



HEAT-FLEX® ALUTHERM

HEAT RESISTANT SILICONE RESIN BASED COATING FOR STEEL

Revised 07/2023 Issue 1

PRODUCT DESCRIPTION

A 1-pack topcoat, based on a silicone resin.

- Temperature resistant with primer from + 400°C up to + 540°C
- Temperature resistant without primer up to + 600°C

RECOMMENDED USE

Can be used as a high temperature and weather resistant protective coating for atmospheric corrosion protection.

For hot steel surfaces in power stations, refineries, chemical industries. Suitable for metal chimneys, rotary kilns, steam pipes, industrial furnaces etc.

PRODUCT TECHNICAL DATA

Volume Solids:	31 ± 2% (ISO 3233-3)
Weight Solids:	49 ± 2%
VOC:	612 g/l determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04). 618 g/l calculated from formulation to satisfy EC Solvent Emissions Directive. 515 g/kg calculated from formulation to satisfy EC Solvent Emissions Directive (UK).
Colours:	Aluminium, approx. RAL 9006
Flash Point:	26°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: 25 kg (20.8 litre). Volume will vary with colours and density.
Density:	1.2 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, Brush and Roller

Typical Thickness:

	Recommended Spreading Rate Per Coat	
	Typical	Maximum Sag
Dry	40 µm	60 µm
Wet	129 µm	194 µm
Theoretical Consumption*	0.155 kg/m ² 0.129 l/m ²	
Theoretical Coverage*	6.46 m ² /kg 7.75 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 Heat Flex® Alutherm should not exceed 60 µm per coat.



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AVERAGE DRYING TIMES

For 40 µm Dry Film Thickness:

	+ 20°C
Dust-dry	30 min
Dry to touch	90 min
To Recoat	24 hours

Final cure: Avoid sudden temperature exposure at least 1 week after application and before the final curing described below.

For final curing/reaction and for achieving of all product properties a minimum temperature of + 180°C to + 200°C over a period of 2 hours is necessary.

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

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.

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 clothings.

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: 0.33 – 0.46 mm (0.013 – 0.019 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: 2 - 4 bar (30 - 60 psi)

Tip Size: 0.8 – 1.5 mm (0.03 – 0.06 inch)

Brush and Roller

Suitable only for the repair of small areas or to stripe coat edges.



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RECOMMENDED SYSTEMS

Steel

From + 400°C up to + 540°C:

1 - 2 x Zinc Clad® ZS

2 - 3 x Heat-Flex® Alutherm

Up to + 600°C:

2 - 3 x Heat-Flex® Alutherm

ADDITIONAL NOTES

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

Chemical resistance:

The fully cured material is resistant to weathering

Temperature resistance:

Dry heat up to + 600°C; with zinc dust primers (e.g. Zinc Clad® ZS) up to max. + 540°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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