# THERMO-LAG® 440

## Liquefied Petroleum Gas Installations

### Fire Protection For Tanks And Spheres Storing Flammable Liquids

**Material Description**

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

**THERMO-LAG 440** cures to a tough, durable, protective finish. Low coating thickness allows for an aesthetically pleasing industrial finish.

**Basic Use**

**THERMO-LAG 440** is applied to pressurized or non-pressurized tanks and spheres to provide hydrocarbon pool fire ratings for 1- 4 hour protection.

## FEATURES AND BENEFITS:

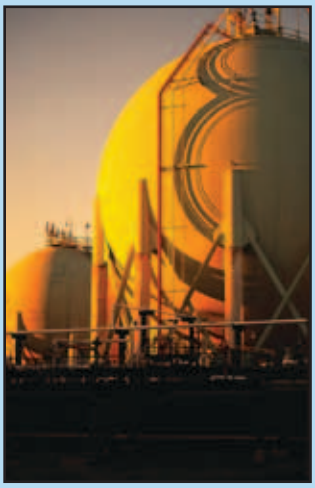
- Successfully passed the UL 1709 fire and environmental test program
- Approved by Department Of Transportation (DOT)
- Successfully tested by Bundesanstalt Fur Materialprufung (BAM)
- Corrosion and long term fire protection in one system
- Rugged and durable
- High flexural strength
- Explosion resistant

## INDUSTRY STANDARD FOR LPG INSTALLATIONS

American Petroleum Institute (API) Standard 2510 “Design and Construction of Liquefied Petroleum Gas (LPG) Installations”. Reference 8.10 “Fireproofing of LPG Vessels”.

| **Product Data:** | **All values based on THERMO-LAG 440 P** |
|---|---|
| Generic Type: | **THERMO-LAG 440 Is a Two Component, Epoxy Based, Intumescent Fire Resistive Coating** |
| Percent Solids: | 100% (95% versions available upon request) |
| Color: | Part A: Off white<br>Part B: Beige |
| Application Method: | Must be applied by trained applicators. Specialized plural component 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): | 30 minutes (95% solids) |
| Cure time @ 77°F (25°C): | Recoat: 30 minutes<br>Touch: 1 - 4 hours<br>Handle: 24 hours<br>Topcoat: 24 hours |
| Storage Temperature: | 100°F (38°C) Maximum |

carboline®
*Coatings - Linings - Fireproofing*



# THERMO-LAG® 440

## Liquefied Petroleum Gas Installations

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**CLASSIFIED, CERTIFIED OR RECOGNIZED BY**

- Underwriters Laboratories, Inc. (UL)
- Factory Mutual (FM Global)
- Lloyd's Register of Shipping (LRS)
- United States Department of Transportation (DOT)
- Bundesanstalt Fur Materialprufung (BAM)

### THERMO-LAG 440 ADVANTAGES:

- Easy application
- No mesh required
- Significant reduction in application time
- Successful global use for over 20 years

### HYDROCARBON POOL FIRE RATINGS

| TESTING AGENCY | RATING | THICKNESS |
|---|---|---|
| Department of Transportation | 100 minutes* | 0.165" (4.2 mm) |
| Lloyd's Register of Shipping | 120 minutes* | 0.250" (6.25 mm) |

* Hydrocarbon pool fire testing to 800°F (427°C) limiting temperature

### LLOYD'S REGISTER OF SHIPPING (LRS) CERTIFICATION

**THERMO-LAG 440** is certified by Lloyd's Register of Shipping (LRS) 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 to 750°C (392°F to 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 full scale explosion testing with successful results. This test demonstrated the ability to withstand a 1.43 bar explosion loading.

### APPLICATION STEPS

1. Grit blast to SSPC-SP6 (Sa2-1/2)
2. Apply approved epoxy primer
3. Applycoat **THERMO-LAG 440** to specified thickness
5. Apply approved topcoat system

- Follow the the published installation instructions (latest addition) at all times

For additional information please contact:
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