Oxifree TM198 Material Datasheet

V2.6 – 2025

Introduction:

Oxifree TM198 material was developed for use to combat the worldwide corrosion issues that are faced by all industries and infrastructures.

Specifically Oxifree TM198 offers a solution to protect complex metallic structures for short or extended periods of time.

Description:

Oxifree TM198 is an organic polymeric resin coating applied in a fluid state. It can easily be removed when required and is 100% reusable. It contains anti-corrosion substances that inhibit corrosion and penetrate threaded fastenings to stop seizures.

Recommended Use:

- Anti-corrosion protective coating applied to bolted flanges, valves bearing housings, critical pipeline connections, short and long term storage of strategic machine parts and metal surfaces regardless of size or shape that are exposed to aggressive/corrosive working and storage environments.
- Metal interfaces composed of different materials and metal surfaces affected by corrosion caused by exposure to chemical and maritime environments.
- Protection of mobile machinery and components, in short or long term storage.
- The flexible polymeric resin coating allows for easy removal for inspection and re-application during scheduled maintenance.

HMIS/NFPA Hazard ID System:

Health: 1
Flammability: 1
Reactivity: 0
Personal Protection: B

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Hazardous Ingredients/Identity:

Proprietary ingredients
Chemical Family: Cellulose
Contains no known hazardous components as defined in Standard 29 CFR 1910.1200

Approval References:

- ASTM B117 – salt spray test – successfully tested to 2x industry benchmark after 6000hrs of testing
- ASTM G154 UV weathering test successfully exceeded standards after 3000hrs of testing
- EPA 8260 - Volatile Organic Compound (VOC) Test (<0.0059%)
- Boeing BSS 7239 – successful smoke toxicity test with exceptionally low toxicity
- ASTM E662 – successful smoke generation test
- ASTM G85-09 Annex A5 prohesion test – successfully approved with 1000hrs testing
- BS EN 11925-2 – single burning item test – Complete and passed within standards
- ISO 20340 Annex A – Ageing Procedure - Performance requirements for protective paint systems for offshore – Complete and passed after 4,200hrs
- ISO 2812-2 – Sea Water Immersion with scribed and unscribed for 4,200hrs. Less than 1mm of creep infiltration
- ASTM G53 – Accelerated Weathering Test – Passed after 3,000hrs cycle of 4hr UV at 60 °C + 4hr Condensation at 50 °C
- BS 3900 F2 – Cyclic Condensation Test – Passed with 100% humidity
- OECD 201/202/203 – Acute Aquatic/Fish/Water Toxicity Test – Passed with aquatic specimen being exposed/feed for 96hrs.
- ASTM D522 - Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings for coating flexural strain (flexibility) - Passed
- ASTM D790 - Cryogenic bend flexibility at beyond -50 Celsius
- ASTM D149-09 – Dielectric strength testing 14000 Volts per mm
- BS 2782 Pt.2 - Volumetric resistivity testing (Electrical resistance) Infinite resistivity
- ASTM D968 – Sand abrasion test – successfully completed with 10x resistance of most epoxy coatings
- UL94 V2 – Flammability test – self extinguishes on removal of flame source
- ASTM D7359 - Chlorine content by Combustion Ion Chromatography. Passed with amount of Chloride is 20 times less than the drinking water
- BS EN 12664:2001 – Thermal Conductivity Test - Thermal Conductivity: 0.1216 W/mK
- ISO 37 – Elongation 89% & Tensile 2.76N/mm$^{2.}$

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Appearance:
Standard grey, semi-gloss surface or others on request.
Melting Point:
120°C / 248°F

Recommended application temperature:
165 to 175°C / 329 to 347°F (operating temperature should not exceed this)
Viscosity:
1350cps @175˚C/347˚F
Flashpoint:
Greater than 225°C/428°F
Chemical definition:
100% solids
Resistance:
Will resist a wide range of physical metal reactions inclusive of chemical splashing and sea water/spray
Application:
By a choice of 3 portable Polymelt units to heat and apply the Oxifree TM198 1. Polymelt 12 (12lb / 5.5KG capacity) machine which is lightweight and offers ease of transportation for smaller applications 2. Polymelt 50 and Polymelt 50 ATEX2/IECEx-22 (50lb / 22KG capacity) machines for greater levels of sustained working application and for use in hazardous environments
Surface preparation:
• ST2 - A general commercial clean to remove loose and flaking fragments of existing coatings and rust. • Follow with a solvent wash with water to remove any oily surface contaminants. • Dry the surface before applying the Oxifree material

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Recommended thickness:

- 4.0mm for protection on the spot/site
- 2.0mm for protection of parts in stock

Time to dry:

Varies depending on ambient conditions and surface temperature, but no more than:

- Touch dry: 3-5 minutes
- Overlay: 5-10 minutes
- General handling: 15 minutes (to avoid skin burns)

Applying in adverse conditions:

- Exposure to extreme temperatures and UV may induce the appearance of rust inhibiting agents on the surface of the coating resulting in a slight change of appearance; however this does not affect the preventive corrosion characteristics.
- Applications in temperatures below 5°C / 41°F that are free of ice and moisture will require a continuous application process.
- Maximum surface temperature following application of coating: 70°C / 158°F.
- Minimum surface temperature following application of coating: -60°C/-76°F.

Fire and Explosion Hazard Information:

- Extinguishing Media- Water vapour, Dry chemical, Foam and CO2
- Treat as oil fire
- Vapours possibly flammable beyond 220˚c/428˚f flash point

Storage and Handling:

- Store in cool dry environment (below 27˚c/80˚f)
- Waste Disposal as per local legislation same as wax or vegetable oil
- 2-Year shelf Life (must not be applied after expiration)

Safe Handling & PPE Requirements:

Flame Retardant Coveralls, heat resistant gloves, safety boots, hard hat with full-face visor.

- Wear protective gloves while handling hot material
- Wear eye protection while handling hot material

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