
Product description

Thermaguard™ TC 1200 is a single component, ambient curing polysiloxane topcoat which is thermally colour stable at elevated temperatures. The product can be operated within cryogenic -196 to 650°C temperature range. Completely inorganic chemistry results in ultra-high performance regarding operating temperature & UV degradation.

Available in a full range of safety colours, RAL shades & custom colours formulated upon request. The product can be applied over suitably primed steel surfaces such as Thermaguard™ SAL 600 anti-corrosion coating. Can be applied in service up to 130°C substrate temperature.

Intended applications

Thermaguard™ TC 1200 can be used where safety recognition of equipment is necessary or aesthetic views are of importance. Should always be applied over primed steel with Thermaguard™ SAL 600 or an approved Inorganic zinc (IOZ). Such applications include flares, stacks, valves, tanks, chimneys, pipework, steamlines etc.

Technical information

Product chemistry

A single component, ambient curing, polysiloxane.

Colour

Safety colours & RAL shades.

Specific gravity

Approx. 1.60 g/ml

Theoretical spreading rate

14.6 m²/l at 50µm DFT

Volume solids

73% ± 2%

VOC

Approx. 231 g/l

Flashpoint (ISO 1523)

30°C

Auto ignition temperature

500°C

Temperature resistance

-196 to 650°C

Application methods

Airless, airspray and brush & roller

Surface preparation

Intended for primed 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.

Primed carbon steel

Thermaguard™ SAL 600; 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. Followed by application of Thermaguard™ TC 1200 in accordance with the technical specification.

Primed stainless steel

Thermaguard™ SAL 600; 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. Followed by application of Thermaguard™ TC 1200 in accordance with the technical specification.

Substrate temperature & conditions

Ambient substrate temperature application should remain between 10 to 50°C and remain 3°C above the dew point and relative humidity should be 35 - 85% during application. For various temperature applications, thinning rates are:

- Thermaguard™ X21; 10 to 60°C (0 - 10%)
- Thermaguard™ S100; 60 to 150°C (5 - 10%)

System specifications

Thermaguard™ TC 1200 in a single coat application for a coloured finish.

Primed carbon or stainless steel, ambient spray (10 to 50°C) OEM, shop application:

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

Application of Thermaguard™ TC 1200 by airless or airspray are the preferred application methods for OEM (shop applied work).

Maintenance application, brush & roller (10 to 50°C) application:

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

At higher temperature applications further coats maybe necessary to build the film to a total of 100 - 250µm DFT.

Application

Airless

Pump: 30:1 or higher

Tip size: 0.015 - 0.017 inch

Pressure: 2321 - 2901 psi / 160 - 200 bar

Thinning:

Thermaguard™ X21, 10 to 60°C, (0 - 3%)

Thermaguard™ S100, 50 to 150°C, (0 - 10%)

Remove all mesh filters.

Airspray (conventional)

Pressure: 30 psi / 2.1 bar

Nozzle orifice: 1.8 - 2.2mm

Thinning:

Thermaguard™ X21, 10 to 60°C, (0 - 3%)

Thermaguard™ S100, 60 to 150°C, (0 - 10%)

Brush/roller

Thinning:

Thermaguard™ S100, 60 to 150°C (0 - 10%)

Mixing

Thermaguard™ TC 1200 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™ TC 1200 is reactive with moisture, skinning can occur once opened. To prevent skinning keep covered at all times.

Reducer

Thermaguard™ X21 (10 to 60°C application)

Thermaguard™ S100 (60 to 150°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
50	14.6 m ² /l
60	12.2 m ² /l

Film thickness information

DFT/WFT	Minimum (µm)	Maximum (µm)
Dry film thickness	50	60
Wet film thickness	69	82

Drying & recoating information

Temperature (°C)	Touch dry	Overcoating time	Dry to handle
10	6 hours	24 hours	36 hours
23	2 hours	6-8 hours	24 hours
38	1 hour	4 -6 hours	16 hours
130	N/A	15 minutes	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.