

1346.0507 SECTION 507 COMMERCIAL KITCHEN HOODS.

Subpart 1. **Section 507.1.** IMC Section 507.1 is amended by adding subsection 507.1.1 after the exceptions to read as follows:

507.1.1 Factory built systems with exhaust or recovery. Where factory built commercial cooking recirculating systems or dishwashers and potwashers equipped with heat and vapor exhaust or recovery systems are installed, the sensible and latent heat from the systems shall be included in the HVAC design calculations of the kitchen. A mechanical HVAC system shall be provided to maintain maximum relative humidity of 65 percent in the space.

Subp. 2. **Section 507.2.** IMC section 507.2 is amended to read as follows:

507.2 Where required. A Type I or Type II hood shall be installed at or above all commercial cooking appliances in accordance with ASHRAE standard 154. Where any cooking appliance under a single hood requires a Type I hood, a Type I hood shall be installed. Where a Type II hood is required, a Type I or Type II hood shall be installed.

507.2.1 Type I hoods. Type I hoods shall be installed where cooking appliances produce grease or smoke as a result of the cooking process. Type I hoods shall be installed over medium-duty, heavy-duty, and extra-heavy-duty cooking appliances. Type I hoods shall be installed over light-duty cooking appliances that produce grease or smoke. The duty classifications of cooking appliances served by Type I hoods shall be in accordance with Table 507.2.1.

Exception: A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg/m³ or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 m³/s) in accordance with Section 17 of UL 710B.

Table 507.2.1

Appliance Duty Classifications by Appliance Type

Appliance Description	Size	Type I Hoods			
		Light Duty	Medium Duty	Heavy Duty	Extra-Heavy Duty
Braising pan/tilting skillet, electric	All	●			
Oven, rotisserie, electric and gas	All	●			
Oven, combi, electric and gas	All	●			

Oven, convection, full-size, electric and gas	All	•
Oven, convection, half-size, electric and gas (protein cooking)	All	•
Oven, deck, electric and gas	All	•
Oven, mini-revolving rack, electric and gas	All	•
Oven, rapid cook, electric	All	•
Oven, rotisserie, electric and gas	All	•
Range, discrete element, electric (with or without oven)	All	•
Salamander, electric and gas	All	•
Braising pan/tilting skillet, gas	All	•
Broiler, chain conveyor, electric	All	•
Broiler, electric, under-fired	All	•
Conveyor oven, electric	6 kW or larger	•
Conveyor oven, gas	All	•
Fryer, doughnut, electric and gas	All	•
Fryer, kettle, electric and gas	All	•
Fryer, open deep-fat, electric and gas	All	•
Fryer, pressure, electric and gas	All	•
Griddle, double-sided, electric and gas	All	•
Griddle, flat, electric and gas	All	•
Range, cook-top, induction	All	•

Range, open-burner, gas (with or without oven)	All	●	
Range, hot top, electric and gas	All	●	
Broiler, chain conveyor, gas	All		●
Broiler, electric and gas, over-fired (upright)	All		●
Broiler, gas, under-fired	All		●
Range, wok, gas and electric	All		●
Appliances using solid fuel (wood, charcoal, briquettes, and mesquite) to provide all or part of the heat source for cooking			●
Exception: Appliances complying with Section 14.3.4 of NFPA Standard 96	All		

507.2.1.1 Operation. Type I hood systems shall be designed and installed to automatically activate the exhaust fan whenever cooking operations occur. The activation of the exhaust fan shall occur through an interlock with the cooking appliances, by means of heat sensors or by means of other approved methods. A method of interlock between an exhaust hood system and appliances equipped with standing pilot burners shall not cause the pilot burners to be extinguished. A method of interlock between an exhaust hood system and cooking appliances shall not involve or depend upon any component of a fire extinguishing system.

507.2.2 Type II hoods. Type II hoods shall be installed above dishwashers and appliances as required by Table 507.2.2. The duty classifications of cooking appliances served by Type II hoods shall be in accordance with Table 507.2.2. Type II hoods shall be installed above all appliances that produce products of combustion and do not produce grease or smoke as a result of the cooking process. Where hoods are not required, the additional heat and moisture loads generated by such appliances shall be accounted for in the sensible and latent loads for the HVAC system.

Table 507.2.2

Type II Hood Requirements by Appliance Description

Appliance Description	Size	Hood Not Required ^{a,b}	Type II Hoods ^a	
			Light Duty	Medium Duty
Cabinet, holding, electric	All	●		
Cabinet, proofing, electric	All	●		
Cheese-melter, electric	All	●		
Coffee maker, electric	All	●		
Cooktop, induction, electric	All	●		
Dishwasher, under-counter, electric	All	●		
Dishwasher, powered sink, electric	All	●		
Drawer warmer, 2 drawer, electric	All	●		
Egg cooker, electric	All	●		
Espresso machine, electric	All	●		
Grill, panini, electric	All	●		
Hot dog cooker, electric	All	●		
Hot plate, countertop, electric	All	●		
Ovens, conveyor, electric	< 6 kW	●		
Ovens, microwave, electric	All	●		
Ovens, warming, electric	All	●		
Popcorn machine, electric	All	●		
Rethermalizer, electric	All	●		
Rice cooker, electric	All	●		
Steam table, electric	All	●		
Steamers, bun, electric	All	●		
Steamer, compartment atmospheric, countertop, electric	All	●		
Steamer, compartment pressurized, countertop, electric	All	●		

