



# Protective & Marine Coatings

# MACROPOXY™ 5400 EPOXY PRIMER

Revised 03/2016 Issue 4

## PRODUCT INFORMATION

PRODUCT DESCRIPTION		RECOMMENDED USE																															
<p><b>MACROPOXY 5400 Abrasion Resistant Epoxy Primer</b></p> <p><b>Material Type:</b> A two-component pure epoxy high solids product. It has excellent physical properties such as adhesion, toughness, abrasion resistance, etc. as well as chemical resistance to salt water, fresh water, crude oil, alkalis and weak acids.</p> <ul style="list-style-type: none"> <li>• Universal primer</li> <li>• Excellent re-coatability</li> <li>• Excellent abrasion resistance</li> <li>• High-build in one coat available</li> <li>• Abrasion resistant</li> <li>• Impact resistant</li> </ul>		<p>MACROPOXY 5400 is suitable for use in both new construction and industrial maintenance situations.</p> <p>To be used on steel alone or in combination with various systems such as an acrylic or polyurethane topcoat.</p> <p>Gives excellent corrosion protection both in salt and fresh water.</p>																															
ENDORSEMENT		RECOMMENDED APPLICATION METHODS																															
<p>Complies with Norsok M501 Rev 6 System 1 as part of a 3 coat system.</p>		<p>Airless Spray Conventional Spray Brush Roller</p>																															
PRODUCT CHARACTERISTICS		RECOMMENDED PRIMER																															
<p><b>Finish:</b> Semi-Gloss</p> <p><b>Flash Point:</b> Base 27°C (81°F) Additive 24°C (75°F)</p> <p><b>Colours:</b> White, grey, bronze, aluminium</p> <p><b>Volume solids:</b> 72%±2% (ASTM D2697-97)</p> <p><b>VOC:</b> (EPA Method 24) 242g/ltr, 2.02lb/gal mixed 178 gms/kilo by weight to satisfy EC Solvent Emissions Directive Regulations</p>	<p>Recommended Cleanser/Thinner: No 50</p> <p>Zinc Clad II, Zinc Clad IV 80% and Zinc Clad IV 85%</p>																																
AVERAGE DRYING TIMES		RECOMMENDED TOPCOATS																															
<p><b>Drying Schedule</b></p> <table border="1"> <thead> <tr> <th></th> <th>-5°C (23°F)</th> <th>5°C (41°F)</th> <th>15°C (59°F)</th> <th>25°C (77°F)</th> <th>35°C (95°F)</th> </tr> </thead> <tbody> <tr> <td><b>To touch:</b></td> <td>24 hrs</td> <td>10 hrs</td> <td>5 hrs</td> <td>2 hrs</td> <td>1.5 hrs</td> </tr> <tr> <td><b>To handle:</b></td> <td>48 hrs</td> <td>15 hrs</td> <td>10 hrs</td> <td>5 hrs</td> <td>2 hrs</td> </tr> <tr> <td><b>To recoat</b></td> <td>36 hrs</td> <td>15 hrs</td> <td>10 hrs</td> <td>5 hrs</td> <td>2 hrs</td> </tr> <tr> <td><b>Pot Life:</b></td> <td>4 hrs</td> <td>3 hrs</td> <td>2 hrs</td> <td>1.5 hrs</td> <td>1 hr</td> </tr> </tbody> </table> <p>Recommended induction time 5 - 10 mins</p> <p><i>These figures are given as a guide only. Factors such as air movement and humidity must also be considered</i></p>			-5°C (23°F)	5°C (41°F)	15°C (59°F)	25°C (77°F)	35°C (95°F)	<b>To touch:</b>	24 hrs	10 hrs	5 hrs	2 hrs	1.5 hrs	<b>To handle:</b>	48 hrs	15 hrs	10 hrs	5 hrs	2 hrs	<b>To recoat</b>	36 hrs	15 hrs	10 hrs	5 hrs	2 hrs	<b>Pot Life:</b>	4 hrs	3 hrs	2 hrs	1.5 hrs	1 hr	<p>Indefinitely overcoatable with epoxy systems provided the surfaces to be coated have been suitably cleaned. Where a high degree of gloss and colour retention is required, overcoat with Acrolon 7300, Acrolon 1850, Acrolon C137V2 and Acrolon C237 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.</p> <p>For overcoating outside the above parameters and with alkyd systems, consult Sherwin-Williams for advice.</p>	
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### SURFACE PREPARATION

Blast clean to Sa2½ (ISO 8501-1:2007). Average surface profile in the range 50-75 microns.

Manually prepared surfaces should be prepared to a minimum standard of St3 (ISO 8501-1:2007) at the time of coating. Ensure surfaces to be coated are clean, dry and free from all surface contamination.

May also be applied over a wide range of pre-fabrication primers, including inorganic zinc silicate and epoxy types.

### APPLICATION EQUIPMENT

Airless Spray	For dft applications between 75-125µ	For dft applications between 125-300µ
Nozzle Size:	0.33mm (13 thou)	0.38mm ( 15 thou )
Fan Angle:	40°	40°
Operating Pressure:	155kg/cm <sup>2</sup> (2200 psi)	155kg/cm <sup>2</sup> (2200 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.

#### Conventional Spray

Nozzle Size	:	1.27mm (50 thou)
Atomising Pressure	:	2.8kg/cm <sup>2</sup> (40 psi)
Fluid Pressure	:	0.4kg/cm <sup>2</sup> (6 psi)

The details of atomising pressure, fluid pressure and nozzle size are given as a guide. It may be found that slight variations of pressure will provide optimum atomisation in some circumstances according to the set up in use. Atomising air pressure depends on the air cap in use and the fluid pressure depends on the length of line and direction of feed i.e. horizontal or vertical.

For application by conventional spray, it may be necessary to thin the paint by the addition of up to 10% Cleanser Thinner No. 5. Where thinning has been carried out the wet film thickness must be adjusted accordingly.

**N.B.** Thinning will affect VOC compliance.

#### Brush and Roller :

The material is suitable for brush and roller application. Application of more than one coat may be necessary to give equivalent dry film thickness to a single spray applied coat.

### APPLICATION CONDITIONS AND OVERCOATING

MACROPOXY 5400 should preferably be applied at temperatures in excess of 10°C. Relative humidity should not exceed 90% and in these conditions good ventilation is essential.

Substrate temperature shall be at least 3°C above the dew point and always above 0°C.

At application temperatures below 10°C, drying and curing times will be significantly extended, and spraying characteristics may be impaired. Application at ambient air temperatures below -5°C is not recommended.

In order to achieve optimum water and chemical resistance, temperature needs to be maintained above 10°C during curing.

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 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.

#### 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.

#### Epoxy Coatings - Tropical Use

Epoxy paints at the time of mixing should not exceed a temperature of 35°C. At this temperature the pot life will be approximately halved. Use of these products outside of the pot life may result in inferior adhesion properties even if the materials appear fit for application. Thinning the mixed product will not alleviate this problem. The maximum air and substrate temperature for application is 50°C providing conditions allow satisfactory application and film formation. If the air and substrate temperatures exceed 50°C and epoxy coatings are applied under these conditions, paint film defects such as dry spray, bubbling and pinholing etc. can occur within the coating. 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.