Protective & Marine Coatings

MACROPOXY™ C425V2
EPOXY ZINC PHOSPHATE

FORMERLY KNOWN AS EPIGRIP C425V2

Revised 08/2017 Issue 10

PRODUCT INFORMATION

PRODUCT DESCRIPTION

A high build 2-pack epoxy zinc phosphate primer/buildcoat

RECOMMENDED USE

Anti-corrosive protection of carbon steel surfaces prepared by abrasive blast cleaning.

Can be spray applied at thicknesses between 100 and 250 microns dry to provide both primer and buildcoat in a single coat. A top coat is only required for decorative purposes.

Without topcoat, the material will quickly discolour and patchiness may may be exaggerated due to film thickness variation, but will nonetheless provide excellent anti-corrosive protection as a single coat protective epoxy nor will intercoat adhesion be affected by any discolouration. See reverse side for further information on colour stability.

For use in internal/external exposed conditions including offshore, petrochemical and sub-sea environments.

ENDORSEMENTS

Network Rail – Item No 7.1.4
Approved for use by MoD(N) as a gel coat over FRP/GRP sufaces
Complies with NORSOK M501 Rev. 5 System 1 and 7.

RECOMMENDED APPLICATION METHODS

Airless Spray, Conventional Spray, Brush, Roller

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

PRODUCT CHARACTERISTICS

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

% Solids by Volume: 75 ± 3% (ASTM-D2697-91)

Pot Life: 2½ hrs @15°C 1½ hrs @23°C ¾ hr @ 35°C

Colour Availability: Limited range

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

TYPICAL THICKNESS

Dry film thickness	Wet film thickness	Theoretical coverage
100 microns	133 microns	7.5m²/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	Roller
Dry	100*	100	75**	65
Wet	133	133	100	87

** Maximum sag tolerance with overlap typically 533µm wet (400µm dry) by airless spray (500µ dry-White only)*

*** Maximum sag tolerance with overlap typically 187µm wet (140µ dry) by brush.*

AVERAGE DRYING TIMES

	@ 15°C	@ 23°C	@ 35°C
To touch:	2 hours	1½ hour	1 hour
To recoat:	6 hours	4 hours	3 hours
To handle:	16 hours	8 hours	5 hours

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

RECOMMENDED TOPCOATS

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 C137V2, Acrolon C237, Acrolon 1850 or Acrolon 7300 finishes. In order for the dry film of Macropoxy C425V2 to be recoated with Acrolon C137V2, Acrolon 7300, Acrolon C237 or Acrolon 1850 after extended periods (without maximum stated limits) the following conditions shall be matched in the moment of the finish application:

1. The previous coating has been applied at the recommended dry film thickness and in accordance with good painting practices. Is free from any application defects and the dry film is tightly adherent.

2. The surface is free from all type of contaminants such as soluble salts, oily and greasy materials and any other visible contamination that can affect intercoat adhesion.Any detected contamination shall be cleaned by adequate methods prior to the finish application.

3. Surface does not present burn marks or any type of defect caused by mechanical, chemical or other type of damage. All such damaged areas areas shall be repaired with the original coating system before applying the finish coat.

4. If under direct sunlight exposure for long periods the surface shall be checked for degraded superficial layer that can affect intercoat adhesion. If such layer is observed it should be removed by means of water jetting, abrading, solvent cleaning or other method considered to be suitable.

If applying 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 outside the above parameters and 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:	20 litre and 5 litre units when mixed.
Mixing Ratio:	4 parts base to 1 part additive by volume
Weight:	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

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, poly-vinyl butyral and epoxy types.

APPLICATION EQUIPMENT

Airless Spray	**For dft applications between 75-125µ**	**For dft applications between 125-250µ**
Nozzle Size:	0.33mm (13 thou)	0.38mm (15 thou)
Fan Angle:	40°	40°
Operating Pressure:	155kg/cm² (2200 psi)	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.

Conventional Spray

Nozzle Size	:	1.27mm (50 thou)
Atomising Pressure	:	2.8kg/cm² (40 psi)
Fluid Pressure	:	0.4kg/cm² (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

Epoxy paints should preferably be applied at temperatures in excess of 10ºC. Relative humidity should not exceed 90% and in these conditions good ventilation is 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.

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.

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.