



ZINC CLAD® ZS

1-PACK ETHYL SILICATE ZINC PRIMER

Revised 07/2023 Issue 1

PRODUCT DESCRIPTION

A 1-pack moisture-curing ethyl silicate zinc-primer.

Low solvent content according to Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).

- Fast curing and stackable
- Abrasion and temperature resistant
- Water and weather resistant
- High coefficient of static friction

RECOMMENDED USE

Can be used as a zinc primer coat in conjunction with Macropoxy® coatings and Acrolon® topcoats for the protection of steel surfaces. At a dry film thickness of 20 µm Zinc Clad® ZS can also be used as weldable shop primer.

PRODUCT TECHNICAL DATA

Volume Solids:	64.5 ± 2% (ISO 3233-3)
Weight Solids:	82 ± 2%
VOC:	414 g/l determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04). 359 g/l calculated from formulation to satisfy EC Solvent Emissions Directive. 156 g/kg calculated from formulation to satisfy EC Solvent Emissions Directive (UK).
Colours:	Zinc grey, mat, material no. 686.03
Flash Point:	15°C.
Cleaner/Thinner:	Thinner B (for cleaning). Cleaning of equipment must be carried out immediately after completion of work, as long as Zinc Clad® ZS has not dried up. Cured material can only be removed mechanically. Thinner B for thinning with max. 3% to adapt the viscosity. If used as weldable shop primer add approx. 5% w/w Thinner B. Thinning will affect VOC compliance, sag tolerance and dry film thicknesses.
Pack Size:	Single component material: 25 kg (10.8 litre). Volume will vary with colours and density.
Density:	2.3 kg/l (may vary with colours).
Shelf Life:	1 year from date of manufacture, stored in originally sealed containers in a cool and dry environment.

Recommended Application Methods:
Airless Spray, Conventional Spray and Brush

Typical Thickness:

	Recommended Spreading Rate Per Coat		
	Typical		Maximum Sag
Dry	20 µm	60 µm	150 µm
Wet	31 µm	93 µm	233 µm
Theoretical Consumption*	0.071 kg/m ² 0.031 l/m ²	0.214 kg/m ² 0.093 l/m ²	
Theoretical Coverage*	14.02 m ² /kg 32.25 m ² /l	4.67 m ² /kg 10.75 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 Zinc Clad® ZS should not exceed 150 µm per coat.



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AVERAGE DRYING TIMES

For 20 µm Dry Film Thickness:

	+ 5°C/50% RH	+23°C/50% RH
Dry to handle (Drying Stage 6*)	6 min	4 min
To Recoat	4 hours	4 hours

For 60 µm Dry Film Thickness:

	+ 5°C/50% RH	+23°C/50% RH
Dry to handle (Drying Stage 6*)	12 min	8 min
To Recoat	4 hours	4 hours

*ISO 9117

Recoat with Macropoxy® EG-1 Plus after 24 hours.

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

Final cure: 1-2 days, 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', page 86 (including friction screw connections).
- Approved according to DIN EN ISO 17652-2 as weldable shop primer.

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).

MIXING

The material is supplied ready for use. Stir thoroughly prior and during application. Containers must not be opened until shortly before commencing application, close tightly after use.

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

APPLICATION CONDITIONS

Substrate temperature shall be between + 5°C and + 50°C and at least 3°C above the dew point.

Material temperature shall be between + 5°C and + 50°C.

The relative humidity of air should preferably be between min. 50% and 90%. Hardening will be considerably delayed at lower levels of humidity of air. In such cases, drying can be accelerated after approx. 20 minutes by spraying with water fog.

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: 50° - 80°

Operating Pressure: min. 100 bar (1450 psi)

Note: Choose short spray distance to avoid 'dry spraying'

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: 2 - 3 bar (29 - 43 psi)

Tip Size: 1.7 – 2.5 mm (0.06 – 0.10 inch)

Brush

Brush application is suitable for small areas and touch up only.



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RECOMMENDED SYSTEMS

Steel

1-2 x Zinc Clad® ZS
1 x Macropoxy® EG-1 Plus (as a sealer if necessary)

Without topcoat:
2 x Zinc Clad® ZS

Weldable shop primer:

1 x Zinc Clad® ZS, dry film thickness 20 µm.

Compatible with a wide range of Sherwin-Williams Macropoxy® coatings and Acrolon® topcoats.

Overcoatable with Macropoxy® EG-1 Plus as a sealer, followed by epoxy and polyurethane coatings provided the surface to be coated is clean, dry and free from contamination.

Note: Whilst overcoating of Zinc Clad® ZS blisters and/or pores may occur. To prevent this it is necessary to spray a thin layer of Macropoxy® EG-1 Plus, thinned with 8 - 10% w/w Thinner EG, as a sealer coat. Afterwards spray 'wet on wet' the remaining layer thickness of Macropoxy® EG-1 Plus.

ADDITIONAL NOTES

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

Chemical resistance:

Resistant to weathering, water and mechanical wear.

Temperature resistance:

Dry heat up to approx. + 400°C.

Increased humid ambient temperature up to approx. + 50°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

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