



Contractor Submittal Sheet

Contractor: _____

Project: _____

FyreWrap® Elite® 1.5 Duct Insulation Single-Layer Fire Rated Air Distribution System

Product

Unifrax's FyreWrap® Elite® 1.5 Duct Insulation is a high temperature insulation blanket specifically designed to provide a single-layer flexible enclosure for 1- and 2-hour fire rated air distribution systems (ADS). FyreWrap Elite 1.5 provides a tested, fire-protective enclosure acceptable as an alternative to a fire rated shaft. Typical systems include air handling, smoke control, stairwell and vestibule pressurization, trash and linen chutes, commercial dryer exhaust, and supply/return ducts.

Product Description

FyreWrap Elite 1.5 incorporates Insulfrax® Thermal Insulation as its core material. Insulfrax is a high temperature insulation made from a calcia, magnesia, silica chemistry designed to enhance biosolubility. It provides excellent insulation in a noncombustible blanket product form. The core insulation blanket is completely encapsulated in an aluminum foil fiberglass reinforced scrim covering. This scrim provides additional handling strength as well as protection from moisture absorption and tearing.

Product Properties

Product	Unit/Box	Size	WT
Elite 1.5	1 roll	1 ½" x 24" x 25'	37.5 lbs
Elite 1.5	1-roll	1 ½" x 48" x 25'	75 lbs
Elite 1.5 collar	4-rolls	1 ½" x 6" x 25'	37.5 lbs

Product Performance

Test Criteria	Description
ISO 6944	2 Hour Ventilation Duct-Shaft alternative
ASTM E814	Firestop: 2-hour F & T Ratings
ASTM E-84/UL 723	Encapsulated: Flame <25, Smoke <50 Unfaced: Flame = 0, Smoke = 0
ASTM C 518	R-Value: 4.13 per inch at 75°F R-Value: Elite 1.5 (1-1/2") = 6.19
EN 1094	Temperature Grade 2300°F Recommended Operating Temperature 2012°F
ASTM E119	2-hour Engulfment
Code Compliance	2006 IBC Sect. 909.10.2, 2006 IMC Sect. 513.10.2, 2006 NFPA 92A Sect. 6.6.2, 2005 NFPA 92B Sect. 7.5.2, 2006 NFPA 101 Sect. 8.6.7, 18.7.7

Green Building Contribution:

Contains No VOCs

Manufacturing plant location: New Carlisle, IN.

Microbial Resistant, per ASTM D6329-03

R-value: Elite 1.5 (1-1/2") = 6.19 at 75°F

Product Listings

Listing Agency	Listing Number
Intertek Testing Services (formerly OPL)	Duct: UNI/FRD 120-15
Intertek Testing Services (formerly OPL)	Firestop: UNI/FRD 120-21 UNI/FRD 120-23 UNI/FRD 120-24 UNI/PHV 120-03 UNI/PHV 120-04
New York City	Building Bulletin 2009-028
California State Fire Marshal	# 2440-1478:100

System Installation

The FyreWrap Elite 1.5 Duct Insulation consists of a fully encapsulated, single layer system applied directly onto the duct surface. The insulation system may be installed at zero clearance to combustibles at all locations on the wrap, at material overlaps, and in the field between overlaps. To minimize waste, unroll tautly prior to measuring or making material cuts. Install insulation with a 3" minimum overlap on all joints. Seal all cut edges with aluminum foil tape. The longitudinal overlap of adjacent blankets may be installed using the following three techniques.

Telescoping Overlap Technique:

This wrap technique is the most common method of installing FyreWrap Elite 1.5 where each adjacent blanket has one edge exposed and one edge covered by the next blanket, to form a 3" overlap.

Checkerboard Overlap Wrap Technique:

This installation uses a 3" overlap pattern with both edges of each alternating blanket covered by each adjacent blanket whose edges are exposed. The overlap joints in alternate layers of blanket resemble a checkerboard pattern in the completed installation. This technique is often utilized when a small section of duct wrap must be repaired.

Butt Splice with Collar Wrap Technique:

This wrap technique permits installation with the blanket edges butted together and a 6" wide collar of blanket that is centered over the butt splice, overlapping each adjacent blanket 3". The collar can be field fabricated from FyreWrap Elite 1.5 rolls or purchased separately.

Form C-1511, Effective 2/10



Attachment Options

Three attachment options are available for installers. Choices are limited by the duct width dimension. Details on each option are provided below.

Banding Only: For Duct Widths 24" or Less

To temporarily secure the insulation, optional use of filament tape is permitted. Locate stainless or carbon steel bands (min. 1/2" wide, nom. 0.015" thick) over joints and within the field between joints. Locate bands 1 1/2" from each edge of each blanket overlap. Place additional bands in the field between the overlaps on maximum 10 1/2" centers. Tighten banding to firmly hold the wrap system in place but not so tight as to cut or damage the blanket. Pins are NOT required when this banding technique is used.

Banding and Pins: For Duct Widths ≤ 48"

Weld 12-gauge steel insulation pins to the underside of horizontal runs and backside (side of the duct having the largest dimension) of vertical runs. Place pins in maximum 12" rows and on maximum 10 1/2" centers. To temporarily secure the insulation, optional use of filament tape is permitted. Impale FyreWrap Elite 1.5 over the pins and hold in place with 2 1/2" square galvanized steel speed clips (washers). Turn down or cut off exposed ends of pins to eliminate safety hazards. Locate carbon steel or stainless steel bands (min. 1/2" wide, nom. 0.015" thick) 1 1/2" from each edge of an overlap joint. Locate a second band midpoint between the overlapped joints, approximately 10 1/2" on center. Tighten banding to firmly hold the wrap system in place but not so tight as to cut or damage the blanket. Cup head style pins are also permitted and shall be located at the same spacing as pre-welded pins.

Pins Only: For Duct Widths >48"

Weld 12-gauge steel insulation pins on all sides of the duct. Place insulation pins in rows (perpendicular to the length of the duct) spaced maximum 10 1/2" on center. Pins in each row are maximum 6" from each duct edge and maximum 12" on center. Locate insulation overlaps so they are centered on the pins. Impale FyreWrap Elite 1.5 over the pins and hold in place with 2 1/2" square galvanized steel speed clips (washers) to keep the system from sagging. Turn down or cut off exposed ends of pins to eliminate safety hazards. Cup head style pins are also permitted and shall be located at the same spacing as pre-welded pins. The pins only attachment method can be used for ducts 48" or less, but is optional.

Attachment Options Summary

Duct Dimension	Banding Only	Banding & Pins (pins on bottom)	Pins Only
Width ≤ 24"	•	•	•
Width ≤ 48"		•	•
Width > 48"			•

Access Door

Contact Unifrax Application Engineering for details regarding recommended FyreWrap installation on air distribution access doors.

Supports

The duct support system shall be designed as required by IMC or SMACNA requirements and that will support the load of the duct under fire conditions, including the additional weight of the FyreWrap Elite 1.5 Duct Insulation System (approx. 1.25 lb/ft²).