SHERWIN-WILLIAMS®
Protective & Marine Coatings

MACROPOXY C88
HI BUILD SHEEN PROTECTIVE FINISH

Revised 06/2012 Issue 1

PRODUCT INFORMATION

PRODUCT DESCRIPTION

MACROPOXY C88 is a high performance 2-pack high solids epoxy protective finish.

Resistance to:

- Moisture - Excellent
- Aliphatic solvents - Excellent
- Acid spillage - Moderate
- Abrasion - Excellent
- Alkali spillage - Excellent
- Weather – Excellent (subject to chalking)

PRODUCT CHARACTERISTICS

Color: Full range

Volume Solids: 79 ± 3% (ASTM-D2697-91)

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

Mix Ratio: 1 parts base to 1 part additive by volume

Recommended Application Methods:
- Airless Spray
- Conventional Spray
- Brush

Typical Thicknesses

Dry microns (mils)	**250** (10)
Wet microns (mils)	**316** (13)
Theoretical Coverage m²/L (sq ft/gal)	**3.16*** (130)

** 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.*

Average Drying Times @ 158 microns (6 mils) **wet:**

	@ 10°C/50°F	@ 23°C/74°F	@ 35°C/95°F
To touch:	8 hours	4 hours	2 hours
To handle:	24 hours	7 hours	4 hour
To recoat	24 hours	7 hours	4 hour
Pot Life:	3 hours	2 hours	1.5 hours

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

Shelf Life:	18 months from date of manufacture or 'Use By' date where specified.
Flash Point:	Base: 32°C/90°F Additive: 24°C/75°F
Thinner / Clean Up:	Sherwin-Williams Cleanser/Thinner No. 5 (for thinning and cleaning)

ENDORSEMENTS

- Complies with NORSOK M501 Rev. 5 System 1 as part of a three coat, Zinc Epoxy Scheme.
- Meets the requirements of ISO12944 C5 High durability.

PRACTICAL APPLICATION RATES MICRONS PER COAT (MILS)

	Airless Spray:	Conventional Spray:	Brush
Dry:	**125*** (5)	**125** (5)	**125** (5)
Wet:	**158** (6)	**158** (6)	**158** (6)
Dry:	**250*** (10)	**250** (10)	-
Wet:	**316** (13)	**316** (13)	-

* Maximum sag tolerance typically 400µm (16mils) dry by airless spray.

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Airless Spray
Nozzle Size: .....0.33mm (15 thou)
Fan Angle: .....40°
Operating Pressure: .....197kg/cm² (2800 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.

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.

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.

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RECOMMENDED USES

- As a single coat shop applied protective finish for structural steel
- Maintenance work on blasted and manually prepared structural steelwork
- For use in internal/external conditions, including offshore and petrochemical applications
- Can be applied at thicknesses between 125 microns (5 mils) and 250 microns (10 mils) dry to provide primer, buildcoat or finish in a single coat. A top coat is only required where prolonged colour retention is needed
- Offers good adhesion and abrasion resistance over blasted and manually prepared steel and a range of other epoxy materials

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 Resistex C137V2, Resistex C237 within 7 days at a minimum dft of 50 microns (2 mils) or in the case of Leighs C750V2 overcoat within 5 days at a minimum of 60 microns (2.5 mils). These overcoating times refer to achievement of optimum adhesion at 23°C/73°F and will vary with temperature.

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 a 10°C/50°F increase in temperature and doubled by a 10°C/50°F 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/95°F. 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/122°F providing the conditions allow satisfactory application and film formation. If the air and substrate temperatures exceed 50°C/122°F and epoxy coatings are applied under these conditions, paint film defects such as dry spray, bubbling and pinholing etc. can occur within the coating.

Certain lead free shades such as bright oranges, reds, yellows may show reduced opacity. In these cases multiple coats of C88 may need to be applied to obtain full coverage.

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

SURFACE PREPARATION

Blast clean to Sa.2½ BS EN ISO 8501-1:2007 (SSPC-SP10/ NACE2). Average surface profile in the range 50-75 microns (2-3mils). Ensure surfaces to be coated are clean, dry and free from all surface contamination. Manually prepared surfaces should be prepared to a minimum standard of ST.3 BS EN ISO 8501-1:2007 (SSPC-SP3) at the time of coating.

APPLICATION CONDITIONS

This material should preferably be applied at temperatures in excess of 10ºC/50°F. Relative humidity should not exceed 90% and in these conditions good ventilation is essential. Substrate temperature should be at least 3ºC above the dew point and always above 0°C/32°F. At application temperatures below 10°C/50°F, drying and curing times will be significantly extended and spraying characteristics may be impaired.

Application at ambient air temperatures below 5°C/41°F is not recommended.

In order to achieve optimum water and chemical resistance, temperature needs to be maintained above 10ºC/50°F during curing.

ORDERING INFORMATION

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

Pack Size: 20 litre (5.3 gal) and 5 litre (1.3 gal) units when mixed

Weight: 1.465 kg/litre (14.7 lb/gal) (may vary with shade).

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY