

# APCOTHERM 800 CUI

## PROTECTIVE COATING

## Patented Technology Engineered High Temperature Polymer Coating

### PRODUCT DESCRIPTION

Single-pack patented technology specially engineered into an inorganic co-polymer infused with MIO and other high heat resisting pigments. It is an air drying high temperature resistant coating system for protection of CS & SS surfaces from atmospheric corrosion, corrosion under insulation and corrosion on buried high temperature vessels & underground pipelines.

This high-performance surface tolerant coating forms an inert multi-polymer matrix after curing which is resistant to a wide range of operating temperature between -196°C to +850°C based on the material of construction i.e. carbon steel / stainless steel.

### PRODUCT FEATURES

- 850°C dry operational continuous temperature resistance for stainless steel surfaces.
- 750°C dry operational continuous temperature resistance for carbon steel surfaces.
- 250 µm DFT high-build single coat DTM application or over a zinc silicate primer for C5/CX exposures.
- 200 °C suitable for hot steel surface application during shut downs & maintenance.
- 196°C suitable for use in thermal shock/ rapid cycling in dry or dry/wet service temperatures.
- Protects SS from chloride attack by forming a protective barrier.
- Protect austenitic and DSS by preventing external stress corrosion cracking.
- Outstanding weathering & UV resistance and durability along with good chemical resistance.
- Conforms to NACE SP0198-2017 systems SS-5, CS-6 and CS-8.
- Tested and evaluated according to NACE TM0174; standard test method for evaluating protective coatings for immersion service, resistance to boiling tap water, Method B.
- Tested in accordance with ISO 12944-6, high expected durability in corrosion category CX.

- Tested and evaluated for suitability to CUI resistance as per Houston Pipe Test.
- Tested and evaluated for suitability to underground wet soil conditions for buried piping & vessels.

### PRODUCT DATA

Properties	Value
Volume solids	Approx. 75± 2%
Recommended DFT/Coat	100-250 microns
Theoretical coverage	6.0sq.mtr/ltr @ 125 microns DFT 5.0sq.mtr/ ltr @ 150 microns DFT
Drying time at 30°C	Surface dry: 1 hour @125 microns DFT Hard dry: 5 hour
Over coating interval at 30°C	Min. 8 hrs
Colour	Black grey

The data given is for guideline only. The physical values are subject to normal manufacturing tolerances, colour and testing variances.

The volume solids indicated are as per ASTM D 2697 air drying method.

The actual drying time/ overcoat interval may be shorter or longer, depending on film thickness, ventilation, humidity, temperature etc. The information provided above is at 30°C and 65% relative humidity.

## RECOMMENDED USE

As a universal coating for bulk valves & piping for protection above-ground piping, under insulation and underground at temperatures between -196°C to +850°C based on material of construction like CS or SS.

### Recommended for the following:

- Mufflers and Exhausts
- Hot Piping, Process Vessels, Heat Exchangers
- Boiler Casings, Stacks, Breechings
- Refinery Heaters, Crackers & Reactors
- Furnaces, Kilns, Heat Exchangers
- Closed Blow Down Lines
- Other exposed, Insulated or Buried high temperature equipment's & piping

## SURFACE PREPARATION

### Surface conditions of carbon steel for insulated and non-insulated service:

- Must be free of oil, dirt, grease and all other contaminants, especially salts round off all rough welds and sharp edges.
- Remove weld spatter, recommended is dry abrasive blast cleaning to min. Sa 2½ (ISO 8501-1)/SP 10 (SSPC). Alternative methods to abrasive blast cleaning include: ISO-S12 (SSPC-SP-2), ISO-St3 (SSPC-SP-3), SSPC-SP-15 or SSPC-SP WJ-2 or WJ-3 with dry surface. For application in cryogenic service and for application over inorganic zinc (IOZ), refer to the Asian Paints Berger Technical Guide.

### Surface conditions of stainless steel for insulated and non-insulated service:

- It should be free of oil, dirt, grease and all other contaminants, especially salts round off all rough welds and sharp edges. Remove weld spatter. Use non-metallic blast cleaning media like aluminium oxide beads, garnet, etc to clean stainless steel, aluminium and other non ferrous metals and alloys.

