

# 3M™ Scotchkote™ WB Urethane PU WB AG 180

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Supersedes March 2015

## Data Sheet and Application Guide

### Product Description

Scotchkote WB Urethane PU WB AG 180 is a member of a range of Scotchkote waterborne coatings and has been specifically developed to provide a durable finish for phenolic and other plastic laminate surfaces. The material can also be used on primed metal surfaces.

### Product Features

- Combines good application characteristics with excellent UV resistance and high order of Ease of Graffiti Removal.
- 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, 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.
- Also suitable for use on metallic substrates primed with 3M™ Scotchkote™ WB Epoxy Primer EA9WB.
- **Abrasion** - Good resistance to abrasion and mechanical damage.
- **Adhesion** - Excellent on correctly prepared surfaces.
- **Chemical Resistance** - The fully cured coating offers excellent resistance to aqueous solutions, oils, fats and many industrial chemicals.

### General Application Steps

1. Ensure surface is clean, dry and free from contamination.
2. Abrade composite surfaces with 320 grade abrasive paper.
3. Apply Scotchkote WB Urethane PU WB AG 180 coating 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	Manufactured to order from a select range of BS, RAL or NCS colour standards.
Ratio	3:1 by volume
<b>Drying &amp; Cure times at 20°C (68°F)</b>	
Usable Life	1 hour
Touch Dry	2 hours
Hard Dry	8 hours
Full Cure	7 days
Volume Solids	45%
Specific Gravity (Average Mixed)	1.48 (Colour) 1.1 (Clear)
V.O.C Content	105g/litre <b>Note:</b> Thinning for spray application will reduce the applied V.O.C.
Film Thickness (Typical)	Wet 110 microns. Dry 50 microns
Theoretical Coverage Rate	9 sq metres per litre at 50 microns dft. <b>Note:</b> Normal recommendations are 50 microns dry film thickness as a single coat, a second coat may be necessary with some colours to achieve complete obliteration of the substrate. The thickness to be applied should be agreed between the specifier and the manufacturer dependent on operational requirements. Detailed application instructions in the form of system recommendations are available on request.



# Application Procedures for Scotchkote WB Urethane PU WB AG 180

## Surface Preparation

All surfaces should be prepared and primed in accordance with the appropriate 'SYSTEM RECOMMENDATION'.

## Method of Mixing

Stir the contents of the Part A (Base) component. Continue stirring and gradually add the total contents of the Part B (Activator) component. Continue stirring until a homogenous mix is obtained.

## 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 PU WB AG 180 is designed for spray application. The product can be sprayed using most common types of equipment – full details are available from the Technical Centre.

**Note:** The mixed coloured material will require 10-15% thinning by volume for spray application depending on colour, application conditions and equipment being used. Thinning should be carried out using clean water.

### Typical spray settings are:

**Conventional Spray** Pressure Pot - Gravity feed  
Needle Setup 1.1 - 1.4 mm

**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 3000 Solvent.

PUWB AG, as with the majority of two component water borne products, will exhibit an increase in viscosity immediately after mixing.

To overcome the viscosity increase of this product on mixing, the following procedure should be adopted to avoid potential for over-thinning:

1) Measure the required volumes of Base and Activator and then calculate the total mixed volume.

2) The preferred method is to thin to viscosity. The application viscosity should be around 55-60 seconds DIN 4 cup at 20°C. The total addition of water to achieve adequate mixed viscosity should be between 10 and 15% by volume. If thinning by percentage then calculate the percentage of water required.

3) Add the activator to the base component but do not stir together at this point. Then

· add about 5% by volume of water.

4) Now thoroughly mix all three components (Base, Activator and Water) together using

an appropriate stirring method which may be either by slow speed mechanical stirrer or for small quantities by using a properly designed hand stirring stick.

5) Add additional water up to a maximum total 15%. Check viscosity if required (see notes below)

6) Apply material within the usable life described on the technical data sheet.

Notes: Please note that viscosity increases at lower temperatures and decreases at higher temperatures.

It is never appropriate to add more water to compensate for low product temperature. The solution would be to raise the temperature of the material to around 20°C.

The consequence of excessive thinning will be the potential for incorrect dry film thickness, inaccurate gloss level, sagging and increased propensity for surface defects in the cured film. It is also important to note that whilst there are a number of flow cups designed for measuring viscosity, the DIN 4 flow cup should always be used for determining the viscosity of Scotchkote WB Urethane PU WB AG 180 - even though tables of conversion from flow cup model to model exist, they are often inaccurate and are not recommended in this case.

## Packaging and Storage

Supplied in 4 litre packs.

Use within 12 months of date of manufacture. Store in original sealed containers at temperatures between 5°C and 32°C. Protect from frost during storage and use.

# Application Procedures for Scotchkote WB Urethane PU WB AG 180

## 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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## 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.

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

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