

# New in 2013 *E-FREE Insulation*

Eastern dual wall spiral duct with our new E-Free Insulation, a specially engineered insulation with no fiberglass in the airstream, is your cost effective answer to cumbersome dual wall spiral specifications calling for mylar barriers or expensive rubber insulations.

E-Free Insulation is a resilient medium density insulation blanket formed from inorganic glass fiber and bonded with a thermoset resin. Precise fiber controls provide this insulation with excellent acoustical and thermal proper ties while remaining cost effective.

E-Free Insulation has a smooth and durable black mat bonded to the light yellow insulation blanket. The durable black 12 mil thick polyester and rayon mat facing isolates the glass fiber substrate from the air stream. This unique mat facing is treated with flame retardant, antimicrobial, and water repellent agents.

## Recommended Applications

- Acoustical and thermal applications up to 250°F surface temperature.
- Velocities up to 5,000 fpm.
- All High Performance Air Systems

## Features and Benefits

- Air Flow Performance: The facing provides a damage resistant surface that exhibits zero fiberglass erosion evidence when tested at 12,500 fpm.
- Excellent Acoustical Properties: The proven and improved sound absorption performance of this family of products reduces equipment noise.
- Non-corrosive: Mat products are non- corrosive and do not accelerate corrosion on copper, aluminum, or steel per ASTM C 665.
- Rated Surface Burning: These products have a flame spread rating of 25 or less and a smoke developed rating of 50 or less per UL 723.
- Commercially Odorless: Mat products use well-cured and minimal organic binder content to avoid odor problems in commercial applications.

## Physical Property Performance

Property	Test Method	Value
Density <sup>1</sup>	ASTM C 167	1.44 pcf
Surface Burning Characteristics <sup>2</sup>	ASTM E 84, UL 723	< 25/50
Operating Temperature	ASTM C 411	Up to 250°F
Corrosion	ASTM C 665	Meets Standard
Fungi Resistance	ASTM C 1338 & G 21	Meets Standard
Thermal Conductivity "K"	ASTM C 518	.24 BTU in./hr. ft. <sup>2</sup> deg F
Sound Absorption	ASTM C 423	See Table
Air Erosion	UL 181	Erosion Test
		5000 fpm - design
		12,500 fom - test
		No evidence of delamination or erosion at these velocities.
Moisture Sorption	ASTM C 1104	3% max by weight

<sup>1</sup> Density value is nominal. Product control is on thermal conductivity

<sup>2</sup> This standard should be used to measure and describe the properties of materials, products or assemblies in response to heat or flame under controlled laboratory conditions. Results of this test may be used as an element of a fire risk assessment that takes into account all of the factors that are pertinent to an assessment of the fire hazard of a particular end use.

## Sound Absorption Coefficient

ASTM C 433-02 - Type A Mounting

OCTAVE BAND	125	250	500	1000	2000	4000	NRC	SAA
1" E- FREE	0.06	0.33	0.73	0.99	1.06	1.05	0.8	0.78

While these values are an accurate representation of the product, they are for design approximation only. Specific designs should be evaluated in end-use configurations.



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