

FIRESTOP BLANKET® FSB ULTRA

Product Description:

FirestopBlanket® FSB ULTRA weighs 8/10ths of a pound per square foot, making it the lightest, strongest, most flexible, single layer duct protection blanket available. At 1½ inches thick it provides a low profile, 2-hour grease duct enclosure for zero clearance to combustibles anywhere on the wrap. This makes FirestopBlanket® FSB ULTRA the thinnest blanket on the market for duct sizes up to 52" x 52".

The core material of FirestopBlanket FSB ULTRA is composed of long strand, high strength, bio-soluble fibers needed into a tight blanket with superior handling properties and rated for operating temperatures as high as 2300°F. Unlike other products on the market, FirestopBlanket® FSB ULTRA will not become brittle or shrink over the lifetime of the enclosure system. The scrim reinforced facing is the latest state-of-the-art product specifically developed for extreme temperatures and superior puncture resistance, while still maintaining excellent handling characteristics. The facing is adhered to the fiber blanket with a full surface coating of proprietary high temperature adhesive preventing delamination during installation and normal grease duct operating temperatures.

Product Features:

- Tested per UL 1978 for zero clearance to combustibles for grease ducts.
- The only blanket available totally encapsulated or with the more economical foil facing on one side.
- Thinnest and lightest system tested to date for the largest duct size of 52" x 52".
- The only grease duct enclosure system to allow lengthwise blanket installation on vertical duct sections, resulting in significant labor savings.
- Bio-soluble core fiber.

Applications:

- 1 or 2 hour commercial kitchen grease duct enclosure.
- 1 or 2 hour air ventilation duct enclosure.

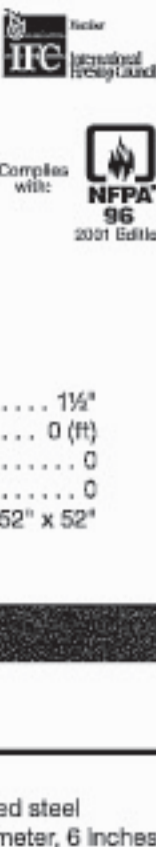
Sizes and Properties:

- Thickness: 1½"
- Width: 24" & 48"
- Length: 25'
- Facings: Foil 1-side or encapsulated
- Weight: 8/10ths lb. per sq. ft.
- Density: 2.6 PCF
- Operating Temperature: 2300°F
- Melting Point: 3200°F



Test Compliance:

- UL 1978 "2 hour grease duct enclosure"
- ASTM E-84
- ASTM E-814 (UL 1479)
- ASTM E-411
- ASTM E-136
- ASTM E-119-95
- ASTM E-119-95A modified
- ASTM C-518-91/NFPA 96 2001 Edition
- Uniform Mechanical Code (UMC)
- Uniform Building Code (UBC)
- International Mechanical Code (IMC) section 506 commercial grease ducts and exhaust equipment; section 507 commercial kitchen hoods, 2000 edition
- NFPA 101 Life Safety Code
- Omega Point Laboratories GD 574 F, GD 575 F
- NYC MEA 61-03-M, Vol. II



Preparation Work:

FirestopBlanket® FSB ULTRA is installed using common tools: insulation cutting knives, bander, crimp tools for banding, tape measure. For pinning alternative method of attaching blankets a capacitor discharge gun will be required for the insulation pins. The through penetration sealant will require a caulk gun for tubes and a small trowel for larger pails. The surface area of the duct should be free of dust and debris. The through penetration opening and penetrating items should be clean, dry, frost free and free of dust and debris.

Storage:

FirestopBlanket® FSB ULTRA and Firestop® sealants must be stored in a dry warehouse environment. Pallets should not be stacked.

