

PYROCRETE 241 **PROVEN PROTECTION UNDER FIRE™**

carboline®
Coatings - Linings - Fireproofing





Piperack support protected with Pyrocrete 241, withstands hydrocarbon fire.



Pyrocrete 241 applied offsite and transported to jobsite.

History of Performance Excellence

Over 30 years of successful case histories and more than 100 million square feet of structural steel protected worldwide.

Since the late 1970's Pyrocrete 241 has been the industry leader in cementitious fireproofing and continues to be the most specified and highly regarded cementitious fireproofing material in the world. With over 30 years of unparalleled performance, it is the global benchmark for high performance cementitious fireproofing in the refining and petrochemical industries.

Pyrocrete 241 is synonymous with high quality. Pyrocrete 241 is manufactured using only the highest quality raw materials with strict QA/QC protocols all under the UL follow up service to ensure the highest quality product for our customers worldwide.

Pyrocrete 241 Performance Advantages

Pyrocrete 241 is a high density, exterior grade, heavy duty, cementitious fireproofing material ideal for use in industrial and petrochemical environments. This cement based fireproofing can provide 1 to 4 hour(s) of fire protection for structural steel, vessel skirts, bulkheads, LPG vessels, LNG terminals or to upgrade the fire resistance of existing concrete.

Pyrocrete 241 is suitable for both field and shop applications. The superior physical properties of Pyrocrete 241 promote high durability when handling, during construction, and while in service.

Applications

- » Refineries
- » Chemical Plants
- » Gas Plants
- » LPG Vessels
- » LNG Facilities
- » Pharmaceutical Facilities
- » Pulp and Paper Mills
- » Nuclear Power Plants
- » Conventional Power Plants
- » Biomedical Facilities
- » Factories and Warehouses
- » Commercial Buildings

Product Feature

Performance Benefit

55 PCF Density (avg.)

Harder, more durable material. Tough surface suitable for harsh exterior exposures.

High Impact & Compressive Strength

Damage resistant during transportation, construction, and throughout service life.

High Bond Strength

Prevents failures from disbondment and cracking which lowers repair & maintenance costs.

Industry Leading Ratings

Lower installation & material costs.

1/5 The Weight of Concrete

Weight savings, reducing overall construction costs. Reduced transportation & installation costs.



Rigorously Tested, Certified, & Proven

Pyrocrete 241 has a proven track record of performance when subjected to the harshest environmental conditions and the extreme heat of hydrocarbon fire.

Pyrocrete 241 has been tested and certified for a variety of exposures. It has also preformed by protecting steel in actual hydrocarbon fires in refining and petrochemical facilities around the world.

Certifications & Listings:

- » UL (Underwriter's Laboratories)
 - UL 1709 Hydrocarbon Ratings
 - UL 263 (ASTM E-119) Cellulosic Ratings
- » **Lloyd's Register of Shipping**
 - Jet Fire Ratings
 - A-30, A-60, H-30, H-60, H-120, Bulkhead Ratings
- » **BS-476 Hydrocarbon Ratings**
 - HP/A: 30-305
- » **FM Global (Factory Mutual)**
 - LPG Vessel Approvals
 - Structural Steel Approvals



Physical Properties	Test Procedure	Typical Results
Density	ASTM E605	55 PCF (.88 g/cm ³)
Bond Strength	ASTM E736	4,871 psf (233 kPa)
Compressive Strength	ASTM E761	817 psi (5,633 kPa)
Impact Resistance	ASTM E760	Pass
Deflection	ASTM E759	Pass
Corrosion	ASTM E937	0.00 g/mm
Flame Spread	ASTM E84	0
Smoke Development	ASTM E84	0
Average Flexural Strength	ASTM D790	502 psi (3,461 kPa)
Insulation "K" Factor @ 75°F (24°C)	ASTM C177	0.87 BTU in/hr ft ² °F (0.125 W/m ² °K)
Coverage per 50 lb (22.7 kg) bag	-	14.3 ft ² (1.3 m ²)

UL Environmental Testing:

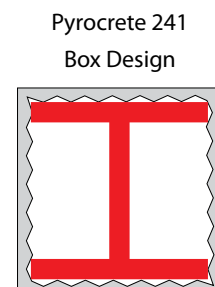
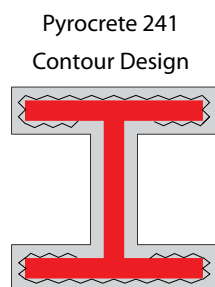
Pyrocrete 241 has successfully passed the following exposures simulating 20+ year exterior life cycle:

- » **Accelerated Aging**
- » **High Humidity**
- » **Industrial Atmosphere**
- » **Salt spray**
- » **Combination Wet / Freeze / Dry Cycling**

Performance Testing

Pyrocrete 241 has successfully passed the following test programs:

- » **Jet Fire Impingement**
- » **Hose Stream Endurance**
- » **Cryogenic Exposure**
- » **3 Bar Overblast**





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