

COMMERCIAL KITCHEN EXHAUST

2016 CALIFORNIA MECHANICAL CODE SECTIONS 507.0, 508.0, 509.0, 510.0

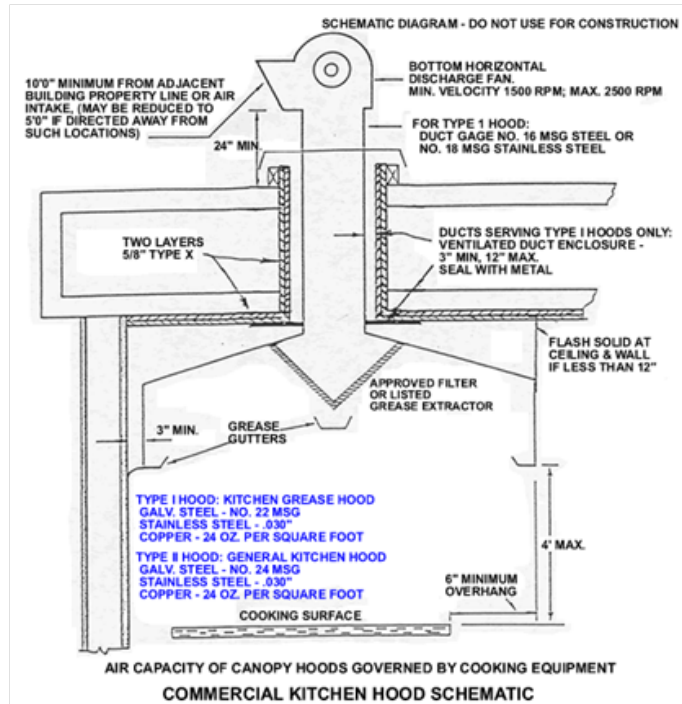
The following is a list of the general requirements for commercial kitchen exhaust based on the 2016 California Mechanical Code. This handout is intended to provide only general information, contact the Building and Safety Division for any questions or additional information.

CMC Section 508 Hoods.

Type I hoods shall be installed at or above commercial-type deep-fat fryers, broilers, grills, hot-top ranges, ovens, barbecues, rotisseries, and similar equipment that produces comparable amounts of smoke or grease in a food processing establishments.

508.3 Construction of Type I Hoods.

Shall be constructed of steel not less than 0.048 (No 18MSG) of an inch in thickness, stainless steel not less than 0.036 (No 20 MSG) of an inch in thickness, or other approved material of equivalent strength and fire and corrosion resistance.



508.4 Construction of Type II Hoods. Shall be constructed of steel not less than 0.024 (No 24MSG) of an inch in thickness. Hoods constructed of copper shall be of copper sheets weighing not less than 0.17 ounces per square inch. Joints and seams shall be substantially tight. Solder shall not be used except for sealing a joint or seam.

508.6 Grease Vapor. Wall mounted hood assemblies shall be tight fitting against the back wall as to not permit the passage of grease vapor behind the hood.

508.7 Seams, joints and penetrations. Shall be liquid tight continuous external weld to the hood's lower outermost perimeter.

508.10.1 Canopy Size and Location. The inside edge thereof shall overhang or extend a horizontal distance of not less than 6" beyond the edge of the cooking surface on open sides and a vertical distance between the lip of the hood and the cooking surface shall not exceed 4 feet.

509.2 Grease Removal Device, Installation. The distance between the grease removal device and the cooking surface shall not be less than 18 inches.

509.2.2 Grease Removal Device Protection. Grease removal devices shall be protected from combustion gas outlets and from direct flame impingement occurring during normal operation of cooking appliances producing high flue gas temperatures, where the distance between the grease removal device and the flue outlet is less than 18 inches, and shall be accomplished by the installation of a steel or stainless-steel baffle plate between the heat source and the grease removal device. The baffle shall be located not less than 6 inches from the grease removal device.

