



Thermaguard™ SAL 600

Siloxane Aluminum Heat Resistant Coating

Technical Data Sheet rev 09.16

Product description

Thermaguard™ SAL 600 is a high temperature resistant siloxane aluminum, single component, ambient curing, coating which is designed to provide corrosion protection throughout a range of temperatures from -196 to 600°C.

Formulated coating to provide corrosion protection to steel equipment which is exterior exposed and operating at elevated or cryogenic temperatures. Designed to withstand thermal cycling throughout its operating range while maintaining corrosion protection to steel substrates.

Intended applications

Thermaguard™ SAL 600 provides corrosion protection to steel processing equipment operating at elevated or cryogenic temperatures -196 to 600°C. Can be used in both OEM (shop applied) & maintenance applications, due to its surface tolerance to St 2/3 prepared surfaces.

Such facilities include, petrochemical, chemical plants, offshore, power, refining, and generic processing: pipework, flares stacks, vents, chimneys, exhausts, tanks, heat exchangers etc. operating within -196 to 600°C temperature range.

Technical information

Product chemistry

A single component, ambient curing, siloxane aluminum.

Colour

Aluminum

Specific gravity

Approx. 1.55 g/ml

Theoretical spreading rate

27.2 m²/l at 25µm DFT

Typical film thickness

25 - 75µm DFT per coat

Volume solids

68%± 2%

VOC

Approx. 324 g/l

Flashpoint (ISO 1523)

30°C

Auto ignition temperature

>200°C

Temperature resistance

-196 to 600°C

Application methods

Airless, airspray, brush & roller



Surface preparation

Intended for steel surfaces, both carbon & stainless. Substrates must be clean, dry and free from any contamination. All oil, dirt, grease, dust, foreign material and loose rust must be removed prior to coating.

Carbon steel

Abrasive blast clean to Sa 2½ (ISO 8501-1:2007) or SSPC-SP10. The resulting surface profile (R_z) should be 30 -50µm. All sharp edges & rough welds should be rounded off.

Thermaguard™ SAL 600 has surface tolerance to maintenance work applications where tight adhering or flash rusted steel surfaces are present & blasting is not possible. In such circumstances proceed with the following pretreatment; remove all loose adhering rust & rust scale and follow St 2/3 surface preparation prior to application.

Stainless steel

Abrasive sweep clean using a non-metallic & chloride free abrasive (aluminum oxide or garnet). The resulting surface profile (R_z) should be 30 -50µm. All sharp edges & rough welds should be rounded off.

Substrate temperature & conditions

Substrate temperature should remain between 10 to 50°C and remain 3°C above the dew point and relative humidity should remain 35 - 85% during application. For hot application (50 to 130°C) thinning may be necessary to ensure correct application of the coating.

- Thermaguard™ S100, (0 - 10%)

System specifications

Thermaguard™ SAL 600 in a 2 coat application for corrosion protection as a direct to metal (DTM) coating system.

Carbon or stainless steel, ambient spray (10 to 50°C) application:

- Thermaguard™ SAL 600: 25 - 75µm DFT
- Thermaguard™ SAL 600: 25 - 75µm DFT



Application of Thermaguard™ SAL 600 by airless or airspray are the preferred application methods when applied over Sa 2½ prepared carbon steel or abrasively swept stainless steel ($R_z > 30\mu\text{m}$). New build applications should adopt a stripe coating method to ensure edges have adequate film build.

Topcoated finish, ambient spray (10 to 50°C) application:

- Thermaguard™ SAL 600: 25 - 75µm DFT
- Thermaguard™ SAL 600: 25 - 75µm DFT
- Thermaguard™ TC 1200: 50 - 60µm DFT

If coloured finishes are required whether for safety recognition or aesthetical purposes, Thermaguard™ TC 1200 can be used, please see technical data sheet for further information regarding this product.

Application

Airless

Pump: 30:1 or higher

Tip size: 0.015 - 0.017 inch

Pressure: 2031 - 2321psi / 140 - 160 bar

Thinning:

Thermaguard™ X21, 10 to 50°C, (0 - 5%)

Thermaguard™ S100, 50 to 130°C, (0 - 10%)

Airspray (conventional)

Pressure: 30 - 40 psi / 2.1 - 2.8 bar

Nozzle orifice: 1.8 - 2.2mm

Thinning:

Thermaguard™ X21, 10 to 50°C, (0 - 10%)

Thermaguard™ S100, 50 to 130°C, (0 - 10%)

Brush/roller

Thinning:

Thermaguard™ X21, 10 to 50°C, (0 - 5%)

Thermaguard™ S100, 50 to 130°C, (0 - 10%)

Mixing

Thermaguard™ SAL 600 is a single component product, settling can occur during transport & storage. The material should always be mixed using a mechanical agitation ensuring all settled-out pigments are dispersed until a uniform consistency is reached.

Reactivity

Thermaguard™ SAL 600 is reactive with moisture, skinning can occur once opened. To prevent skinning keep covered at all times.

Reducer

Thermaguard™ X21 (10 to 50°C application)

Thermaguard™ S100 (50 to 130°C application)

Clean up

Use Thermaguard™ X21 for cleaning after product use. Ensuring all material is flushed from application equipment.

Packaging

5 & 20 litres



Coating & curing schedule

Spreading rate information

DFT	Theoretical spreading rate
25	27.2 m ² /l
75	9.07m ² /l

Film thickness information

DFT/WFT	Minimum (µm)	Maximum (µm)
Dry film thickness	25	75
Wet film thickness	37	110

Drying & recoating information

Temperature (°C)	Touch dry	Overcoating time	Dry to handle
10	6 hours	16-24 hours	36 hours
23	2 hours	6-8 hours	24 hours
38	1 hour	4 -6 hours	16 hours
130	N/A	N/A	N/A

Notes: drying times can vary upon different environmental conditions. Coating should be applied within the information supplied to ensure drying & overcoating times are not affected. Product is fully cured from ambient conditions & does **not** require heating to obtain mechanical & corrosion protection. Unlimited overcoat time even after exposure to elevated temperatures.

Additional information

Safety precautions

This product is for use only by professional applicators in accordance with information in this Technical Data Sheet (TDS) and the applicable Material Safety Data Sheet (MSDS). Refer to the product MSDS before using this material. All usage of this product must be kept in compliance with local, health, safety & environmental conditions & regulations.

Storage & shelf life

Material should be stored in a dry, shaded environment away from heat & ignition sources. Do not allow material to freeze. Shelf life is minimum 12 months at 23°C.

Important

The information of the product displayed herein is to the best knowledge of Performance Polymers. All testing has been under strict laboratory conditions which Performance Polymers believes to be reliable; therefore, onsite performance can vary with application in different conditions. Additionally, Performance Polymers has no control of external factors e.g. substrate quality of preparation or any other factors which can hinder affect the performance of this product. The information in this TDS is not to be extensive; any use without confirmation from Performance Polymers is doing so at their own risk. Any deviation of performance on site isn't liable to Performance Polymers. The performance of this product carries no warranty. The documentation of this product should be thoroughly read before use.