



UNITHERM® 1705

SOLVENT-BASED ALKYD PRIMER

Revised 07/2023 Issue 1

PRODUCT DESCRIPTION

A solvent-based 1-pack alkyd primer for steel, containing zinc-phosphate.
• Fast drying, universally applicable as primer with a great range of dry film thicknesses

RECOMMENDED USE

As an anti-corrosive primer for atmospheric exposed steel surfaces.

PRODUCT TECHNICAL DATA

Volume Solids:	49 ± 2% (ISO 3233-3)
Weight Solids:	67 ± 2%
VOC:	462 g/l determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04). 503 g/l calculated from formulation to satisfy EC Solvent Emissions Directive. 359 g/kg calculated from formulation to satisfy EC Solvent Emissions Directive (UK).
Colours:	Red brown approx. RAL 8012
Flash Point:	35°C
Cleaner/Thinner:	Thinner S (for cleaning) Thinner S for thinning with max. 3% to adapt the viscosity. Thinning will affect VOC compliance, sag tolerance and dry film thicknesses.
Pack Size:	Single component material: 25 kg (17.8 litre). Volume will vary with colours and density.
Density:	1.4 kg/l (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, Conventional Spray, Brush and Roller

Typical Thickness:

	Recommended Spreading Rate Per Coat		Maximum Sag
	Typical		
Dry	40 µm	80 µm	160 µm
Wet	82 µm	163 µm	327 µm
Theoretical Consumption*	0.114 kg/m ² 0.082 l/m ²	0.229 kg/m ² 0.163 l/m ²	
Theoretical Coverage*	8.75 m ² /kg 12.25 m ² /l	4.38 m ² /kg 6.13 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 Unitherm® 1705 should not exceed 160 µm per layer.



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AVERAGE DRYING TIMES

For 80 µm Dry Film Thickness:

	+ 20°C
Dry to handle (Drying Stage 6*)	16 hours
To Recoat	16 hours

*ISO 9117

Maximum recoat time is 6 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

Tested and official approved primer for FIRETEX®, Unitherm® and Pyroplast® fire protection systems on steel.

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

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

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

APPLICATION CONDITIONS

Substrate temperature shall be above + 5°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

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

Fan Angle: 40° - 80°

Operating Pressure: min. 150 bar (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 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: 4 - 6 bar (58 - 87 psi)

Tip Size: 1.5 – 2.0 mm (0.06 – 0.08 inch)

Brush and Roller

Brush and roller application is suitable.



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RECOMMENDED SYSTEMS

Steel:

1 x Unitherm® 1705

Suitable topcoats:

Versatile overcoatable with 1-pack topcoats and with FIRETEX®, Unitherm® and Pyroplast® fire protection systems for steel.

ADDITIONAL NOTES

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

Chemical resistance:

Resistant to weathering.

Temperature resistance:

Dry heat up to + 80°C.

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.

The appropriateness of the product under the actual conditions of application or intended use must be determined exclusively by you. The content of this document, and of any oral or written statements already made or to be made in relation to the subject matter of this document, including any suggestions as to appropriate products and any proposed application methods, technical details and other product information represent only test results or experience obtained under controlled or defined circumstances, and is therefore provided for general information purposes only.

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