

**Selection & Specification Data**

<b>Generic Type</b>	Cementitious inorganic fireproofing formulation.
<b>Description</b>	Single powder component mixed with clean, potable water before it is used in application. Excellent for fireproofing and acoustic combinations. Recommended uses for the fire protection of structural steel, wood, bulkheads, and upgrading the fire resistance of any existing concrete. Recommended areas of application are pharmaceutical facilities, pulp and paper mills, nuclear and conventional power plants, factories, warehouses, institutional, stadiums, acoustical, and convention buildings.
<b>Features</b>	<ul style="list-style-type: none"> <li>• Easily applied by spray or trowel</li> <li>• Excellent acoustic and fireproofing in one application.</li> <li>• Excellent physical properties – hard, durable</li> <li>• Nonflammable – during or after application</li> <li>• Asbestos free – complies with EPA and OSHA regulations</li> <li>• Chloride free – no special priming required</li> <li>• Non-friable – high impact strength</li> <li>• Single package – mixed with clean, potable water at the job site</li> <li>• Investigated for exterior use by Underwriters Laboratories, Inc.</li> <li>• Quality Manufactured – under strict Carboline quality standards.</li> <li>• U.L. factory inspection service</li> </ul>
<b>Finish</b>	If a smooth finish is required this may be done by trowel, roller or brush typically within 1 to 2 hours after final application of PYROCRETE 239.
<b>Primers</b>	PYROCRETE 239 neither promotes nor prevents corrosion. The fireproofing should not be considered as part of the corrosion protection system. For applications where primers are required, use an appropriate alkaline resistant primer. For contour applications where primers are recommended, PYROCRETE 239 must meet minimum U.L. bond strength criteria.

**Selection & Specification Data (cont.)**

<b>Topcoats</b>	Generally not required. In severely corrosive atmospheres, consult Carboline Technical Service for selection of the coating most suitable for the operating environment.
<b>Dry Film Thickness</b>	Recommended thickness depends on desired rating and assembly to be fireproofed. See attached design details.
<b>Temperature Resistance</b>	Not recommended for use a refractory cement where operating temperatures exceed 200°F (93°C).

**Physical Data (Typical Values)**

Property	Method	Result/Value
Color	Non-Uniform	Speckled Gray
Density (Average)	ASTM E605 <sup>(1)</sup>	28 lbs./ft <sup>3</sup>
Durometer Hardness(Shore D)	ASTM D2240	15
Compressive Strength	ASTM E761	105 psi
Acoustical	ASTM C423 ASTM E795	See Acoustic Table
Air Erosion	ASTM E859	0.0215 g/ft <sup>2</sup> @ 24 hrs
Fungi Resistance	ASTM G21 ASTM D3273	Passes
Bond Strength Unprimed Steel	ASTM E736	550 psf
Bond Impact	ASTM E760	Pass
Impact Resistance	ASTM D2794	Indents at 20 foot pounds
Deflection	ASTM E759	Pass
Ave. Flexural Strength	ASTM D790	190.5 psi
Flame Spread	ASTM E84	2
Smoke Development	ASTM E84	2.5
Maximum Strain	ASTM D790	0.00225 (in/in)
Corrosion	ASTM E937	0.00 gm/mm <sup>2</sup>
Insulation "K" Factor	ASTM C177	0.56 (BTU in/hr ft <sup>2</sup> °F @ 75°F)
Specific Heat		0.36 BTU/lb°F
Shrinkage		<0.5%
Coverage 50 lb. bag <sup>(2)</sup>		29.6 Bd.Ft.
Shelf Life		Two years

1) Air dry at ambient conditions until constant weight. Do not force dry. Use ASTM E605 Positive Bead Displacement.

2) Material losses during mixing and application will vary and must be taken into consideration when estimating the job requirements.

Test reports and additional data available upon written request.

# PYROCRETE®239

## Approvals

PYROCRETE 239 has been tested by Underwriters Laboratories, Inc. and is classified for exterior or interior use.

It is listed under the following designs:

ASTM E119 (U.L. 263, NFPA 251)

Columns – X776, X777, X778, X779, X786, X787, Y707, Y708

Floor Beams - N745, N746, N747, N748, N771, N772, N773, N774, N775, S716, S718

Floor Ceiling Assembly – D744, D767, D768, D769, D770, D771, D772, D773, D774, D775, D776, D777, D927, D928

Roof Assembly - P927, P928, P734, P735, P736, P737, P738, P739, P926, P929

Roof Beams – S731, S732, S733

Wall – U704

Precast Concrete & Steel Joist – G706, G707, G708, J713, J714, J715, J716

## Code Reviews

Factory Mutual Approval for protection of spray applied urethane foam.

NYC MEA

- 433-91-M (Columns)
- 434-91-M (Beams)
- 435-91-M (Roof Beams)

## Acoustical Table

Pyrocrete 239 offers both Fire Protection and Acoustical Values when tested under:

- ASTM C423
- ASTM E795

Thick.	Backing	Frequency						
		125	250	500	1000	2000	4000	NRC
1"	Solid	.11	.42	.80	.90	.88	.87	.75
¾"(19mm)	Solid	.14	.21	.61	.86	.86	.86	.65
¾"(19mm)	Lath	.21	.62	.49	.65	.78	.85	.65
¾"(19mm)	Plenum	.45	.31	.39	.62	.82	.93	.55
½"(13mm)	Solid	.10	.11	.38	.69	.94	.92	.55
½"(13mm)	Lath	.12	.42	.45	.49	.65	.80	.50
½"(13mm)	Plenum	.45	.27	.29	.44	.67	.88	.40

Noise Reduction Coefficient

Standard Acoustic Mountings

Solid	Type A
Lath	Type D-20
Plenum	Type E-400

## Packaging, Handling & Storage

<b>Shipping Weight (Approximate)</b>	Bag weight is 50 lbs (22.7 kg) Truckload = 880 bags: 40 palletized bags and the pallet is plastic wrapped.
<b>Storage</b>	Material should be kept dry, covered, and off of the ground.
<b>Storage Temperature &amp; Humidity</b>	-20°F to 150°F (-29°C to 66°C) 0 to 90% relative humidity
<b>Shelf Life</b>	Min. 24 months

**\*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**



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