

10. Grease Duct & Ventilation Air Duct Installation Techniques cont.

3M™ Fire Barrier Duct Wrap 615+ Elbow and Banding Installations (Figure 15) Suggested Elbow Pattern Installation (A)

1. Perimeter
2. 3" (76.2mm) min. overlap
3. Hole cut (off-center)
Note: Place overlap on opposite side of horizontal pattern.

Suggested Banding Pattern Installation (B)

1. Grease or ventilation duct
2. 1 or 2 layers of 3M™ Fire Barrier Duct Wrap 615+ (application dependent)
3. Steel or stainless steel banding 1/2" (12.7mm) wide min. typical for permanent fastening with max. 10-1/2" (267mm) spacing
4. 3" (76.2mm) overlap (typical throughout application)
5. Min. 3" (76.2mm) perimeter overlap (not shown)
Note: 1-layer application depicted. When 2-layer application is required, replicate these steps with outer joints staggered a min. 3" (76.2mm) from inner joints. Banding is required on outermost layer only.

Note: System integrity is limited by quality of installation. Consult current independent testing laboratories (e.g. Intertek, UL) for Design or System Details.

3M™ Fire Barrier Duct Wrap 615+ Suggested Installation for 90° Turn (Figure 16) A-F (representative field-cut duct wrap sections)

1. Duct
2. 1 or 2 layers of 3M™ Fire Barrier Duct Wrap 615+ (application dependent)
3. Scotch® Filament Tape 898 (or equivalent)
4. Steel banding 1/2" (12.7mm) wide min. typical for permanent fastening
5. Min. 3" (76.2mm) overlap
6. Min. 3" (76.2mm) longitudinal overlap
Note: 2-layer application depicted. When 1-layer application is used, install banding (item 4) as a permanent hold.

Note: System integrity is limited by quality of installation. Consult current independent testing laboratories (e.g. Intertek, UL) for Design or System Details.

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10. Grease Duct & Ventilation Air Duct Installation Techniques cont.

3M™ Fire Duct Wrap 615+ Typical Through Penetration Firestop System (Figure 21) 1- or 2-Hour Through Penetration Systems 4-1/2" (114mm) Concrete Floor or Wall

1. Floor/ceiling or wall assembly
2. Duct
3. One or two layers 3M™ Fire Barrier Duct Wrap 615+ (application dependent)
4. Banding or pinning
5. 3M™ Fire Barrier Packing Material PM 4, 4 pcf mineral wool or scrap duct wrap (min. 33% compressed)
6. 3M™ Fire Barrier Water Tight Sealant 1000 NS, 3M™ Fire Barrier Water Tight Sealant 1003 SL, or 3M™ Fire Barrier Silicone Sealant 2000+
Note: Sealant to be applied at a minimum 5/8" (15.9mm) depth.
For wall assembly apply sealant to both sides of wall. (3M™ Fire Barrier Water Tight Sealant 1003 SL not suited for wall applications.)

Note: System integrity is limited by quality of installation. Consult current independent testing laboratories (e.g. Intertek, UL) for Design or System Details.

11. 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:

- If the blanket has not been damaged but the foil has ripped, seal the rips with aluminum foil tape.
- If the blanket has been damaged:
 - The damaged section should be removed by cutting the steel banding or removing the clips holding it in place.
 - 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.
 - The new section should be placed and fitted ensuring the same overlap that existed previously (i.e. the original installation method).
 - 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.

12. Availability

3M™ Fire Barrier Duct Wrap 615+ is available from 3M Authorized Fire Protection Products Distributors and Dealers. 3M™ Fire Barrier Duct Wrap 615+ is available in 24" x 25 ft. Roll (1 case), 48" x 25 ft. Roll (1 case). 3M™ Fire Barrier Duct Wrap Collars 615+ are available in 1 1/2" x 6" x 25 ft. Rolls (4/case). For additional technical and purchasing information regarding this and other 3M™ Fire Protection Products, please call: 1-800-328-1687 or visit www.3M.com/firestop.

13. Safe Handling Information

Prior to handling or disposal of 3M™ Fire Protection Products, consult all relevant Material Safety Data Sheets (MSDS).

10. Grease Duct & Ventilation Air Duct Installation Techniques cont.

3M™ Fire Barrier Duct Wrap 615+ Suggested Branching Duct Details (Figure 17)

1. Duct
2. Full width pieces of 1 or 2 layers of 3M™ Fire Barrier Duct Wrap 615+ (application dependent)
3. Steel banding 1/2" (12.7mm) wide min. typical for permanent fastening
4. 3M™ Fire Barrier Duct Wrap 615+ (field cut)
Note: Install first piece onto the inside of the inner duct area and then install the adjacent pieces so they overlap at the edges a minimum of 3" (76.2mm). When an application requires a second layer of duct wrap, install the second piece over the first piece and overlap at the edges a minimum of 3" (76.2mm).

