

ADVISORY COMMITTEE COMMENT FORM FOR PROPOSED CODE CHANGES

(This form must be submitted electronically)

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1346 IMC #28a

Proposed Code Change - Language

Please provide your proposed code change in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

IMC Section 507 is amended to read as follows:

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-firedd	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-firedd (upright)	All			•	
Broiler, gas, under-firedd	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	All				•

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 that produce heat or moisture and do not produce grease or smoke as a result of the cooking process, except where the heat and moisture loads from such appliances are incorporated into the HVAC system design or into the design of a separate removal system. 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. ~~Spaces containing cooking appliances that do not require Type II hoods shall be provided with exhaust at a rate of 0.70 cfm per square foot (0.00033 m³/s). For the purpose of determining the floor area required to be exhausted, each individual appliance that is not required to be installed under a Type II hood shall be considered as occupying not less than 100 square feet (9.3 m²). Such additional square footage shall be provided with exhaust at a rate of 0.70 cfm per square foot [0.00356 m³/(s · m²)].~~ 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 (add temp.)	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 (non- protein 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/ft ³ (5 mg/m ³) 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. The net exhaust flow rate is the exhaust flow rate for a hood, minus any internal discharge makeup air flow rate.

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			

507.12 Canopy size and location. The inside lower edge of canopy-type Type I and II commercial hoods shall overhang or extend a horizontal distance of not less than 6 inches (152 mm) beyond the edge of the top horizontal surface of the *appliance* on all open sides. The vertical distance between the front lower lip of the hood and such surface shall not exceed 4 feet (1219 mm).

Exception: The hood shall be permitted to be flush with the outer edge of the cooking surface where the hood is closed to the *appliance* side by a noncombustible wall or panel.

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this change and why this proposed code change is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The proposed changes incorporate provisions from ASHRAE Standard 154-2011 to clearly identify all of the types of cooking equipment and processes that occur in commercial kitchen cooking applications. Standard 154 has classified the duty-level required for both Type I and Type II hoods based on ASHRAE research projects 1202-RP (study of wall canopy hood performance), 1362-RP (study of appliance heat gain and capture & containment for hooded and unhooded appliances), and 1480-RP (study of island hood performance). Standard 154 has determined whether appliances need to be classified as unhooded, requiring Type I hoods or requiring Type II hoods. With the addition of these tables, more consistent application and enforcement of the mechanical code will occur in commercial kitchens. This amendment is necessary because these provisions in the code have not been consistently enforced in the past in Minnesota. These provisions are reasonable because they are based on scientific research and are consistent with generally-accepted code enforcement strategies in commercial kitchens.

Proposed Code Change – Cost/Benefit Analysis

Please consider whether this proposed code change will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

Since it has the same result as language in the current mechanical code, there are no cost implications.

Other Factors to Consider Related to Proposed Code Change

1. Is this proposed code change meant to:

change language contained in a published code book? If so, list section(s).

Section 507

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this proposed code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

No

3. Will this proposed code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

No.

4. Will this proposed code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

No.

5. Who are the parties affected or segments of industry affected by this proposed code change?

None.

6. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.

No.

7. Are you aware of any federal requirement or regulation related to this proposed code change? If so, please list the regulation or requirement.

No.