



# Protective & Marine Coatings

# MACROPOXY™ M905 EPOXY UNDERCOAT/MIO

FORMERLY KNOWN AS EPIGRIP M905

Revised 06/2017 Issue 29

## PRODUCT INFORMATION

### PRODUCT DESCRIPTION

A low temperature curing, two pack epoxy high build undercoat, capable of curing down to 0°C

### RECOMMENDED USE

For application onto suitably primed surfaces, as an undercoat for use under suitable high performance finishes, where low temperature curing is required. Recommended for rapid overcoating and faster handling times.

### ENDORSEMENTS

Highways Agency Item No. 116  
Network Rail Item Nos 7.1.7 and 7.2.2

### RECOMMENDED APPLICATION METHODS

Airless Spray  
Brush  
Roller

Recommended Cleanser/Thinner No. 5 ( for thinning)  
Cleanser/Thinner No. 9 or No. 13 ( for cleaning )

### PRODUCT CHARACTERISTICS

**Flash Point:** Base : 47°C Additive : 24°C

**% Solids by Volume:** 75 ± 4% (ASTM-D2697-91)

**Pot Life:** 8 hrs @ 5°C 3 hrs @15°C 1½ hrs @ 23°C

**Colour Availability:** Limited range

### VOC

219 gms/litre determined practically in accordance with UK Regulations PG6/23  
246 gms/litre calculated from formulation to satisfy EC Solvent Emissions Directive  
168 gms/kilo content by weight from formulation, to satisfy EC Solvent Emissions Directive

### RECOMMENDED THICKNESS

Dry film thickness	Wet film thickness	Theoretical coverage
125 microns	167 microns	6.0m <sup>2</sup> /ltr*

\* This figure makes no allowance for surface profile, uneven application, overspray or losses in containers and equipment. Film thickness will vary depending on actual use and specification.

### PRACTICAL APPLICATION RATES - MICRONS PER COAT

	Airless Spray	Brush	Roller
Dry	125*	125*	100
Wet	166	166	133

\* Maximum sag tolerance typically 233µm wet (175µm dry) by airless spray.

### AVERAGE DRYING TIMES

	@ 5°C	@ 15°C	@ 23°C
<b>To touch:</b>	5.5 hours	3.5 hours	1.5 hours
<b>To recoat:</b>	6.5 hours	5 hours	2.5 hours
<b>To handle:</b>	16 hours	12 hours	8 hours

*These figures are given as a guide only. Factors such as air movement and humidity must also be considered.*

### RECOMMENDED PRIMERS

Compatible with a wide range of epoxy primers  
Macropoxy M902 Surface Tolerant Primer (preferred primer)

### RECOMMENDED TOPCOATS

For overcoating with epoxy products (including self overcoating), the maximum recommended interval is 28 days at 23°C. For overcoating outside this interval, consult Sherwin-Williams technical support for advice.

Where a high degree of gloss and colour retention is required overcoat with Acrolon C137V2, Acrolon C237, Acrolon 1850 and Acrolon 7300 within 7 days at a minimum dft of 50 microns or in the case of Acrolon C750V2 overcoat within 4 days. These overcoating times refer to achievement of optimum adhesion at 23°C and will vary with temperature.

For overcoating with alkyd systems consult Sherwin-Williams for advice.

### PACKAGE

A two component material supplied in separate containers to be mixed prior to use

**Pack Size:** 15 litre and 2.5 litre units when mixed

**Mixing Ratio:** 2 parts base to 1 part additive by volume

**Weight:** Off White 1.54 kg/litre (may vary with shade).

**Shelf Life:** 2 years from date of manufacture or 'Use By' date where specified



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### **SURFACE PREPARATION**

Ensure surfaces to be coated are clean, dry and free from all surface contamination.

### **APPLICATION EQUIPMENT**

#### **Airless Spray**

Nozzle Size	:	0.38mm (15 thou)
Fan Angle	:	65°
Operating Pressure	:	250kg/cm <sup>2</sup> (3550 psi)

The airless spray details given above are intended as a guide only. Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen. However, the operating pressure should be the lowest possible consistent with satisfactory atomisation. As conditions will vary from job to job, it is the applicators' responsibility to ensure that the equipment in use has been set up to give the best results. If in doubt Sherwin-Williams should be consulted.

#### **Nozzle Size**

Environmental legislation now requires paint to contain less solvent. When using high solids coatings like Macropoxy M905 Epoxy Undercoat/MIO, painters must use finer spray tips than previously to compensate for the natural tendency towards over-application and to help achieve good wet film formation.

#### **Brush**

The material is suitable for brush application.

#### **Roller**

The material is suitable for roller application.

### **APPLICATION CONDITIONS AND OVERCOATING**

In conditions of high relative humidity, ie 80-85% good ventilation conditions are essential. Substrate temperature shall be at least 3°C above the dew point and always above 0°C.

Application at ambient air temperatures below 5°C is not recommended where there is a risk of ice formation on the substrate.

Due to the high solids content of this material, it is not normally possible to achieve at dry film thicknesses much less than 100 microns by brush application. Development of satisfactory physical properties including hardness and abrasion resistance will be obtained within 24-48 hours at a temperature of 5°C. Optimum water and chemical resistance will be achieved when the material is fully cured.

If it is desired to overcoat outside the times stated on the data sheet, please seek advice of Sherwin-Williams.

### **ADDITIONAL NOTES**

Drying times, curing times and pot life should be considered as a guide only.

The curing reaction of epoxies commences immediately after the two components are mixed, and since the reaction is dependent on temperature, the curing time and pot life will be approximately halved by a 10°C increase in temperature and doubled by a 10°C decrease in temperature.

**Compatibility** - This product is fully compatible with Transgard TG116 (Item 116 standard temperature grade ) and the two products may be interchanged within any specification requiring the use of Item 116, depending upon application conditions.

#### **Epoxy Coatings - Colour Stability:**

Variable colour stability is a feature of epoxy materials which tend to yellow and darken with age whether used on internal or external areas. Therefore any areas touched-up and repaired with the same colour at a later date may be obvious due to this colour change.

When epoxy materials are exposed to ultra-violet light a surface chalking effect will develop. This phenomenon results in loss of gloss and a fine powder coating at the surface which may give rise to colour variation depending on the aspect of the steelwork. This effect in no way detracts from the performance of the system.

Numerical values quoted for physical data may vary slightly from batch to batch.

### **HEALTH AND SAFETY**

Consult Product Health and Safety Data Sheet for information on safe storage, handling and application of this product.

### **WARRANTY**

Any person or company using the product without first making further enquiries as to the suitability of the product for the intended purpose does so at their own risk, and Sherwin-Williams can accept no liability for the performance of the product, or for any loss or damage arising out of such use.

The information detailed in this Data Sheet is liable to modification from time to time in the light of experience and of normal product development, and before using, customers are advised to check with Sherwin-Williams, quoting the reference number, to ensure that they possess the latest issue.