Performance:

- Thickness: 1½"
- Flame Spread Index: 0 (ft)
- Smoke Developed: 0
- Fuel Contribution: 0
- Max Duct Size: 52" x 52"

Installation

Material and Equipment:

- FirestopBlanket® FSB ULTRA, 1 ½" (3.81 cm) thick, 24 inches (61 cm) or 48" (122 cm) wide, 25 feet (7.62 m) standard length, fully encapsulated or foil face on 1 side
- Aluminum foil tape
- Minimum ¾ inch (1.9 cm) wide filament tape
- Stainless steel banding material, minimum ¼ inch (1.27 cm) wide, minimum 0.015 inch (.38 mm) thick, with steel banding clips
- Hand banding tensioner tool, crimping tool, and cutter
- Minimum 12 gauge copper-coated steel insulation pins; galvanized steel speed clips, minimum 2 ½ inch (6.4 cm) square or 2 ½ inch (6.4 cm) diameter, or equivalent sized cup-headed pins
- Capacitor discharge stud gun

- Access door hardware: four galvanized steel threaded rods, ¼ inch (6.35 mm) diameter, 6 inches (15.2 cm) long, with ¼ inch (6.35 mm) wing nuts and ¼ inch (6.35 mm) washers, and 4 inch (10.16 cm) long steel tubing to fit over threaded rods
- Firestop® sealant

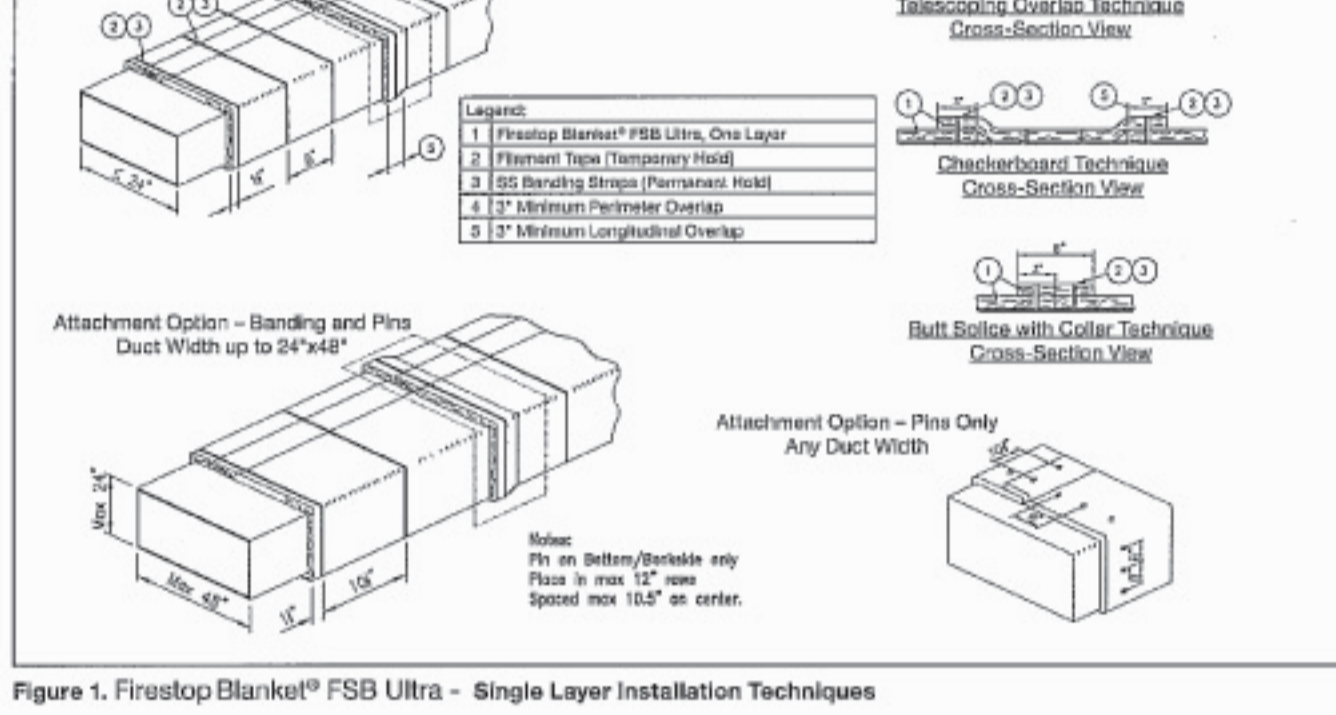


Figure 1. FirestopBlanket® FSB Ultra - Single Layer Installation Techniques

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Method:

Have an area large enough to roll FirestopBlanket® FSB ULTRA out completely. This will aid in measuring and minimize waste.

