



COROTHANE™ PUR-1

1-PACK POLYURETHANE INTERMEDIATE COAT

Revised 07/2023 Issue 1

PRODUCT DESCRIPTION

A moisture-curing 1-pack intermediate coat based on polyurethane and filled with micaceous iron oxide.
Low solvent content according to Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).

- Fast curing
- Early exposure to water
- Suitable for application at low temperatures and high relative air humidity
- Very good corrosion protection

RECOMMENDED USE

Can be used as a intermediate coat for steel structures and primer coat for hot-dip galvanized steel in aggressive atmosphere, e.g. marine and industrial climate.

PRODUCT TECHNICAL DATA

Volume Solids:	58 ± 2% (ISO 3233-3)
Weight Solids:	78 ± 2%
VOC:	352 g/l determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04). 323 g/l calculated from formulation to satisfy EC Solvent Emissions Directive. 202 g/kg calculated from formulation to satisfy EC Solvent Emissions Directive (UK).
Colours:	Grey, approx. DB 702/DB 703, material no. 689.12/13. Slight colour deviations are possible due to raw material characteristics.
Flash Point:	45°C.
Cleaner/Thinner:	Thinner S (for cleaning). Thinner S for thinning with max. 5% to adapt the viscosity. Thinning will affect VOC compliance, sag tolerance and dry film thicknesses.
Pack Size:	Single component material: 18 kg (11.2 litre). Volume will vary with colours and density.
Density:	1.6 kg/l (may vary with colours).
Shelf Life:	6 months from date of manufacture, stored in originally sealed containers in a cool and dry environment.

Recommended Application Methods:
Airless Spray, Conventional Spray, Brush and Roller

Typical Thickness:

	Recommended Spreading Rate Per Coat	
	Typical	Maximum Sag
Dry	80 µm	180 µm
Wet	138 µm	310 µm
Theoretical Consumption*	0.221 kg/m ² 0.138 l/m ²	
Theoretical Coverage*	4.53 m ² /kg 7.25 m ² /l	

* 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.
Apart from small areas the dry film thickness of Corothane™ PUR-1 should not exceed 180 µm per coat.



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AVERAGE DRYING TIMES

For 80 µm Dry Film Thickness:

	+ 20°C
Dry to handle	4 hours
To Recoat	4 hours

Maximum recoat time is 3 months. Prior to further applications all contamination must be removed. In the case of extended recoating times consult Sherwin Williams customer service.

Final cure: 1 week, depending on film thickness and temperature.

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

APPROVALS & ENDORSEMENTS

Approved according to German standard 'TL KOR-Stahlbauten', Blatt 89.

SURFACE PREPARATION

Ensure surfaces to be coated are clean, dry and free from all surface contamination such as oil, grease, dirt and corrosion products to achieve satisfactory adhesion.

For contaminated surfaces we recommend to clean with Cleaner Wash.

Steel surfaces shall be blast-cleaned to Sa 2½ according to ISO 8501-1 (ISO 12944-4).

Hot-dip galvanized surfaces, stainless steel and aluminium shall be prepared by degreasing or, in case of permanent immersion or condensation, sweep blasting according to ISO 12944-4 with a non-ferrous blasting abrasive.

MIXING

The material is supplied ready for use; stir thoroughly with a mechanical paint mixer prior to application.

Attention, risk of injuries. Container may be under pressure. Lid may come off unexpectedly. Prior to opening reduce pressure, e.g. by piercing the lid.

During mixing and handling of the materials always wear protective goggles, suitable gloves and other protective clothing.

APPLICATION CONDITIONS

Substrate temperature shall be above 0°C and at least 3°C above the dew point. The surface must be dry and free from ice.

Material temperature shall be above + 5°C.

Relative air humidity shall be at least 30% and below 98%.

APPLICATION EQUIPMENT

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

Airless Spray

Unit: Efficient airless equipment

Tip Size: 0.38 – 0.53 mm (0.015 – 0.021 inch)

Fan Angle: 40° - 80°

Operating Pressure: min. 180 bar (2600 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 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 consult Sherwin-Williams customer service.

Conventional Spray

Atomising Pressure: 3 - 5 bar (43 - 70 psi)

Tip Size: 1.5 – 2.5 mm (0.06 – 0.10 inch)

Brush and Roller

The coating 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 SYSTEMS

Steel

1 x Corothane™ Zinc PUR
1-2 x Corothane™ PUR-1
1 x Acrolon® EG-4 or Acrolon® EG-5

Hot-dip galvanized steel

1 x Corothane™ PUR-1
1 x Acrolon® EG-4 or Acrolon® EG-5

Certain shades of Acrolon® EG-5 for example, yellows and reds may require additional coats to achieve full opacity.

ADDITIONAL NOTES

Drying times, curing times and pot life should be considered as a guide only.

Chemical resistance:

Resistant to industrial and marine atmosphere, water sea water, oil, grease, de-icing salts.

Temperature resistance:

Dry heat up to + 150°C, short term up to + 180°C.
Increased humid ambient temperature up to approx. + 60°C.
In case of higher temperatures consult Sherwin-Williams customer service.

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

HEALTH & SAFETY

Consult Product Health and Safety Data Sheet for information on safe storage, handling and application of this product.

WARRANTY

Whilst all statements made about our products (whether in this data sheet or otherwise) are correct and accurate to the best of our knowledge, we have no control over the quality or the condition of the substrate, the application conditions or the many other factors affecting your use and application of our product.

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