

**DUCTWORK FOR REMOVAL OF GREASE AND SMOKE LADEN VAPORS**  
**Section 23 38 13**

**PART 1- GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
1. Ductwork for removal of grease and smoke laden vapors.

**1.2 REFERENCES**

- A. Underwriters Laboratories (UL):
1. UL1978
  2. UL2221
  3. UL103HT – Diameters 6 through 14 inches
- B. American Society for Testing and Materials (ASTM):
1. ASTM E119-Fire Engulfment Test.
  2. ASTM E814-Fire Rated Penetration Test.
- C. National Fire Protection Association (NFPA):
1. NFPA 96 - Ventilation Control And Fire Protection Of Commercial Cooking Operations

**1.3 QUALITY ASSURANCE**

- A. Comply with NFPA 96 unless otherwise indicated or comply with local authority having jurisdiction.
- B. Must install duct in accordance to manufacturer's listings and installation instructions.

**1.4 WARRANTY**

- A. Listed grease duct shall have a limited lifetime warranty to begin at the date of installation.

**PART 2- PRODUCTS**

**2.1 AVAILABLE MANUFACTURERS**

- A. Listed Double-Wall insulated grease duct shall be model 3G, as manufactured by Metal-Fab, Inc.

**2.2 LISTED DUCTWORK FOR REMOVAL OF GREASE AND SMOKE LADEN VAPORS**

- A. The grease duct shall be insulated double-wall factory built type for use with Type 1 kitchen hoods, as described in NFPA-96 for the transportation of air and grease-laden vapors from commercial cooking operation.
- B. Product Description:
- a. Zero Clearance Series 3G Grease Duct by Metal-Fab.
  - b. Factory pre-fabricated, double wall type, UL listed for venting of grease laden air from Type I kitchen hoods requiring grease duct as described in NFPA 96.
  - c. Rated for continuous operation at 500° F and intermittent operation at 2000° F.
  - d. All components of the grease duct system shall be provided by the manufacturer to ensure the system meets the requirements of the listing including duct supports, guides, fittings, cleanouts, and expansion joints required to install the duct.
  - e. Grease duct shall conform to requirements of ASTM E119 Fire Engulfment Test, ASTM E814 3-hour Fire Stop Test, and shall be listed by the following agencies with the associated listed reports:
    - i. UL 1978 (File MH8251) - Grease Ducts for Restaurant Cooking Appliances.
    - ii. UL 2221 (File R15388) - Standard for Tests of Fire Resistive Grease Duct Enclosure Assemblies
    - iii. UL Evaluation Report UL ER15388-01 - UL Evaluation of 3G & 4G Grease Duct Systems.
    - iv. UL103HT (MH8251)-Standard for factory built chimneys and building appliances, and solid fuel cooking appliances.

- f. The duct sections shall be constructed of an inner wall and an outer wall with ceramic fiber insulation between the walls.
  - i. The inner wall shall be constructed of 304, 316 or 430 stainless steel.
    - 1. 6 through 36 inch diameter materials: 0.035 inch thick inner wall. .
  - ii. The outer wall shall be constructed of aluminized steel, 304 or 316 stainless steel.
    - 1. 6 thru 36 diameter inch materials: 0.024 inch thick outer wall.
  - iii. The duct shall include a 3" thickness of body soluble ceramic fiber insulation between the inner and outer walls.
- g. The duct wall assembly is Tested and Listed to 0 inches clearance to combustibles.

### PART 3-EXECUTION

#### 3.1 CONSTRUCTION OF FACTORY BUILT GREASE DUCT

- A. Inner pipe joints shall be held together by means of formed vee bands and sealed with P080 Grease Duct Sealant.
- B. Connection to the hood will be made with a round hood collar or a square-to-round transition.
- C. Curb mounted fans will incorporate a fan adapter plate
- D. All construction and supporting of the kitchen ventilation system will be in accordance with Metal-Fab, Inc. installation instructions.
- E. Store grease duct sections inside, or covered adequately to protect from weather or accidental damage.

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