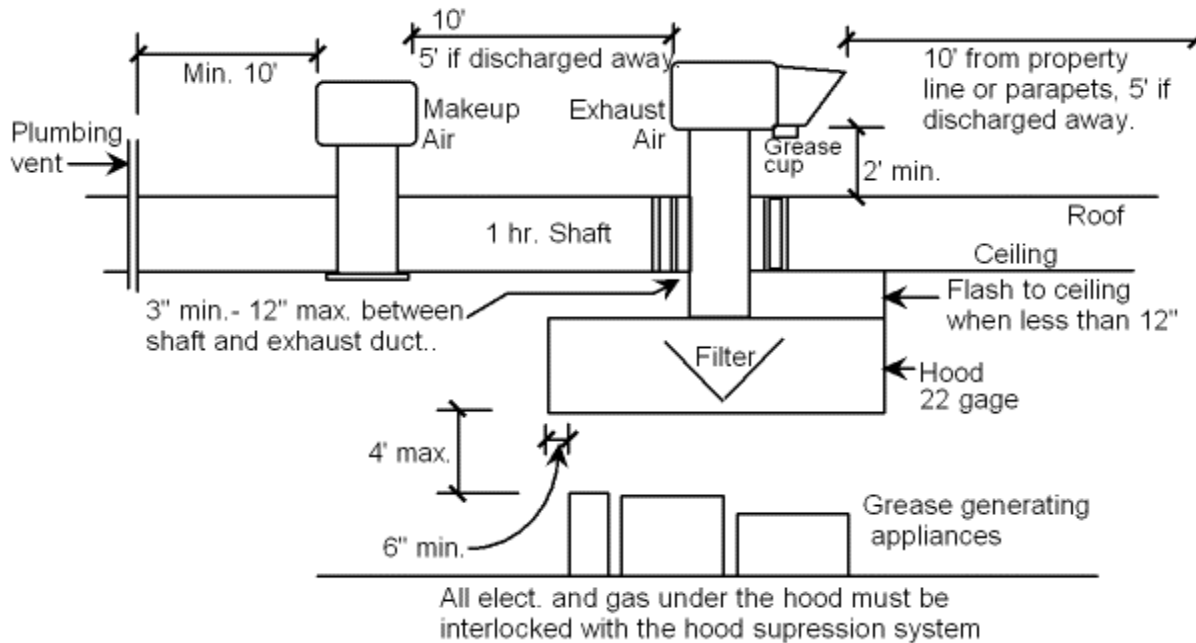




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## Grease Hood and Duct Sizing (Type I Hood System)

The grease hood shall extend beyond the edges of the cooking appliances a minimum of 6 inches and have a vertical clearance of not more than 4 feet.



### Sizing Hood and Duct Systems

Canopy type hoods shall exhaust a minimum quantity of air as determined by the following:

- A = Horizontal surface area of the hood in square feet.
- D = Distance in feet between the lower lip of the hood and the cooking surface.
- P = that part of the perimeter of the hood that is open, in feet.

Q = quantity of air, in cubic feet per minute.

Formula (see UMC section 508.7.2):

3 sides exposed (high heat appliances)  $Q = 100A$

Alternate formula  $Q = 100PD$

\*Note- When all appliances are electrical the airflow required may be reduced to 80 percent of the formula value.

Example- sizing hood system (high heat appliances - deep fat fryers):

A hood measuring 4x8 ft. has a horizontal surface area of 32 square feet.

With three sides open quantity of air (Q) = (100xA), or 3200 CFM.

Duct systems serving a type I hood are required to have an air velocity of between 1500 and 2500 feet per minute.

Example- sizing duct system:

Duct size (as shown on plans) = 16x16 square inches,  $256/144 = 1.77$  square feet

$3200 \text{ CFM} / 1.77 \text{ square feet} = 1807$  feet per minute velocity, which is between the 1500 and 2500 feet per minute requirement. Ducting is sized correctly.

Make-up air shall supply a quantity of air equal to that being exhausted.

HOOD SIZE in feet \_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_ SQ FT

CFM

Type 1 over solid-fuel

Exposed 4 sides (island or central) Q = 300A

Exposed 3 sides or less Q = 200A

Alternate Q = 100PD

Type 1 high-temperature such as fryers:

Exposed 4 sides (island or central) Q = 150A

Exposed 3 sides or less Q = 100A

Alternate Q = 100PD

Type 1 medium-temperature such as rotisseries, grills and ranges:

Exposed 4 sides (island or central) Q = 100A

Exposed 3 sides or less Q = 75A

Alternate Q = 50PD

Type 1 low-temperature such as ovens

Exposed 4 sides (island or central) Q = 75A

Exposed 2 sides or less Q = 50A

Alternate Q = 50PD

X \_\_\_\_\_

= \_\_\_\_\_ CFM

DUCT SIZE in inches \_\_\_\_\_ X \_\_\_\_\_ ÷ 144 = \_\_\_\_\_ SQ FT

CFM from above ÷ DUCT SIZE sq ft from above = \_\_\_\_\_ FPM

FPM must be between 1500 & 2500 \_\_\_\_\_