

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 governmental 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
 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. Double Layer Systems:
 - i. 2-hour rated zero clearance to combustibles across entire surface area of field applied duct wrap material, per UL 1978 or AC-101.
 1. UL 1978 requires 2 layers of 1.5" thick, 6 PCF blanket wrap material.
 2. AC-101 requires 2 layers of 2" thick, 8 PCF blanket wrap material.
 - ii. 2-hour fire resistive enclosure assembly per ASTM E119

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.

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. ETS Schaefer Corporation, Macedonia, OH
- 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. Sufficient thickness to provide 2-hour fire resistive enclosure assembly per ASTM E119.
- D. Blanket fiber materials to be non-carcinogen and soluble in the lung tissue.
- E. Zero clearance to combustible materials across entire blanket surface area.
- F. Provide rated access doors (for cleanout as required) to maintain 2-hour rating and required clearance.
- G. Provide Firestop sealants, tape, insulation pins, clips, banding and other components as per manufacturer's instructions to provide fully functioning zero clearance to combustibles grease duct system.

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.