

# THERMO-LAG 440

## FLAMMABLE LIQUID STORAGE MARKET

### Fire Protection for Spheres and Tanks Storing Flammable Liquids

#### Material Description

**THERMO-LAG 440** is a subliming, two component, epoxy based fire resistive coating which is spray applied directly to primed sphere or tank surfaces.

**THERMO-LAG 440** cures to a durable, tough, protective finish.

#### Basic Use

**THERMO-LAG 440** is applied to pressurized or non-pressurized spheres and tanks to provide hydrocarbon pool fire ratings for 1 and 2 hour protection.

#### FEATURES AND BENEFITS:

- Approved By Department Of Transportation (DOT)
- Tested By Bundesanstalt Fur Materialprufung (BAM)
- Successfully Passed The UL 1709 Environmental Test Program
- Corrosion And Long Term Fire Protection In One System
- High Bond Strength
- High Flexural Strength
- Explosion Resistant
- Global Use For Over A Decade

#### THERMO-LAG – HOW IT WORKS

Sublimation is a process which uses massive amounts of thermal energy in effecting a transformation of a solid material directly into a gas without an intermediate liquefying stage. The fire rating provided by **THERMO-LAG** is largely determined by the applied thickness and steel mass.

#### Product Data:

Generic Type:	<b>THERMO-LAG 440 Is A Two Component, Epoxy Based, Subliming Fire Resistive Coating</b>	
Percent Solids:	95% or 100%	
Color:	Part A: Off White Part B: Beige	
Application Method:	Must be applied by trained applicators. Specialized plural equipment for 100% solids and single component airless equipment for 95% solids is recommended.	
Mixing Ratio by Volume:	1:1	
Pot Life @ 77°F (25°C):	25 - 30 minutes (95% Solids)	
Cure time @ 77°F (25°C):	Recoat:	1 - 5 hours
	Touch:	2 - 3 hours
	Handle:	12 hours
	Topcoat:	24 hours
Storage Temperature:	90°F (32°C) Maximum	





## Certified, Recognized or Tested by

- United States Department of Transportation (DOT)
- Bundesanstalt Fur Materialprufung (BAM)
- Underwriters Laboratories, Inc. (UL)
- Lloyd's Register of Shipping (LRS)
- Det Norske Veritas (DNV)

## SELECTIVE FIRE RATINGS

<u>TESTING AGENCY</u>	<u>RATING</u>	<u>THERMO-LAG 440 THICKNESS</u>
Department of Transportation (DOT)	100 Minutes (Hydrocarbon Pool) to 800°F (427° C) Limiting Temperature	0.165" (4.2mm)
Lloyd's Register of Shipping (LRS)	120 Minutes (Hydrocarbon Pool) to 800°F (427° C) Limiting Temperature	0.250" (6.25mm)

### **LLOYD'S REGISTER OF SHIPPING (LRS) AND DET NORSKE VERITAS (DNV) CERTIFICATION**

THERMO-LAG 440 is certified by Lloyd's Register of Shipping (LRS) and Det Norske Veritas (DNV), for a wide variety of structural steel sizes ranging from Hp/A 30 to 250 (W/D .54 to 4.5) based on the hydrocarbon time/temperature curve. The certificates specify the THERMO-LAG 440 thickness required to limit the steel core temperature to 200°C - 750°C (392°F - 1382°F) for 1, 2 and 3 hour ratings on a wide variety of HP/A's (W/D's).

### **UNDERWRITERS LABORATORIES, INC. 1709 ENVIRONMENTAL TEST PROGRAM**

THERMO-LAG 440 was exposed to accelerated aging, high humidity, industrial atmosphere, salt spray and combined wet, freeze and dry cycles followed by the UL 1709 fire endurance test with successful results.

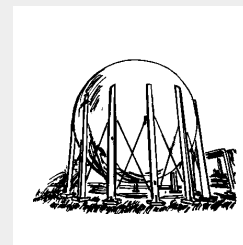
### **EXPLOSION TESTING**

THERMO-LAG 440 was exposed to a simulated explosion test, with successful results, to demonstrate the ability to withstand an explosion loading of greater than 1:0 bar of over-pressure.

### **APPLICATION STEPS**

1. Grit blast to SSPC-SP6 (Sa2 1/2)
2. Apply approved primer
3. Apply THERMO-LAG 440 to specified thickness
4. Apply approved topcoat

- Follow Nu-Chem's installation guide at all times



For additional information please contact:

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