Table, hot food, electric	All	•	
Toaster, electric	All	•	
Waffle iron, electric	All	•	
Cheese-melter, gas	All		•
Dishwasher, conveyor rack, chemical sanitizing	All		•
Dishwasher, conveyor rack, hot water sanitizing	All		•
Dishwasher, door-type rack, chemical sanitizing	All		•
Dishwasher, door-type rack, hot water sanitizing	All		•
Kettle, steam jacketed, tabletop, electric, gas and direct steam	< 20 gallons		•
Oven, convection, half-size, electric and gas (nonprotein cooking)	All		•
Pasta cooker, electric	All		•
Rethermalizer, gas	All		•
Rice cooker, gas	All		•
Steamer, atmospheric, gas	All		•
Steamer, pressurized, gas	All		•
Steamer, atmospheric, floor-mounted, electric	All		•
Steamer, pressurized, floor-mounted, electric	All		•
Kettle, steam-jacketed floor-mounted, electric, gas and direct steam	< 20 gallons		•
Pasta cooker, gas	All		•

Smoker, electric and gas, pressurized	All	•
Steam-jacketed kettle, floor-mounted, electric and gas	20 gallons or larger	•

^a A hood shall be provided for an electric appliance if it produces 3.1×10^{-7} lb/ft³ (5 mg/m³) of grease or more when measured at 500 cfm (236 L/s).

^b Where hoods are not required, the additional heat and moisture loads generated by such appliances shall be accounted for in the sensible and latent loads for the HVAC system.

507.2.2.1. Type II hood exhaust flow rates. The net exhaust flow rate for Type II hoods shall comply with Table 507.2.2.1. The duty level for the hood shall be the duty level of the appliance that has the highest (heaviest) duty level of all of the appliances that are installed underneath the hood according to Table 507.2.2.

Table 507.2.2.1

Type II Hood Minimum Net Exhaust Airflow Rates

Type of Hood	Minimum Net Exhaust Flow Rate per Linear Hood Length in cfm/ft (L/s/m)	
	Light-Duty Equipment	Medium-Duty Equipment
Wall-mounted canopy	200 (310)	300 (465)
Single island	400 (620)	500 (775)
Double island (per side)	250 (388)	300 (465)
Eyebrow	250 (388)	250 (388)
Backshelf/Pass-over	200 (310)	300 (465)

507.2.2.2 Type II hood overhang. Type II hoods shall overhang the appliances and equipment served in accordance with Table 507.2.2.2.

Table 507.2.2.2

Minimum Overhang Requirements for Type II Hoods

Type of Hood	End Overhang	Front Overhang	Rear Overhang
Wall-mounted canopy	6 in. (154 mm)	12 in. (154 mm)	N/A

Single-island canopy	12 in. (154 mm)	12 in. (154 mm)	12 in. (154 mm)
Double-island canopy	12 in. (154 mm)	12 in. (154 mm)	N/A
Eyebrow	N/A	12 in. (154 mm)	N/A
Backshelf/Proximity/ Pass-over	6 in. (154 mm)	10 in. (254 mm) (setback)	N/A

N/A = not applicable

Subp. 3. [Repealed, 34 SR 537]

Subp. 4. [Repealed, 39 SR 690]

Subp. 5. [Repealed, 34 SR 537]

Subp. 6. **Section 507.4.** IMC section 507.4 is deleted.

Subp. 7. **Section 507.5.** IMC section 507.5 is amended to read as follows:

507.5 Type II hood materials. Type II hood materials shall be constructed of stainless steel not less than 0.024 inch (0.61 mm) (No. 24 Gage) in thickness, copper sheets weighing not less than 24 ounces per square foot (7.3 kg/m^2), or of other approved material and gage.

Subp. 8. **Section 507.7.** IMC section 507.7 is amended to read as follows:

507.7 Hood joints, seams, and penetrations. Hood joints, seams, and penetrations shall comply with amended IMC sections 507.7.1 and 507.7.2.

Subp. 9. **Section 507.7.1.** IMC section 507.7.1 is amended to read as follows:

507.7.1 Type I hoods. Type I hoods shall be designed, constructed, and installed in accordance with Chapter 5 of NFPA 96.

Subp. 10. **Sections 507.8 to 507.11.2.** IMC sections 507.8 to 507.11.2 are deleted.

Subp. 11. [Repealed, 34 SR 537]

Subp. 12. **Section 507.14.** IMC section 507.14 is deleted.

Subp. 13. [Repealed, 34 SR 537]

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *29 SR 299; L 2007 c 140 art 4 s 61; art 13 s 4; 34 SR 537; 39 SR 690*

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