Note: System integrity is limited by quality of installation. Consult current independent testing laboratories (e.g. Intertek, UL) for Design or System Details.

3M™ Fire Barrier Duct Wrap 615+ Suggested Duct Wrap / Shaft Transition Installations (Figure 18)

1. Fire barrier gypsum shaft assembly
2. 5/8" (15.88mm) depth of 3M™ Fire Barrier Sealant 1000NS, 1003SL, or 2000+
3. 1 or 2 layers of 3M™ Fire Barrier Duct Wrap 615+ (application dependent)
4. 3M™ Fire Barrier Duct Wrap 615+ (use small scrap piece)
5. Fire barrier concrete floor assembly
6. Air gap as required by local mechanical code (grease duct)
7. Extend duct wrap into shaft a min. distance that meets local code requirements for clearance to combustibles

Note: System integrity is limited by quality of installation. Consult current independent testing laboratories (e.g. Intertek, UL) for Design or System Details.

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10. Grease Duct & Ventilation Air Duct Installation Techniques cont.

Penetrations

When the duct penetrates a fire rated wall, ceiling or floor, an approved firestop system must be employed. Figures 19-21 illustrate typical conditions. To firestop the wrapped duct, follow the installation parameters detailed in a compatible ASTM E 814 tested through-penetration firestop design. Note: Through-penetration designs in which the duct is bare where it passes through combustible or limited-combustible construction (e.g. gypsum walls or wood joist floor-ceiling assemblies) are appropriate for ventilation duct scenarios only. It is not appropriate for bare, uninsulated grease ducts to pass through combustible assemblies. Intertek 3M/UL design listings contain through penetration details. See system details of UL System HXLI V-27, Section 1.C. for applicable UL through penetration systems.

3M™ Fire Barrier Duct Wrap 615+ Typical Through Penetration Firestop System (Figure 19) 1-Hour Through Penetration Systems: Fire-Rated Wood/Gypsum Floor/Ceiling Assembly

1. Floor/ceiling assembly
2. Duct
3. One or two layers 3M™ Fire Barrier Duct Wrap 615+
4. Banding or pinning
5. 3M™ Fire Barrier Packing Material PM 4, 4 pcf mineral wool, or scrap duct wrap (min. 33% compressed)
6. 3M™ Fire Barrier Water Tight Sealant 1000 NS, 3M™ Fire Barrier Water Tight Sealant 1003 SL, or 3M™ Fire Barrier Silicone Sealant 2000+
Note: Sealant to be applied at a minimum 5/8" (15.9mm) depth.

Note: System integrity is limited by quality of installation. Consult current independent testing laboratories (e.g. Intertek, UL) for Design or System Details.

3M™ Fire Barrier Duct Wrap 615+ Typical Through Penetration Firestop System (Figure 20) 1- or 2-Hour Through Penetration Systems — Gypsum Wall or Gypsum Shaftwall

1a. Gypsum wall assembly
1b. Gypsum shaftwall assembly
2. Duct
3. One or two layers 3M™ Fire Barrier Duct Wrap 615+ (layering dependent on application)
4. Banding or pinning
5. 3M™ Fire Barrier Packing Material PM 4, 4 pcf mineral wool, or scrap duct wrap (min. 33% compressed)
6. 3M™ Fire Barrier Sealant 1000NS or 2000+ applied at a min. 5/8" (15.9mm) depth
Note: The assembly can be either a symmetrical gypsum wall or an asymmetrical gypsum shaftwall.

Note: System integrity is limited by quality of installation. Consult current independent testing laboratories (e.g. Intertek, UL) for Design or System Details.

For technical data and properties of 3M™ Fire Barrier Water Tight Sealant 1000 NS, 3M™ Fire Barrier Water Tight Sealant 1003 SL or 3M™ Fire Barrier Silicone Sealant 2000+, see separate product data sheets available from your 3M representative or go to www.3M.com/firestop.

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NOTE: PORTIONS OF THE BASIS OF DESIGN FIRE RATED DUCT WRAP INSTALLATION MANUAL. INSTALL ALL DUCT WRAP IN ACCORDANCE WITH THE LISTING AND MANUFACTURER'S WRITTEN INSTRUCTIONS. A COMPLETE COPY OF THE LISTING REPORT AS PUBLISHED BY THE NATIONAL RECOGNIZED TESTING LABORATORY SHALL BE PROVIDED FOR THE USE OF THE INSTALLERS AND THE AUTHORITY HAVING JURISDICTION.

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