

Removal of smoke and grease-laden vapors from commercial cooking equipment must comply with NFPA 96 **Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations**, 2008 Edition, in accordance with Division B, Articles 3.3.1.2., 6.2.2.6., and 9.10.1.4. of the 2012 Ontario Building Code.

### **Hood or Canopy**

- Hood or canopy designed for collecting cooking vapors and residues shall be listed and constructed of steel not less than 1.09 mm (No. 18 MSG) thick or stainless steel not less than 0.94 mm (No. 20 MSG) thick..
- Clearance of hoods, grease removal devices, exhaust fans and ducts to combustible material shall be at least 457 mm (18in). Exceptions in clearance are permitted for listed.
- Seams and joints of hoods and ducts must have liquid-tight continuous external weld.
- Outside make-up air duct into hood requires fire-actuated damper.

### **Duct Systems**

- Ducts shall be constructed of and supported by carbon steel not less than 1.37 mm (No. 16 MSG) thick or stainless steel not less than 1.09 mm (No. 18 MSG) thick.
- Ducts must be without dips or traps, except cleanout traps.
- Ducts shall have openings for inspection and cleaning purposes at any change of direction.
- Duct covers shall be of the same material and construction as ducts.
- Covered openings are permitted for access to listed fire protection system devices.
- Each duct system shall constitute an individual system serving only exhaust hoods in one fire zone on one floor, and shall not be interconnected with any other building ventilating or exhaust system.
- Ducts shall not pass through fire walls.
- Dampers shall not be installed in ducts or duct systems unless specifically listed for such uses.
- Vertical ducts penetrating roof or floor fire separations shall be enclosed in a continuous noncombustible enclosure extending from the ceiling above the hood to or through the roof so as to maintain the integrity of the fire separations required by the Ontario Building Code but in no case shall have fire resistance rating of less than 1-hour in the building with less than 4 storeys in height, and 2-hours in the building with 4 storeys or more in height. (See NFPA 96 Clause 7.7.1.5 for exceptions).
- Clearance from the duct to the interior surfaces of noncombustible or limited-combustible enclosure shall not be less than 152 mm (6 in).
- Access doors to shafts must be self-closing, rated fire doors.
- Ducts should lead as directly as possible to the exterior of the building and shall discharge at least 1.02 m (40 in) above the roof surface and have a minimum of 3.05 m (10 ft) clearance from the adjacent buildings, property lines, air intakes and adjoining grade levels.
- Where the required horizontal separation is not feasible, air intake must be at least 920 mm (3 ft) below the exhaust outlet directed away from the intake.
- Exhaust air must be directed away from roof surface.

### **Grease Removal Devices**

- Listed grease filters, baffles or other grease removal devices, exhaust fans and auxiliary equipment shall be installed to comply with Chapters 6, 8 and 9 of NFPA 96 standard.
- Grease removal devices shall be protected from direct flames and high temperatures.

### **Airflow Requirements**

- Air velocity is to be not less than 152.4 m/min (500 ft/min) – changed from 365.8 m/min (1200 ft/min) of 2001 Edition to Clause 8.2.1.1.
- Data on air movement or performance shall be available.
- Replacement air is required where pressure may be less than 4.98 kPa (0.02 inch water column).