Installation Techniques:

- Telescoping: 3 inch (7.6 cm) overlap method, where each adjacent blanket has one edge exposed and one edge covered by the adjacent blanket.
- Dual end overlap (Checkerboard): 3 inch (7.62 cm) dual overlap method, where both edges of each alternating blanket are covered by each adjacent blanket whose edges are exposed.

Vertical Run Alternative:

For vertical runs, the insulation can be applied to the duct in a continuous length applied parallel with the length of the duct as opposed to wrapping around the circumference of the duct. All overlaps are to be maintained at a minimum 3 inches (7.62 cm) and are to occur a minimum of 6 inches (15.2 cm) from any corner of the duct. See below for pin and banding methods.

Maintenance:

No maintenance is required when installed in accordance to GLT Products installation instruction. If, after installation, any section of the grease duct protection system should become damaged, the following procedures will apply:

- Remove the damaged section, being careful not to inflict further damage to adjacent areas.
- Measure and cut a new section from a roll of FirestopBlanket® FSB ULTRA to replace the area that has been damaged.
- The new section should be installed being careful to maintain the same overlaps that previously existed.
- Replace steel banding and speed clips as needed.
- If the damage is to the foil facing and not the underlying blanket, seal the rips with aluminum foil tape.

Purchase Information:

GLT Products' Fire protection products are available through a nationwide network of distributors. For additional information, technical support, or customer service, please call 800-874-1748 or visit www.gltproducts.com.

Handling:

Consult Material Safety Data Sheet (MSDS) prior to handling and disposing of GLT Products' FirestopBlanket® FSB ULTRA.

This product will be free from defects in material and manufacture for a period of ninety (90) days from the date of purchase. GLT Products makes no other warranties including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. User is responsible for determining whether the product is fit for a particular purpose and suitable for the user's application. If the product is proved to be defective within the warranty period stated above, your exclusive remedy and obligation, at GLT Products' option, to replace or repair the product or refund the purchase price of the product.

Limitation of Liability:

Except where prohibited by law, GLT Products will not be liable for any loss or damage arising from a GLT Products' product, whether direct, indirect, incidental, or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

