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Fire Protection Products

3M™ Fire Barrier Duct Wrap 615+



Technical Data Sheet | February / 2021

Product Description

3M™ Fire Barrier Duct Wrap 615+ is a flexible fire-resistant wrap consisting of an inorganic fiber blanket encapsulated with a scrim-reinforced foil. The product is 1-1/2 in. thick, 6pcf density[1]. It is used to fire rate commercial kitchen grease ducts as well as ventilation ducts. 3M™ Fire Barrier Duct Wrap 615+ is a proven alternative to 1- or 2-hour fire-resistant rated shaft enclosures for grease ducts (ICC-ES ESR-1255). With its excellent insulating capabilities, low weight and thin profile, it is an ideal choice for a duct enclosure system. This non-asbestos[2] wrap installs easily due to its high flexibility and strength.

[1] *In accordance with the tolerances in ASTM C892 Standard Specification for High-Temperature Fiber Blanket Thermal Insulation.*
[2] *Has been demonstrated to be soluble in the lungs according to EU guideline 97/69/EG, for biopersistence.*

Product Features

- Two-layer wrap for grease ducts rated as a shaft alternative per ASTM E2336
- Zero clearance to combustibles throughout the entire enclosure system for congested spaces
- Butted inner layer in 2-layer Grease Duct Applications
- One-layer wrap for fire-resistive ventilation ducts per ISO 6944 Type A
- High flexibility for installation ease
- Foil encapsulated for blanket protection, less dust, and high wrap strength
- Widest range of penetration seal systems
- Available in 24 in. x 25 ft. (609.6 mm x 7.62 m) and 48 in. x 25 ft. (1219.2 mm x 7.62 m) rolls
- Blanket adhered to foil scrim

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Applications	3M™ Fire Barrier Duct Wrap 615+ is an ideal fire resistive enclosure for commercial kitchen grease ducts and ventilation air ducts. It is a proven performance alternative to a 1- or 2-hour fire-resistant rated shaft enclosures for grease ducts and provides zero clearance to combustible construction throughout the entire enclosure system. 3M™ Fire Barrier Water Tight Sealant 1000 NS, 3M™ Fire Barrier Water Tight Sealant 1003 SL or 3M™ Fire Barrier Silicone Sealant 2000+ is used in combination with 3M™ Fire Barrier Duct Wrap 615+ to firestop the duct when the duct penetrates fire-rated floor or wall assemblies. 3M™ Fire Barrier Duct Wrap 615+ also provides a firestop solution where a T-rating is required for penetrations located outside wall cavities or outside fire-resistance rated shaft enclosures. **Two-layer grease duct applications:** 3M™ Fire Barrier Duct Wrap 615+ meets the criteria of ASTM E2336 Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems. **Single-layer air duct applications:** 3M™ Fire Barrier Duct Wrap 615+ has passed ISO 6944-1985 Fire Resistance Tests – Ventilation Ducts. **T-rating for metallic through-penetrating items:** 3M™ Fire Barrier Duct Wrap 615+ is used in conjunction with 3M Fire Barrier sealants to achieve up to 2-hour equal F & T-ratings in ASTM E814 (UL 1479) tested through-penetrations.

Specifications

Installation shall be in strict accordance with manufacture's written instructions, as shown on the approved shop drawings. 3M™ Fire Barrier Duct Wrap 615+ shall be a high-temperature fiber blanket thermal insulation encapsulated in a fiberglass-reinforced aluminized polyester foil. Duct Wrap density shall be nominal 6 pcf (96 kg/m3) and have a nominal 1-1/2 in. (38.1 mm) thickness. The fiber blanket shall have a continuous use limit of 1832 °F (1000 °C). The blanket thermal resistance (R-value) at ambient temperature shall be minimum $6.3\ °F\ ft\ \frac{°F \cdot ft^2 \cdot hr}{Btu}$. Smoke Developed Index and Flame Spread Index of the bare blanket, and of the foil encapsulated blanket shall be 0/0. The foil encapsulation shall be bonded to the core blanket material.

Typically Specified Division or Section
Division 7 – Thermal and Moisture Protection
Section 23 07 13 – Duct Insulation

Related Sections
Section 07 21 00 – Thermal Protection
Section 07 21 16 – Blanket Insulation
Section 07 84 00 – Firestopping
Section 23 00 00 – Heating, Ventilation and Air-Conditioning (HVAC)
Section 23 31 13 – Metal Ducts

3M™ Fire Barrier Duct Wrap 615+ has been tested in accordance with the following: ICC-ES AC101, ASTM E2336, ASTM E119, ASTM E814, ASTM E84, ASTM E136, ASTM C518, ISO 6944-85.

