Protective & Marine Coatings
PRODUCT DATA SHEET

ACROLON® ZP-1
POLYURETHANE INTERMEDIATE COAT

Revised 07/2023 Issue 1

PRODUCT DESCRIPTION

A 2-pack polyurethane intermediate coat in case of MIO-shades with high micaceous iron oxide content.
Low solvent content according to Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).

- Unlimited recoat with polyurethane topcoats
- Fast curing even at low temperatures
- Very good weather resistance
- High system compatibility with polyurethane topcoats

RECOMMENDED USE

Can be used as an intermediate coat, when extended recoating times with polyurethane topcoats are expected.
Primarily for steel civil engineering, bridges, pipelines, industrial and harbour installations, sewage plants in contaminated atmospheres.
Particularly suited for in shop application as transportable coating.

PRODUCT TECHNICAL DATA

Volume Solids: 60 ± 2% (MIO), 63 ± 2% (MIO-free) (ISO 3233-3)

Weight Solids: 77 ± 2% (MIO), 79 ± 2% (MIO-free)

VOC: 315 g/l (368 g/l MIO shades) determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).
352 g/l (343 g/l MIO shades) calculated from formulation to satisfy EC Solvent Emissions Directive.
235 g/kg (214 g/kg MIO shades) calculated from formulation to satisfy EC Solvent Emissions Directive (UK).

Colours: MIO colour shades
Grey metallic approx. DB 702, material no. 697.17;
Green metallic approx. DB 601, material no. 697.18;
Grey metallic approx. DB 703

MIO-free colour shades
White

Slight colour deviations are possible due to raw material characteristics.

Flash Point: Base: 34°C, Hardener: 38°C.

Cleaner/Thinner: Thinner EG (for cleaning).
Thinner EG for thinning with max. 3% to adapt the viscosity.
Thinning will affect VOC compliance, sag tolerance and dry film thicknesses.

Pack Size: A two component material supplied in separate containers to be mixed prior to use:
MIO: 30 kg (18.7 litre) unit when mixed.
RAL: 30 kg (20 litre) unit when mixed.
Volume will vary with colours and density.

Mixing Ratio: 92 parts base to 8 parts hardener by weight.
MIO: 7 parts base to 1 part hardener by volume.
RAL: 7.9 parts base to 1 part hardener by volume.

Density: 1.6 kg/l (MIO).
1.5 kg/l (MIO-free).
(may vary with colours).

Shelf Life: 2 years from date of manufacture, stored in originally sealed containers in a cool and dry environment.

Recommended Application Methods:
Airless Spray, Brush and Roller

Typical Thickness:

Recommended Spreading Rate Per Coat

MIO shade	Typical	Maximum Sag
Dry	80 µm	240 µm
Wet	133 µm	400 µm
Theoretical Consumption*	0.213 kg/m² 0.133 l/m²	
Theoretical Coverage*	4.69 m²/kg 7.50 m²/l	

RAL shade	Typical	Maximum Sag
Dry	80 µm	240 µm
Wet	127 µm	381 µm
Theoretical Consumption*	0.190 kg/m² 0.127 l/m²	
Theoretical Coverage*	5.25 m²/kg 7.88 m²/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.

Pot Life:

+ 20°C	2 hours

Pot life is dependent on temperature and volume.

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AVERAGE DRYING TIMES

For 80 µm Dry Film Thickness:

	+ 5°C	+ 15°C	+ 20°C	+ 30°C
Dry to handle (Drying Stage 6*)	4 hours	3.5 hours	3 hours	1.5 hour
To Recoat	4 hours	3.5 hours	3 hours	1.5 hour

*ISO 9117

Maximum recoat time is unlimited. Prior to further applications possible contamination must be removed.

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 87 / Blatt 97'.

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 and weathered surfaces e.g. primed areas we recommend to clean with Cleaner Wash.

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

MIXING

Stir component A very thoroughly using a mechanical paint mixer (start slowly, then increase up to approx. 300 rpm). Add component B carefully and mix both components very thoroughly (including sides and bottom of the container). Mix for at least 3 minutes until a homogeneous mixture is achieved. We recommend to fill the mixed material into a clean container and mix again shortly as described above to avoid incorrect mixing. During mixing and handling of the materials always wear protective goggles, suitable gloves and other protective clothing.

APPLICATION CONDITIONS

Substrate temperature shall be above + 3°C and at least 3°C above the dew point.
Material temperature shall be above + 5°C.
Relative air humidity shall be below 85%.

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.

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

Intermediate coat
Compatible with Acrolon® ZP Primer and a wide range of Sherwin-Williams Macropoxy® and Zinc Clad® epoxy primers.

Versatile to overcoat with a wide range of Kem Kromik® 1-pack topcoats and Acrolon® 2-pack topcoats provided the surface to be coated is clean, dry and free from contamination.

Example Blatt 87
1 x Zinc Clad® R Plus
1 x Macropoxy® EG-1 Plus
1 x Acrolon® ZP-1
1 x Acrolon® EG-5

ADDITIONAL NOTES

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

Mechanical resistance:
Highly resistant to transport and assembly stresses.

Chemical resistance:
Resistant to water, seawater, acid and alkali vapours, salts, detergents, greases, oils and short-term exposure to fuels and solvents.

Temperature resistance:
Dry heat up to + 150°C, short term up to + 200°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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