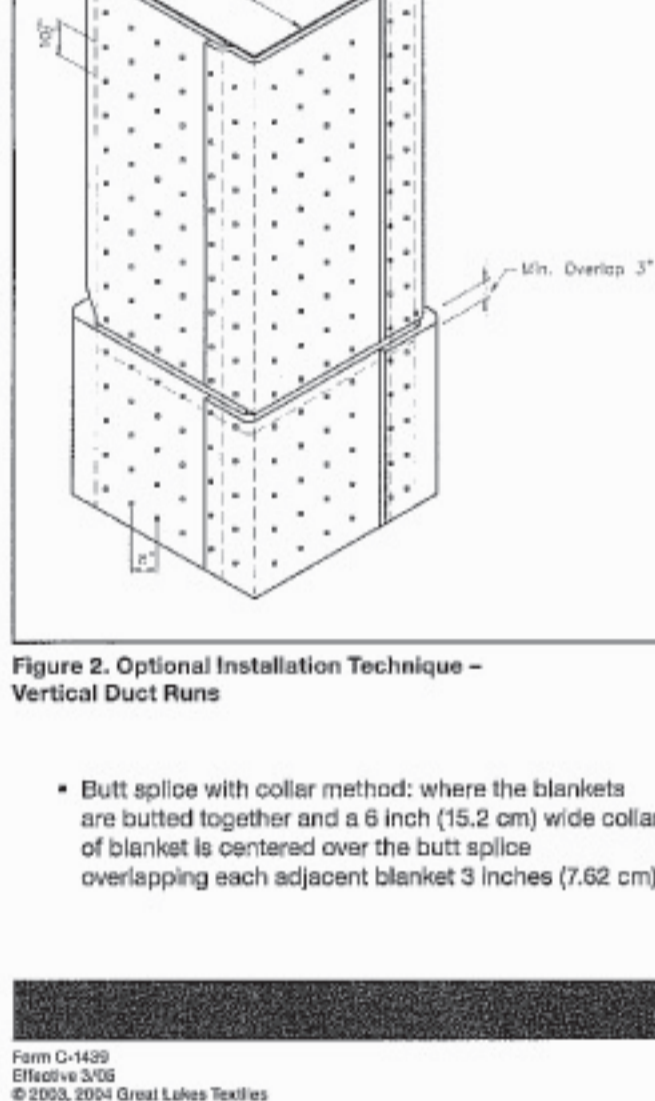


Figure 2. Optional Installation Technique - Vertical Duct Runs

- Butt splice with collar method: where the blankets are butted together and a 6 inch (15.2 cm) wide collar of blanket is centered over the butt splice overlapping each adjacent blanket 3 inches (7.62 cm)

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Attachment Options (Summary Chart):

Duct Dimension	Banding Only	Banding & Pins (Pins on Bottom)	Pins Only (All Four Sides)
Width ≤ 24"	•	•	•
Width Up To 48"	•	•	•
Width > 48"	•	•	•

SECTION 15250

Fire and Smoke Protection
Zero Clearance Grease Duct Insulation

Part 1 GENERAL

1.01 SUMMARY

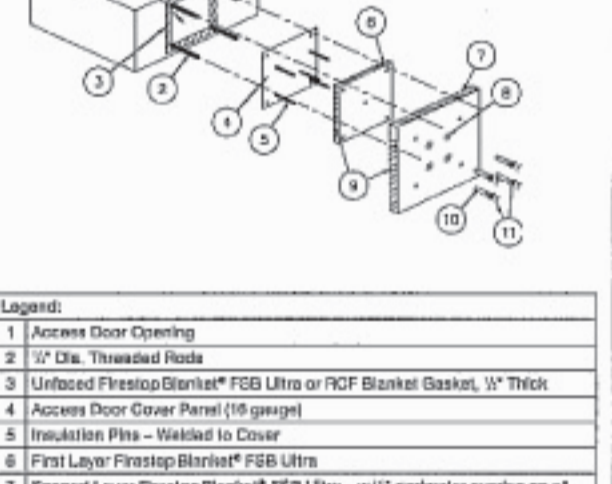
A. This section specifies material and equipment to provide a 2-hour fire-resistive rated duct enclosures and a method for providing zero clearance to combustibles around commercial kitchen grease duct exhaust systems.

1.02 CODES AND STANDARDS

A. The following published specifications, standards, tests, or recommended methods of trade, industry, or contractor organizations apply to work in this section:

1. NFPA 96, 2002 Edition, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.
2. International Code Council (ICC)
3. Uniform Mechanical Code (UMC)
4. Uniform Building Code (UBC)
5. International Mechanical Code (IMC) section 506 commercial grease ducts and exhaust equipment; section 507 commercial kitchen hoods, 2000 edition.
6. NFPA 101 life safety code
7. UL 1978 2-hour Grease Duct Enclosures
8. AC101 Acceptance Criteria for Grease Duct Enclosure Assemblies
9. ASTM E-84 Standard Test Method for Surface Burning Characteristics of Building Materials
10. ASTM E-814 Standard Test Method for Fire Tests of Through-Penetration Fire Stops
11. ASTM C-411 Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation

FirestopBlanket® FSB Ultra - Single Layer Commercial Kitchen Grease Duct System 1- or 2-Hour Fire-Rated Enclosure Field Fabricated Access Door



- Legend:
- 1 Ancient Door Opening
 - 2 ½" Dia. Threaded Rods
 - 3 Unfaced FirestopBlanket® FSB Ultra or PCF Blanket Gasket, ½" Thick
 - 4 Access Door Cover Panel (16 gauge)
 - 5 Insulation Pins - Welded to Cover
 - 6 First Layer FirestopBlanket® FSB Ultra
 - 7 Second Layer FirestopBlanket® FSB Ultra - w/1" perimeter overlap on all sides
 - 8 Speed Clips/Washers
 - 9 Cut Edges Sealed With Aluminum Foil Tape
 - 10 Hollow Steel Tubing, ¼" ID minimum
 - 11 ½" Dia. Wing Nuts and Washers