3M™ Fire Barrier Duct Wrap 615+, when installed per ASTM E2336 tested Grease Duct Design Listings, meets the following code requirements for field-applied grease duct enclosures:
NFPA 96
International Mechanical Code®
Uniform Mechanical Code

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Performance and Typical Physical Properties

Scrim Color	Aluminum with Black Text		
Blanket Color	White		
Blanket Weight	0.9 lbs./ft^2 (4.38 kg/m^2)		
Surface Burning Characteristics (ASTM E84)	**Foil Encapsulated Blanket:** Flame Spread Index: 0 Smoke Developed Value: 0		
Thermal Conductivity	Temperature	$\frac{Btu \cdot in}{hr \cdot ft^2 \cdot °F}$	$\frac{W}{m \cdot K}$
	500°F (260°C)	0.60	0.09
	1000°F (537°C)	1.15	0.17
	1500°F (815°C)	1.93	0.28
	1800°F (982°C)	2.51	0.36
	2000°F (1093°C)	2.94	0.43
Linear Shrinkage 24 Hour @ 2012°F (1100°C)	1.2%		
Noise Reduction Coefficient – NRC (ASTM C423)	0.80		
Mold and Mildew Resistance (ASTM C1338)	Devoid of growth		
Duct Service Temperature (ASTM C411)	Maximum Operating Temperature: 250°F (121°C)[3]		

[3] For ducts that operate with a surface temperature exceeding 250°F, contact your local 3M representative for further installation considerations.

Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor Sales Representative for applicable UL, ULC, Intertek or other third-party drawings and system details.

Installation Details: Tested and listed system details must be followed for each specific application. System examples are listed below:

Grease Duct Listings – ASTM E2336 / ICC-ES AC101

Fire Resistive Rating	Enclosure System	Third-Party Testing Services Design Listing	Description
1 and 2 hour	2 Layers of 3M™ Fire Barrier Duct Wrap 615+	ICC-ES ESR-1255 Intertek 3MU/FRD 120-18 Intertek 3MU/FRD 120-19	Rectangular Rectangular Round

Ventilation Duct Listings – ISO 6944 Type A

Fire Resistive Rating	Enclosure System	Third-Party Testing Services Design Listing	Description
1 and 2 hour	1 Layer of 3M™ Fire Barrier Duct Wrap 615+	Intertek 3MU/DI 60-01 UL HNLJ.V-27 Intertek 3MU/DI 120-01	Rect. & Round (1 hour) Rectangular (2 Hour) Rect. & Round (2 Hour)

Through Penetration T-Ratings – ASTM E814 (UL 1479)

Protected Item	UL System	F & T Rating
Floor Sink	F-A-1160	2 Hour
Metal Pipe	F-A-1057	2 Hour

Maintenance

No maintenance is expected when installed in accordance with the applicable Intertek, UL or other third-party listed system and in accordance with
3M™ Fire Barrier Duct Wrap 615+ Installation Guidelines. Once installed, if any section of the 3M™ Fire Barrier Duct Wrap 615+ is damaged such
that the blanket requires repair, the following procedure will apply:

1. If the blanket has not been damaged but the foil has ripped, seal the rips with aluminum foil tape.
2. If the blanket has been damaged:

a. The damaged section should be removed by cutting the steel banding or removing the clips holding it in place.

b. A new section of the same dimension should be cut from a roll of 3M™ Fire Barrier Duct Wrap 615+, either 24" (60.9cm) or 48" (121cm) wide.

c. The new section should be placed and fitted ensuring the same overlap that existed previously (i.e. the original installation method).

d. The steel banding should be placed around the material and tensioned so as to sufficiently hold the 3M™ Fire Barrier Duct Wrap 615+ in place.

Storage and Shelf Life	3M™ Fire Barrier Duct Wrap 615+ rolls are stable under normal storage conditions. Normal stock and stock rotation practices are recommended. 3M™ Fire Barrier Duct Wrap 615+ shelf life is indefinite when stored in original unopened packaging in a dry warehouse environment. Pallets should not be stacked. Lot numbering (e.g. 1807200223): First two digits = last two digits of the year manufactured (2018=18), third and fourth digit = month of manufacture, fifth and sixth digits = is the day of manufacture, seventh and eighth digits = crew code from fiber blanket, last two digits = day of encapsulation.
Availability	Available from 3M Authorized Fire Protection Products Distributors. For additional technical and purchasing information, call 1-800-328-1687 or visit 3M.com/firestop.
Safe Handling	Consult Safety Data Sheet prior to handling and disposing of 3M™ Fire Barrier Duct Wrap 615+.
Technical Information	The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.
Product Use	Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.
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