509.2.4 Grease Drip Trays. Grease filters shall be equipped with a drip tray beneath their lower edges. The tray shall be kept to minimum size needed to collect grease and shall be pitched to drain into an enclosed metal container having a capacity not exceeding 1 gallon.

510.0 Exhaust Duct Systems. Ducts shall not pass through fire walls. Ducts shall be installed with not less than 2 percent slope on horizontal runs up to 75 feet and not less than 8 percent slope on horizontal runs more than 75 feet. Factory-built grease ducts shall be permitted to be installed in accordance with the listing and the manufacturer's installation direction. Ducts shall be installed without forming dips or traps.

Duct systems serving Type I Hood shall be constructed and installed that grease cannot become pocketed, and, shall slope not less than ¼" per lineal foot toward the hood or approved grease reservoir. Ducts exceeding 75 feet in length, slope shall be not less than 1 inch per lineal foot.

Section 510.1.5. Sign placed on access panel – ACCESS PANEL – DO NOT OBSTRUCT

Section 510.1.7 Type II Exhaust Duct Systems. Ducts systems serving Type II shall be constructed of rigid metallic materials, braced and supported, and sealed if subjected to positive pressure in accordance to CMC Chapter 6.

Section 510.3 Openings. Openings shall be provided at the sides or at the top of the duct, whichever is more accessible and at changes of direction.

- a) 510.3.1 - Access panel for cleaning and inspection shall be provided in the duct or the hood within 18" of the damper.
- b) 510.3.2 - Exhaust fans with ductwork connected to both sides shall have access for cleaning and inspection within 3 feet.

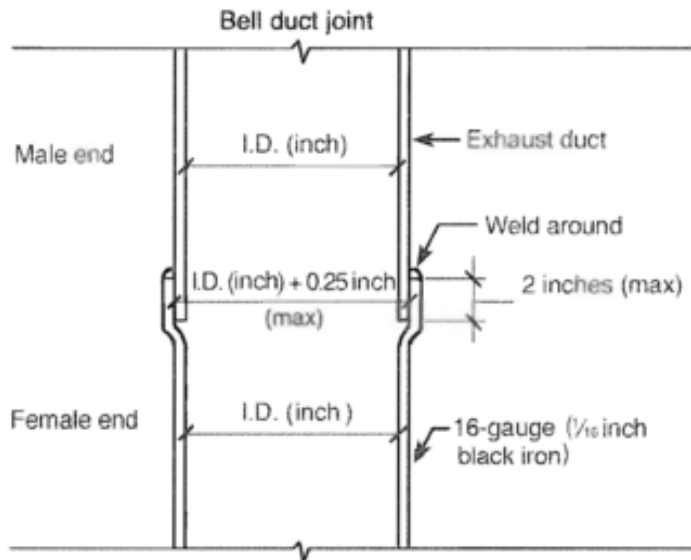
- c) 510.3.3 - Horizontal duct where an opening of “20x20” is not possible, openings large enough to permit thorough cleaning shall be provided at 12 feet intervals.
 - a. Support systems for horizontal grease duct systems 24 inches and larger in a cross-sectional dimension shall be designed for the weight of the ductwork plus 800 pounds at a point in the duct systems.

Section 510.5.3.2 Welded Duct Connection. Duct to duct connection shall be as follows:

- (1) Telescoping joint
- (2) Bell type joint
- (3) Flange with edge weld
- (4) Flange with filled weld

Butt welded connections shall not be permitted.

Section 510.6 Exterior Installations. The exterior portion of the ductwork shall be vertical wherever possible and shall be installed and supported on the exterior of a building. Bolts, screws, and other mechanical fasteners shall not penetrate duct walls.



For SI units: 1 inch = 25.4 mm

Notes:

- 1. Duct size stays the same throughout the duct system.
- 2. Smaller (inside) male duct end is always above or uphill (on sloped duct), to be self-draining into larger (outside) female duct end.