Figure 3. Access Door Installation

12. ASTM E-136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 °C
13. ASTM E-119-95 Standard Test Methods for Fire Tests of Building Construction and Materials
14. ASTM C-518-91 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

1.03 SYSTEM DESCRIPTION

A. A lightweight, non-asbestos, bio-soluble, high temperature, inorganic foil encapsulated, or foil on one side insulation blanket. The duct wrap system shall be a listed system evaluated for reduced clearances to combustibles as an alternative to a grease duct, with a fire rated enclosure.

B. Performance Requirements:

1. Single Layer Systems:
 - i. 2-hour rated zero clearance to combustibles anywhere on the wrap per UL 1978 test criteria.
 - ii. 2-hour fire resistive enclosure assembly per ASTM E119

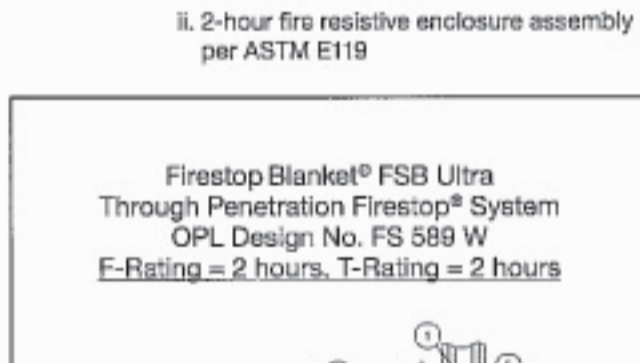


Figure 4. Firestop® Installation

FirestopBlanket® FSB Ultra Through Penetration Firestop® System OPL Design No. FS 589 W
F-Rating = 2 hours, T-Rating = 2 hours

- Legend:
- 1 Gypsum Wallboard Assembly, 2 hr. rated
 - 2 Grease Duct, 16 gauge, max. 50" x 50"
 - 3 FirestopBlanket® FSB Ultra, One Layer
 - 4 Annular Splice - ¼" to 3"
 - 5 Mineral Wool (4pcf), compressed 25% or Unfaced FirestopBlanket® FSB Ultra
 - 6 Temco Fyre-Sil Non-Sag, ¼" depth, overlap onto wall surface and duct insulation a min. ¼"

NOTE: The authority having jurisdiction has final responsibility for approving equipment, materials, procedures, and performance requirements for their respective jurisdiction.

1.04 SUBMITTALS

A. Submit product data sheet and installation instructions showing system performance and code compliance.

FirestopBlanket® FSB Ultra Through Penetration Firestop® System OPL Design Nos. FS 590 F F-Rating = 2 hours, T-Rating = 2 hours

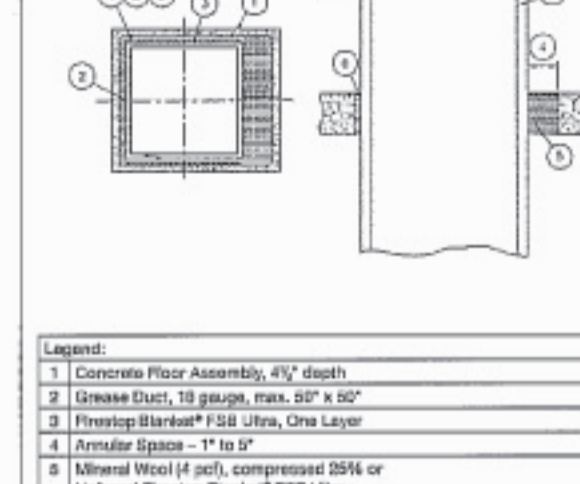


Figure 5. Firestop® Installation

Legend:

- 1 Concrete Floor Assembly, 4½" depth
- 2 Grease Duct, 16 gauge, max. 50" x 50"
- 3 FirestopBlanket® FSB Ultra, One Layer
- 4 Annular Splice - ¼" to 3"
- 5 Mineral Wool (4pcf), compressed 25% or Unfaced FirestopBlanket® FSB Ultra
- 6 Temco Fyre-Sil Non-Sag, ¼" depth, overlap onto concrete and duct insulation a min. ¼"

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original unopened packages, clearly marked with manufacturer's name, product designation, manufacturer's lot numbers and appropriate third party classification listings.

