



Contractor Submittal Sheet

Contractor: _____

Project: _____

FyreWrap® Elite® Duct Insulation Two-Layer Fire Rated ASTM E-2336 Grease Duct System

Product

Unifrax's FyreWrap® Elite® 1.5 Duct Insulation is a high temperature insulation blanket specifically designed to provide a flexible enclosure for 1 and 2-hour rated commercial kitchen grease ducts (GD). FyreWrap Elite 1.5 Duct Insulation provides a tested, fire-protective enclosure acceptable as an alternate to a fire-rated shaft. Installed as a two-layer system, FyreWrap Elite 1.5 complies with 2006 and 2009 Editions of IMC and UMC, ASTM E-2336, NFPA 96 and ICC ES Grease Duct Enclosure Acceptance Criteria, AC101.

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 grease and 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
ASTM E 2336 / AC101	2-Hour Kitchen Exhaust Duct – Zero clearance at all points on duct
ASTM E 814	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: 4.8 per inch at 75 F R-Value: Elite 1.5 (1-1/2") = 7.2
EN 1094	Temperature Grade 2300°F Recommended Operating Temperature 2012°F
ASTM E 119	2-hour Engulfment
IMC, UMC codes	Complies with 2006-2012 Editions, Sect. 506.3.10, 506.3.6
NFPA 96	Complies with all editions

Green Building Contribution:

Contains No VOCs

Manufacturing plant location: New Carlisle, IN.

Microbial Resistant, per ASTM D 6329-03

R-value: Elite 1.5 (1-1/2") = 7.2 at 75°F

Product Listings

Listing Agency	Listing Number
Intertek Laboratory (formerly OPL)	Duct: UNI/FRD 120-16, UNI/FRD 120-17, UNI/WA 120-01
Intertek Laboratory (formerly OPL)	Firestop: UNI/FRD 120-19, UNI/PHV 120-05, UNI/PHV 120-06
ICC Evaluation Service (ES)	ESR-2224
California State Fire Marshal	# 2440-1478:100

System Installation

The FyreWrap Elite 1.5 Duct Insulation System consists of a fully encapsulated, two-layer system applied directly to 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. The first layer can be installed with transverse (perimeter) joints butted and minimum 3" longitudinal overlaps. All overlaps for the second, or outer layer, are a minimum of 3". For the second layer, transverse (perimeter) overlaps of adjacent blankets may be installed using one of these three techniques.

Telescoping Overlap Wrap 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-1512, Effective 11/12



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. Place carbon steel or stainless steel bands (min. ½" wide, nom. 0.015" thick) 1½" from each edge of each blanket overlap. Place additional bands in the field area between the overlaps on maximum 10½" 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 ≤ 49"

Weld 12-gauge steel insulation pins to the underside of horizontal runs and backside (side of duct having largest dimension) of vertical runs. Place pins at maximum 12" rows and on maximum 10½" 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 minimum 2½" square or 1.5" round 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. ½" wide, nom. 0.015" thick) 1½" from each edge of an overlap joint. Locate a second band midpoint between the overlapped joints, or maximum 10½" 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 > 49"

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 10½" on center. Pins in each row are maximum 5" from each duct edge and maximum 8" 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 2½" square or 1½" round 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. The pins only attachment method may be used for duct widths less than 49", but is optional.

Attachment Options Summary

Duct Dimension	Banding Only	Banding & Pins (pins on bottom)	Pins Only (All Four Sides)
Width ≤ 24"	•	•	•
Width ≤ 49"		•	•
Width > 49"			•

Supports

The duct support systems do not require FyreWrap insulation when constructed using a minimum 3/8" diameter all-thread steel rod and 1½" x 1½" x 1/8" steel angle spaced a maximum 60" on center along the length of the duct. To extend spacing to 72", use of ½" all-thread and 2"x2"x1/4" angle is required. A minimum clearance of 1" is required between the protected duct and the steel rod. For all other duct support configurations, a single layer of FyreWrap Elite 1.5 Duct Insulation is required on all components. Utilize a 3" overlap (approximately one quarter turn) on all joints.

Access Door

Field fabricated access doors are protected with three layers of FyreWrap Elite 1.5 Duct Insulation. A gasket of ½" thick unfaced FyreWrap or ceramic fiber blanket is initially installed between the duct and the access door cover. Weld threaded rod to each corner of the access door opening. Cover with hollow steel tubes (optional) for easy removal of blanket. Weld at least four steel insulation pins to the outside of the door cover panel, 1" from each corner. Cut through the two layers of FyreWrap Elite 1.5 Duct Insulation already covering the duct and access door opening. Leave the interior piece in place. Cut back the outer layer to form an opening with perimeter dimensions that extend 1" beyond the inner layer. Cut a piece of FyreWrap Elite 1.5 that matches the dimensions of the opening and install over pins to fit tightly within the existing material. Cut an additional piece of insulation with perimeter dimensions that extend 1" beyond the layer below. Install over the insulation pins. Throughout the installation process, seal all cut edges with aluminum foil tape. Secure with washers and bend over excess pin lengths to eliminate safety hazards. Place washers on threaded rod and secure with nuts. Do not install banding over this area.

Ductmate Ultimate and Ductmate F2-HT prefabricated access doors are permitted and must be installed in accordance with Ductmate Industries, Inc. installation instructions and the applicable code. The prefabricated access door is protected with three layers of FyreWrap Elite 1.5 similar to the field fabricated access doors. Contact www.ductmate.com or 1 800 245 3188 for additional information or local distributors.