### **Electrical Equipment**

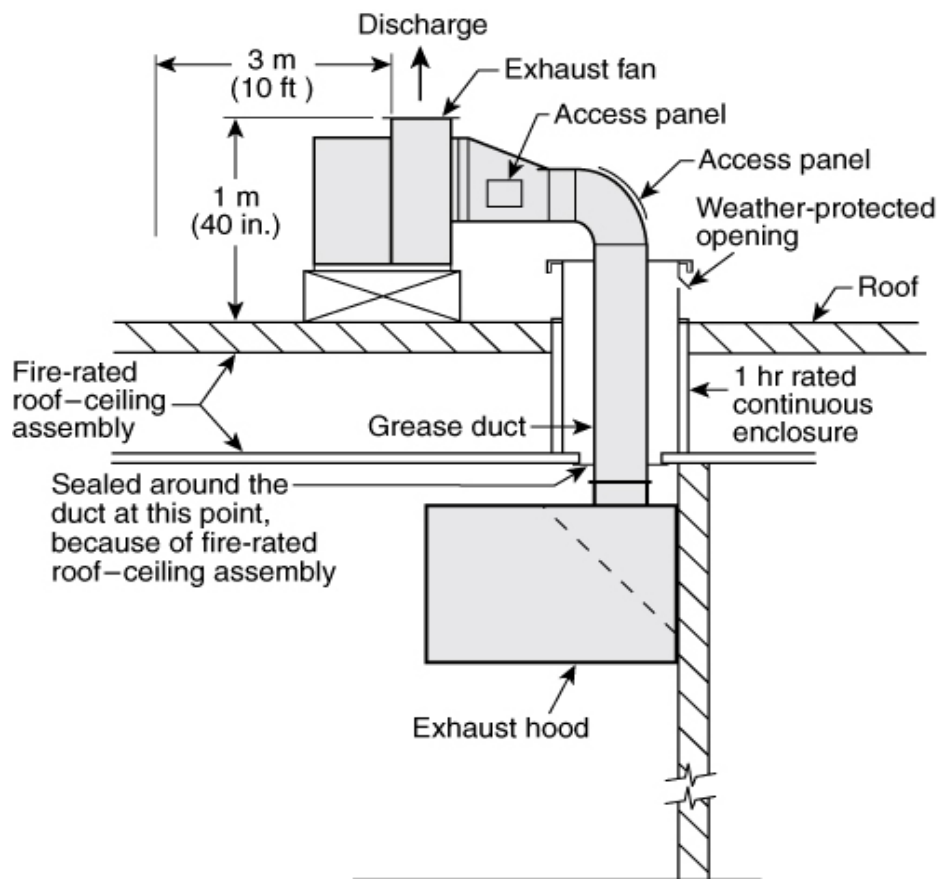
- All electrical equipment must be installed in accordance with NFPA 70, National Electrical Code, with due regard to the effects of heat, vapour and grease on the equipment.

## Fire Extinguishing Equipment

- Approved fire extinguishing equipment shall be provided for the protection of duct system, grease removal devices and hood in the kitchen area.
- Approved fire extinguishing systems shall be installed in accordance with terms of their listing and manufacturer's instructions.
- The operation of any extinguishing system shall automatically shut off all sources of fuel and heat to all equipment.
- The extinguishing system shall be connected to a fire alarm system serving the occupancy wherein the extinguishers are located, where such alarm system is present. Electrically powered extinguishing system shall be monitored by a supervisory alarm signaling power failure.
- Fire extinguishing systems shall be inspected and approved by the Oshawa Fire Services prior to the occupancy of the building.

## Maintenance and Inspection

- Maintenance and periodic inspections of equipment shall be carried out to comply with NFPA standards. Certificates of inspection and maintenance shall be forwarded, if required, to the Oshawa Fire Services.



## NFPA96

### 4.2 Clearance (See Figures A.4.2.(a) through (g) of NFPA 96)

4.2.1 Where enclosures are not required, hoods, grease removal devices, exhaust fans, and ducts shall have a clearance of at least 457 mm (18 in) to combustible material, 76 mm (3 in) to limited-combustible material, and 0 mm (0 in) to noncombustible material.

4.2.2 Where a hood, duct, or grease removal device is listed for clearances less than those required in 4.2.1 the listing requirements shall be permitted.

### 4.2.3 Clearance Reduction

4.2.3.1 Where a clearance reduction system consisting of 0.33 mm (0.013 in) (28-gauge) sheet metal spaced out 25 mm (1 in) on noncombustible spacers is provided; there shall be a minimum of 229 mm (9 in) clearance to combustible material.

4.2.3.2 Where a clearance reduction system consisting of 0.69 mm (0.027 in) (22-gauge) sheet metal on 25 mm (1 in) mineral wool bats or ceramic fiber blanket reinforced with wire mesh or equivalent spaced out 25 mm (1 in) on noncombustible spacers is provided, there shall be a minimum of 76 mm (3 in) clearance to combustible material.

4.2.3.3 Zero clearance to limited-combustible materials shall be permitted where protected by metal lath and plaster, ceramic tile, quarry tile, other noncombustible materials or assembly of noncombustible materials, or materials and products that are listed for the purpose of reducing clearance.