Protective & Marine Coatings

MACROPOXY™ P100
EPOXY FLOWLINE COATING

FORMERLY KNOWN AS PIPEGARD P100

Revised 03/2016 Issue 13

PRODUCT INFORMATION

PRODUCT DESCRIPTION

A high build 2-pack polyamide cured epoxy zinc phosphate primer/finish

RECOMMENDED USE

Internal flow coating for pipelines

ENDORSEMENTS

Conforms to the requirements of ISO15741:2001
Conforms to the requirements of American Petroleum Institute RP5L2
Conforms to the requirements of Transco CM2 qualification.

RECOMMENDED APPLICATION METHODS

Airless Spray
Brush (for touch up only)
Specialist Spinning Head Techniques

Recommended Cleanser/Thinner: No 2 (for thinning)
Cleanser/Thinner: No 9 or No 13 (for cleaning)

PRODUCT CHARACTERISTICS

Flash Point: Base : 24°C Additive : 26°C Mix : 25°C

% Solids by Volume: 60 ± 3% (ASTM-D2697-91)

Colour Availability: Red Oxide

Pot Life: 8hrs @ 15°C 6hrs @ 23°C 3hrs @ 35°C

VOC
346gms/litre determined practically in accordance with UK Regulations PG6/23
376gms/litre calculated from formulation to satisfy EC Solvent Emissions Directive
272gms/kilo content by weight from formulation, to satisfy EC Solvent Emissions Directive

RECOMMENDED THICKNESS

Dry film thickness	Wet film thickness	Theoretical coverage
75* microns	125 microns	8.0 m^2/ltr* (0.125ltr/m^2)

* 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	Conventional Spray	Brush	Roller
Dry	75*	75	50	65
Wet	125	125	83	108

** Maximum sag tolerance typically 292µm wet (175µm) dry by airless spray Recommended thickness range 50-150 microns depending on service conditions and specification (minimum film forming thickness is dependent on application method).*

AVERAGE DRYING TIMES

	At 15°C	At 23°C	At 35°
To touch:	2 hours	1½ hours	1 hour
To recoat:	6 hours	4 hours	3 hours
To handle:	24 hours	16 hours	12 hours

Full cure should be achieved in approximately 7 days.
These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

PACKAGE

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

Pack Size: 20 litre units when mixed. P100 is also available in 1000 litre and 5000 litre kits.

Mixing Ratio: 4 parts base to 1 part additive by volume

Density: 1.38 kg/litre (ISO 2811)

Shelf Life: 12 months from date of manufacture or 'Use By' date where specified.

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SURFACE PREPARATION

Blast clean to Sa2½ BS EN ISO 8501-1:2007. Average surface profile in the range 50-75 microns.
Ensure surfaces to be coated are clean, dry and free from all surface contamination.

APPLICATION EQUIPMENT

Airless Spray

Nozzle Size	:	0.46mm (18 thou)
Fan Angle	:	65°
Operating Pressure	:	155kg/cm² (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.

Specialist Spinning Head Techniques
Consult Sherwin-Williams

Brush
The material is suitable for brush 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

Epoxy paints should preferably be applied at temperatures in excess of 10ºC. In conditions of high relative humidity, ie 80-85% good ventilation conditions are essential. Substrate temperature shall be at least 3ºC 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.

Due to the high solids content of this material, it is not normally possible to achieve optimum film formation at dry film thicknesses of less than 60 microns by spray application. Where film thicknesses down to 50 microns are specified, the material may be thinned up to 10% with Cleanser/Thinner No.2. Thinning should be carried out with thorough stirring immediately before use.

In order to achieve optimum water and chemical resistance, temperature needs to be maintained above 10ºC 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.

Macropoxy P100 is suitable for use in service temperatures of -75°C – +120°C, for advice on conditions outside this range please consult Sherwin-Williams.

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.
Macropoxy P100 is suitable for storage in conditions up to 40°C, but the material will need to be adequately agitated prior to use.

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.