## APPLICATION CONDITIONS

- A blast profile (Sa 21/2) is necessary for adhesion.
- Substrate temperature should be at least 3°C above dew point.
- Relative humidity should be below 85%.
- Good ventilation is required in confined areas to ensure proper curing.

## MIXING

Mechanical stirring is necessary before usage and during application. Apcotherm 800 CUI is a heavily pigmented and thick bodied coating material. Make sure that there is no settling at the bottom of the can. If thinning is required, use the recommended AP Thinner in accordance with the applicable guidelines.

## METHOD OF APPLICATION

### Airless Spray:

Application at ambient condition

Recommended thinner	:	Thinner No. 800
Volume of thinner	:	0-15%
Nozzle orifice	:	0.38 mm (15 Thou)
Nozzle pressure	:	10-13 MPa (approx. 100-130 atm, 1400-1800 psi)

Application at high temperature

Recommended thinner	:	Thinner No 800H
Volume of thinner	:	0-5%
Nozzle orifice	:	0.38 mm (15 Thou)
Nozzle pressure	:	10-13 MPa (approx. 100-130 atm, 1400-1800 psi)

**Note:** Airless spray data are indicative and subject to adjustment. Use lowest possible spraying pressure to avoid dry spraying.

### Brush Application:

Recommended thinner	:	Thinner No 800
Volume of thinner	:	10-15%

**Note:** Apcotherm 800 CUI is a heavy bodied paint and hence it is difficult to obtain a smooth film by brush, although this does not affect performance.

## Drying Time

Temperature	Surface Dry	Hard Dry
15°C	70 Min	6 Hrs
25°C	50 Min	5 Hrs 30 Min
35°C	35 Min	5 Hrs
45°C	20 Min	4 Hrs 15 Min

**Note:** The above drying data was generated for 125µm DFT at standard conditions. To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing. Drying times can vary based on environmental and substrate conditions.

For use below insulation and underground, the drying times have to be doubled from hard dry to ensure sufficient solvent evaporation. Do not exceed the recommended DFT as this can affect dry times.

The maximum performance is achieved after complete drying. At higher relative humidity, drying may get retarded. For long term corrosion protection, primer coat is recommended.

## CLEANING

Do not allow the product to remain in hoses, gun or spray equipment. Clean all equipment's immediately after use with thinner T-131. It is recommended to periodically flush out spray equipment during the course of the working day. The frequency of cleaning will depend on amount sprayed, temperature and time gap.

All surplus material and empty containers should be disposed of in accordance with appropriate regional legislation.

## PRODUCT CHARACTERISTICS

Properties	Value
Pack size	5 Litre
Shelf life & storage	Atleast 1 year @ 30°C for original unopened pack, subject to inspection thereafter. Store in a cool, dry place and in accordance with local regulations.

Regulatory information	Flash point not less than 27°C
VOC	345 ± 10 gm/ltr (depending on shades)as per USA-EPA Method 24
Product weight	Approx.1.90 ± 0.02 kg/ ltr

## SAFETY INFORMATION

### Resin Base:

- As a general safety measure, inhalation of solvent vapours or paint mist and contact of liquid paint with skin & eyes, should be avoided. Forced ventilation should be provided when applying paint in confined spaces or stagnant air. Even when ventilation is provided, respiratory, skin and eye protection are always recommended when spraying paint.
- Please refer our MSDS prior to using the product.

## DISCLAIMER

The information provided on this data sheet is not intended to be complete and is provided as general advice only. It is the responsibility of the user to ensure that the product is suitable for the purpose for which he wishes to use it. As we have no control over the treatment of the product, the standard of surface preparation of the substrate, or other factors affecting the use of this product, we are not responsible for its performance nor would we accept any liability whatsoever or howsoever arising from the use of this product unless specifically agreed to in writing by us. The information contained in this data sheet may be modified by us from time to time, and without notice, in the light of our experience and continuous product development.