B. Store in a covered dry environment.

PART 2 PRODUCT

2.01 MANUFACTURERS

- A. GLT PRODUCTS, CLEVELAND, OHIO
- B. Approved equal

2.02 MATERIALS

- A. A lightweight, inorganic, non-asbestos, bio-soluble, high temperature, blanket wrap.
- B. Foil encapsulated, or foil on one side.
- C. 1½" thick, 6 PCF blanket wrap material to provide 2-hour fire resistive enclosure assembly per UL 1978 and ASTM E119.

FirestopBlanket® FSB Ultra Through Penetration Firestop® System OPL Design No. FS 591 W F-Rating = 2 hours, T-Rating = 2 hours

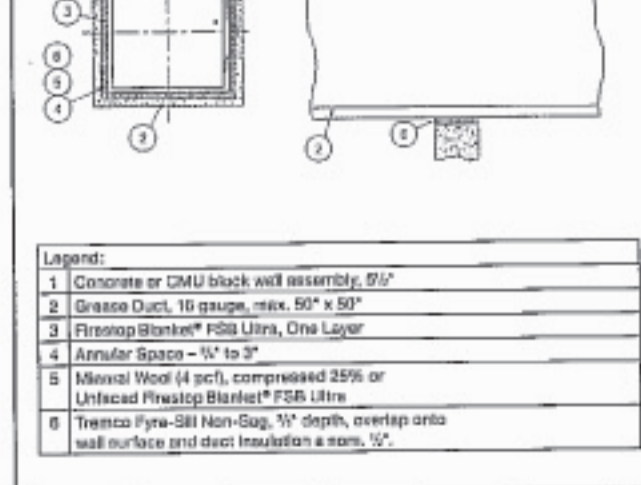


Figure 6. Firestop® Installation

Legend:

- 1 Concrete or CMU block and assembly, 8½"
- 2 Grease Duct, 16 gauge, max. 50" x 50"
- 3 FirestopBlanket® FSB Ultra, One Layer
- 4 Annular Splice - ¼" to 3"
- 5 Mineral Wool (4pcf), compressed 25% or Unfaced FirestopBlanket® FSB Ultra
- 6 Temco Fyre-Sil Non-Sag, ¼" depth, overlap onto wall surface and duct insulation a min. ¼"

- D. Blanket fiber materials to be non-carcinogen and soluble in the lung tissue.
- E. Zero clearance to combustible materials anywhere on the wrap.
- F. Fire rated access doors (for cleanout as provided) to maintain 2-hour rating and required clearance.
- G. Provide Firestop® sealants, tape, insulation pins, clips, banding and other components per manufacturer's instructions to provide fully functioning zero clearance to combustibles grease duct system.

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2.04 MATERIALS

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- B. Foil encapsulated, or foil on one side.
- C. 1½" thick, 6 PCF blanket wrap material to provide 2-hour fire resistive enclosure assembly per UL 1978 and ASTM E119.

PART 3 EXECUTION

3.01 PREPARATION

A. Inspect and verify that ductwork has been tested and installed properly before applying duct wrap material.

B. Inspect and verify that all surfaces are smooth, dry, clean and free from dust, debris, or other loose materials. Surfaces must be dry before the application of duct wrap materials.

3.02 INSTALLATION

A. Install duct wrap system in accordance with manufacturer's installation instructions.

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Refer to the product Material Safety Data Sheet (MSDS) for recommended work practices and other product safety information. For additional information about product performance or to identify the recommended product for your fire protection application, please contact GLT Products at 800-874-1748.