CHAPTER 5
EXHAUST SYSTEMS

SECTION 507.2.1
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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.

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/m$^3$ or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 m$^3$/s) in accordance with Section 17 of UL 710B.

REFERENCED SECTIONS:

SECTION 105
APPROVAL

[A] 105.2 Alternative materials, methods, equipment and appliances. The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material or method of construction shall be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

SECTION 202
GENERAL DEFINITIONS

COMMERCIAL COOKING APPLIANCES. Appliances used in a commercial food service establishment for heating or cooking food and which produce grease vapors, steam, fumes, smoke or odors that are required to be removed through a local exhaust ventilation system. Such appliances include deep fat fryers; upright broilers; griddles; broilers; steam-jacketed kettles; hot-top ranges; under-fired broilers (charbroilers); ovens; barbecues; rotisseries; and similar appliances. For the purpose of this definition, a food service establishment shall include any building or a portion thereof used for the preparation and serving of food.

LIGHT-DUTY COOKING APPLIANCE. Light-duty cooking appliances include gas and electric ovens (including standard, bake, roasting, revolving, retherm, convection, combination convection/steamer, countertop conveyorized baking/finishing, deck and pastry), electric and gas steamjacketed kettles, electric and gas pasta cookers, electric and gas compartment steamers (both pressure and atmospheric) and electric and gas cheesemelters.

SECTION 304
INSTALLATION

304.2 Conflicts. Where conflicts between this code and the conditions of listing or the manufacturer’s installation instructions occur, the provisions of this code shall apply.

Exception: Where a code provision is less restrictive than the conditions of the listing of the equipment or appliance or the manufacturer’s installation instructions, the conditions of the listing and the manufacturer’s installation instructions shall apply.

SECTION 509
FIRE SUPPRESSION SYSTEMS

509.1 Where required. Commercial cooking appliances required by Section 507.2.1 to have a Type I hood shall be provided with an approved automatic fire suppression system complying with the International Building Code and the International Fire Code.
Q1: Is a gas fired dome refractory style oven considered to be a commercial cooking appliance?

A1: Yes. A gas fired dome refractory style oven is considered to be a commercial cooking appliance.

Q2: Is a gas fired dome refractory style oven considered to be a cooking appliance that produces grease or smoke?

A2: Yes. It would be difficult to prove that such ovens never produce grease vapors, especially considering the diversity of the products that can be cooked in such ovens. The code official must make the call on whether grease or smoke is produced. Food products consisting of animal protein, such as meats, cheeses, pizza, etc. will likely produce grease vapor depending on cooking temperature.

Q3: Does the installation of a gas fired dome refractory oven that produces smoke or grease require that a Type I hood be installed above the commercial cooking appliance and consequently that a fire suppression system be installed within the hood?

A3: Yes. Section 507.2.1 states that Type I hoods are required for light-duty cooking appliances (this oven fits the definition of a light-duty cooking appliance) that produce grease or smoke. Additionally, Section 509.1 states that an approved automatic fire suppression system is required for commercial cooking appliances that are required to have a Type I hood.

Q4: If a manufacturer has listed installation options that show venting of a commercial cooking appliance without the use of a Type I hood or suppression system, can the manufacturer’s listed method of venting be used prescriptively?

A4: No. Where differences between the code and the manufacturer’s instructions occur, the provisions of the code shall apply. However, Section 105.2 permits an alternative method of construction to be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of the code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.