Life	1½ hours
Touch Dry	4 hours
Hard Dry	16 hours
Minimum Overcoating	4 hours
Maximum Overcoating	48 hours
Full Cure	7 days
Volume Solids	50%
Specific Gravity (Average Mixed)	1.14
V.O.C Content	106g/litre (Colours) 102g/litre (Clear)
Note: Thinning for spray application will reduce the applied V.O.C	
Film Thickness (Typical)	Wet 100 microns. Dry 50 microns.
Theoretical Coverage Rate	10sq metres per litre at 50 microns dft.
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. Detailed application instructions in the form of system recommendations are available on request.	
Performance Data	
Abrasion Resistance	25mgm weight loss per 500 cycles - 1kg load- CS17 Wheel (ASTM D4060)
Impact Resistance	No failure (0.9kg (1.98lbs)) (BS 2782 - 3)
Dry Heat Resistance	100°C (275°F) (ASTM D2485)
Direct Pull Adhesion	6.2Mpa (900 psi) - Steel 4Mpa (600 psi) - concrete (Concrete Failure)
Pencil Hardness	2H (ASTM D3363)
Buckholz Hardness	75
Salt Fog Resistance	Excellent, unaffected after 5,000 hours exposure (over 2 coats WB Epoxy Primer EA9WB) (ASTM B117)
UV Resistance	500 hours QUV-B no loss of gloss, no colour change (ASTM G53)
Humidity Resistance	Unaffected 5,000 hours exposure (BS 3900 - F2)
Scratch Resistance	No failure 2.5kg (5.5lbs) load (BS 3900 - E2)



Application Procedures for 3M™ Scotchkote™ WB Urethane Dicol 170

Surface Preparation

All surfaces should be prepared and primed in accordance with the appropriate 'SYSTEM RECOMMENDATION.' Primed surfaces should be clean, dry and free from contamination.

Product Mixing

To ensure a homogenous mix, Part B (Activator) together with approximately 10% by volume (of the total mix quantity) of clean water should be added to Part A (Base) and thoroughly mixed, and the viscosity checked. The viscosity should then be adjusted to 30 to 40 seconds (DIN 4 cup) at a material temperature of 20°C.

Application Procedures

- a) Do not apply when relative humidity exceeds 85% or when the surface to be coated is less than 3°C above the dew point.
- b) Minimum temperature for application is 5°C.

Method

Scotchkote WB Urethane Dicol 170 is primarily designed for spray application. The product can be applied by various types of spray equipment.

Full details are available from the Technical Information Centre at 3M Northallerton.

Thinning should be carried out using clean water.

Note: Excessive thinning to compensate for low material temperatures should be avoided.

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

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.

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Typical spray settings are:

Conventional Spray Pressure Pot
Needle Setup 1.0 - 1.4mm

Note: Ideally dedicated spray equipment should be used for applying waterborne coatings. If this is not possible, equipment should be first flushed with a solvent related to the previous solvent based coating. This should then be followed by a second flushing using 3M™ Scotchkote™ 3000 Solvent then by rinsing through with clean water. After use, wash out with clean water followed by flushing with Scotchkote Cleaner 3000.

Packaging and Storage

Supplied in 2.25 litre packs.

Use within 2 years of date of manufacture. Store in original sealed containers at temperatures between 5°C and 32°C. Protect from frost during storage and use.

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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