



Protective & Marine Coatings

MACROPOXY™ C251 EPOXY PHENOLIC

FORMERLY KNOWN AS EPIGRIP C251

Revised 06/2017 Issue 11

PRODUCT INFORMATION

PRODUCT DESCRIPTION

A two-pack epoxy phenolic coating

RECOMMENDED USE

For use as part of a 2 coat system for internal coating of storage tanks and vessels.

Suitable for insulated external carbon or stainless steel surfaces including equipment and pipework.

Suitable for use at up to 180°C operating temperature (Dry Heat). Maximum temperature under insulation 150°C

RECOMMENDED APPLICATION METHODS

Airless Spray
Conventional Spray
Brush

Recommended Cleanser/Thinner: No 5

PRODUCT CHARACTERISTICS

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

% Solids by Volume: 74 ± 3% (ASTM-D2697-91)

Pot Life: 2½ hrs @ 15°C 2 hrs @ 23°C

Colour Availability: White, Buff

VOC

235gms/litre determined practically in accordance with UK Regulations PG/23

243gms/litre calculated from formulation to satisfy EC Solvent Emissions Directive

155gms/kilo content by weight from formulation, to satisfy EC Solvent Emissions Directive

TYPICAL THICKNESS

Dry film thickness	Wet film thickness	Theoretical coverage
125 microns	160 microns	6 m ² /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	Conventional Spray	Brush
Dry	125	125	75
Wet	160	160	100

*Maximum sag tolerance with overlap typically 510µm wet (375µm dry) by airless spray

AVERAGE DRYING TIMES

	At 5°C	At 23°C	At 30°	At 40°
To touch:	5 hours	4 hours	3 hours	2 hours
To handle:	24 hours	12 hours	6 hours	4 hours
To recoat:	24 hours	24 hours	24 hours	24 hours
Max overcoat:	28 days	28 days	28 days	28 days

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

RECOMMENDED TOPCOATS

Macropoxy C251

PACKAGE

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

Pack Size: 5 litre units when mixed

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

Weight: 1.57 kg/litre

Shelf Life: 18 months from date of manufacture or 'Use By' date where specified.



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SURFACE PREPARATION

Ferrous Surfaces

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

Mechanical power tool cleaning, using rotary impact abrasion tools to produce a clean, bare metal surface with a surface profile of >50µm, in accordance with SSPC Standard SP11.

Stainless Steel

For optimum adhesion all surfaces should be flash blasted using non-metallic abrasive and coated with Macropoxy C251 within 4 hours of blasting. Under conditions of high humidity a shorter period will be necessary.

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	: 30°
Operating Pressure	: 233kg/cm² (3300 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.

Conventional Spray

Nozzle Size	: 1.27mm (50 thou)
Atomising Pressure	: 2.8kg/cm² (40 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.

APPLICATION CONDITIONS AND OVERCOATING

Epoxy paints should preferably be applied at temperatures in excess of 10°C. In conditions of high relative humidity, i.e. 80-85% good ventilation conditions are 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 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 when the two components are mixed, and since the reaction is dependent on temperature, the curing time and pot life will be approximately halved by 10°C increase in temperature and doubled by a 10°C decrease in temperature.

Macropoxy C251 system MUST be allowed to cure for 7 days at a minimum of 13°C before putting into service.

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 aspects 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.