Polytherm 650

CUI COATING

Product Description:

Polytherm 650 is a single-component, micaceous iron oxide, enhanced inert multipolymeric matrix coating designed to provide unmatched protection against corrosion under insulation (CUI) and excel in thermal shock/cycling in dry/wet service environments.

Typical Uses:

Polytherm 650 is a high-performance coating designed for direct application to steel or stainless steel surfaces, provides exceptional protection under insulation in cyclic service environments up to 650°C, making it suitable for use in power plants, refineries, chemical facilities, offshore and marine environments, and the pulp and paper industry over properly prepared, insulated, or uninsulated steel surfaces.

Feature:

- Superior protection against corrosion under insulation (CUI)
- Resistance to stress corrosion cracking
- Suitable for application on surfaces from ambient to 260°C [500°F]
- Suitable for service temperatures from -196°C [-321°F] to 650°C [1202°F] for dry or dry/wet service.
- No maximum recoat time
- Self-priming, single-component for easy application

Technical Properties:

Color/Shades	Grey, Dark Grey and Aluminum
Finish/Gloss	Low sheen
Volume Solids	58 ± 2%
Specific Gravity	1.93 Kg/Liter
Mix ratio	Not Applicable
Typical Thickness	125-150 microns [5-6 mils] dry equivalent to 219-263 microns [8.6-10.4 mils] wet
Coverage	4.56 m^2/liter at 125 microns DFT (theoretical)
Flash Point	31^{0}C [87°F]
VOC	< 375 g/Lit
Reducer/Thinner	Thinner H1
Cleaner	Thinner C1

Drying Time

Surface Temperature	**10°C [50°F]**	**25°C [77°F]**	**50°C** [122°F]
Touch dry	30 Minutes	20 Minutes	10 Minutes
Tack free	90 Minutes	60 Minutes	30 Minutes
Recoat	3 Hours	2 Hours	1 Hour
Handle	24 Hours	24 Hours	24 Hours

These figures are provided at dry film thickness of 200 microns WFT at standard conditions.

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Surface Preparation:

The surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign materials to ensure adequate adhesion.

Iron & Steel:

- Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1
- Abrasive blasting to minimum Sa 2.5 [ISO 8501-1]/SSPC SP10,
  Optimum surface profile: 1.5-2.5 mils / 40-63 microns maximum
- Hand or power tool cleaning to, St 3 [ISO 8501-1]/SSPC SP3 for maintenance & repair
- If Sa 2 [ISO 8501-1]/SSPC-SP6 is not possible, power Tool Cleaning to Bare Metal per SSPC-SP11 is also acceptable (1.0-2.5 mil / 25-63 micron profile maximum)
- Hand Tool Cleaning per SSPC SP 2 or Power Tool Cleaning per SSPC SP 3 are acceptable* preparation methods when SSPC SP 6 or SSPC SP 11 are not possible.
- All surfaces to be coated shall be cleaned in accordance with WJ-2/L standards. Pre-existing profile should be approximately 1.5 mils (37 microns).
- Remove all weld spatter and round all sharp edges. Coat any bare steel the same day as it is cleaned or before flash rusting occurs.

Stainless Steel:

- Clean as per SSPC SP1
- Use aluminum and other non-ferric metals and alloys; use non-metallic blast media. Aluminum oxide grit is also acceptable
- Do not use chlorinated solvents for cleaning stainless steel.

Application

Application Method	Thinning	Application Parameters
Airless Spray	-	Unit: 30:1 Pump Pressure: 2700 - 3000 psi Hose: 3/8" ID Tip: 017-.019 Filter: 60 mesh
Conventional Spray	-	Gun: Graco 700N Fluid Tip: 045" - .055" Air Nozzle: 20 cfm Atomization Pressure: 50 psi Fluid Pressure: 20 - 30 psi
Brush & Roller	-	Brush: Bristle brush Cover: 1/2" woven with solvent-resistant core

Adjustments to pressures and tip sizes may be required to achieve optimal spray characteristics. Before use, always purge spray equipment using the recommended reducer. Ensure any reduction complies with applicable VOC regulations and is suitable for the environmental and application conditions

Application Notes:

- Mix the paint thoroughly using low-speed power agitation to achieve a consistent texture. Additional mixing may be necessary during application due to the paint's heavy consistency. Ensure that no air is incorporated during the mixing process.
- Product performance is relative to the surface preparation achieved. *Where SSPC SP 2 or SP 3 are used the Dry Temperature Resistance is recommended to a maximum 538°C, continuous and peak.
- Applying a spreading rate above the maximum or below the minimum recommendations may negatively impact coating performance.
- When using spray application, ensure a 50% overlap with each pass of the gun to prevent holidays, bare areas, and pinholes. If necessary, apply cross spray at a right angle.
- Spreading rates are based on the volume of solids and do not account for application loss factors. These factors can include the surface profile, roughness, porosity of the surface, the skill and technique of the applicator, the method of application, various surface irregularities, material lost during mixing, spillage, excessive thinning, climatic conditions, and the build-up of the film.
- No thinning of material is recommended as it can affect film build, appearance, and adhesion.
- If reduction is required for application to hot steel, use Thinner H1 up to a maximum of 5% by volume
- During application to hot steel, apply coating in several thin passes to allow solvent to escape and to prevent blistering. Allow at least 15-20 minutes between each coat. If blistering does occur, brush out immediately with a china bristle brush.
- Always test adhesion by applying a test patch of 2-3 square feet. Allow one week to dry before checking adhesion.
- In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Thinner C1.
- Minor color change may be exhibited in exposed service, but will not affect performance.
- If applying a topcoat, apply a mist coat of the topcoat. Allow 10 minutes flash off and follow with a full coat.

Application Conditions:

- The surface temperature must be maintained between a minimum of 10°C [50°F] and a maximum of 260°C [500°F].
- The air and material temperatures should range from a minimum of 10°C [50°F] to a maximum of 49°C [120°F].
- The temperature must be at least 3°C [5°F] above the dew point to prevent condensation during application.
- The relative humidity should not exceed 85% to ensure proper application and curing.

Storage

Shelf Life: 12 Months, when sealed

Storage Conditions: Store indoors at 4.5^{0}C [40^{0}F] to 31^{0}C [100^{0}F]

The product must be stored in accordance with national regulations. Keep the containers in a cool and dry place and well-ventilated area with no direct source of heat or light. Containers must be kept tightly closed when not in use.

Safety: Handle with care. Before & during use, observe all safety labels on packaging and paint containers, consult Material Safety Data Sheets, and follow all local or national safety regulations. Avoid inhalation, avoid contact with skin & eyes, and do not swallow. Take precautions against possible risks of fire or explosions as well as protection of the environment. Apply only in well-ventilated areas.

Disclaimer: The information in this document is given to the best of TRPL's knowledge, based on laboratory testing & practical experience. TRPL products are considered semi-finished goods, as such products are often used beyond TRPL's control. TRPL can not guarantee anything but the quality of the product itself. Minor product variations may be implemented to comply with local requirements. TRPL reserves the right to change the given data without further notice. User should always consult TRPL for specific guidance on the general suitability of the product for their needs and specific application practices.