

**SECTION 23 38 13
COMMERCIAL-KITCHEN HOODS**

SPEC WRITER NOTES:

1. Delete between // _____ // if not applicable to project.
2. Delete other items or paragraphs in the section that are not applicable and renumber the paragraphs.
3. Select grease-extracting ventilators according to usage requirements and codes.

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies food service, grease-extracting, water-wash exhaust ventilators.

1.2 RELATED WORK

- A. Supports for Ventilators: Section 05 50 00, METAL FABRICATIONS.
- B. Cooking Equipment: Section 11 44 00, FOOD COOKING EQUIPMENT.
- C. Utility Distribution Systems: Section 11 40 21, FOOD SERVICE EQUIPMENT-UTILITY DISTRIBUTION SYSTEM.

SPEC WRITER NOTE: Retain first paragraph below if required for project location.

- D. Seismic Restraint of Equipment: Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.
- E. Plumbing Connections:, Section 22 11 00, Facility Water Distribution.
- F. Building Fire-Protection System: /Section 21 10 00, WATER-BASED FIRE-SUPPRESSION SYSTEMS // Section 21 13 13, WET-PIPE SPRINKLER SYSTEMS.
- G. Electrical Connections: Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW).

1.3 QUALITY CONTROL

- A. Installer Qualifications: Experienced in food service equipment installation or supervised by an experienced food service equipment installer.
 1. Where required to complete equipment installation, electrician and plumber shall be licensed in jurisdiction where project is located.

SPEC WRITER NOTE: UL Environmental and Public Health (EPH) Classification Mark is currently used to certify compliance with NSF/ANSI standards. Equipment evaluated by UL before 2001 may bear the UL Food Service Product Certification Mark.

- B. NSF Compliance: Equipment bears NSF Certification Mark or UL Classification Mark indicating compliance with applicable NSF standards, including NSF/ANSI 2, NSF 2-Supplement, and NSF/ANSI 4.
- C. UL Listing: Equipment has been evaluated according to UL 710, is listed in UL "Heating, Cooling, Ventilating and Cooking Equipment Directory," and is labeled for intended use.
- D. Fire-Protection Systems: Comply with NFPA 96.
- E. Welding: Perform welding according to AWS D9.1M/D9.1.

SPEC WRITER NOTE: Retain paragraph and subparagraphs below if required for project location.

- F. Seismic Restraint:
 - 1. Comply with requirements in Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.
 - 2. Comply with applicable guidelines for seismic restraint of kitchen equipment contained in SMACNA's "Kitchen Ventilation Systems and Food Service Equipment Guidelines," Appendix A.
- G. In-Use Service: At least one factory-authorized service agency for equipment shall be located in the geographical area of the installation and shall have the ability to provide service within 24 hours after receiving a service call.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
 - 1. Include manufacturer's address and telephone number.
 - 2. Include catalog or model numbers, and illustrations and descriptions of ventilators and accessories.
- C. Installation Drawings: Show dimensions; method of assembly; and details of installation, adjoining construction, coordination with service utilities, and other work required for a complete installation.
- D. Field Test Reports: Indicate dates and times of tests and certify test results.
- E. Operating Instructions: Comply with requirements in.

1.5 WARRANTY

Warrant food service equipment to be free from defects in materials and workmanship in accordance with requirements of "Warranty of Construction" article in FAR clause 52.246-21.

1.6 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Welding Society (AWS):
D9.1M/D9.1-2000 Sheet Metal Welding Code
- C. ASTM International (ASTM):
A666-00 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar
- D. National Association of Architectural Metal Manufacturers (NAAMM):
Metal Finishes Manual for Architectural and Metal Products, 1988.
- E. NFPA International (NFPA):
96-04 Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
- F. NSF International/American National Standards Institute (NSF/ANSI):
2-2005 Food Equipment
2 Supplement - 1998 Descriptive Details for Food Service Equipment Standards
4-2005 Commercial Cooking, Rethermalization, and Powered Hot Food Holding and Trans Equipment
- G. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): 1767-2001 - Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines.
- H. Underwriters Laboratories Inc. (UL):
710-95 (Rev 1999) Exhaust Hoods for Commercial Cooking Equipment, with revisions through and including April 14, 1999

UL Heating, Cooling, Ventilating and Cooking Equipment Directory

PART 2 - PRODUCTS**2.1 WATER-WASH EXHAUST VENTILATOR**

- A. Material: Stainless steel, ASTM A 666, Type 304, stretcher leveled, with finishes complying with NAAMM's "Metal Finishes Manual for Architectural and Metal Products."
1. Exposed Surfaces: No. 4 finish (brushed, directional polish).
2. Non-Exposed Surfaces: No. 2B finish (dull, matte).
- B. Ventilators:
1. Section Length: Less than 3658 mm (144 inches).

2. Electric Fire Damper(s): With microswitch.
3. Recessed Lights: // Incandescent // Fluorescent//.
4. Back: Finished.
5. Stainless-Steel Wall Flashing: On wall behind // and on the side(s) // of ventilator from wall curb to below ventilator.

C. Components:

1. Control panel for exhaust ventilator and water-wash system.
2. Water-Wash System: // Sequential. //
 - a. Detergent located // inside // remote from // control panel.
3. Enclosure Panels: 1.3 mm (0.05 inch) thick stainless steel; locate between ventilator top and ceiling.
4. Fire-Protection Systems: Wet chemical with wall-mounted stainless-steel cabinet.

SPEC WRITER NOTE:

1. Identify the ventilator(s) to be protected by fire-protection system on drawings.
 2. Note in the fire-protection specification if the fire-protection system actuation is to be sequenced with any other food service ventilator fire protection in the area.
- a. Fire-protection system to provide duct, plenum, and surface protection for ventilator and equipment located below ventilator.
 - b. System interwired with shunt trip breaker and gas solenoid valve of equipment located below ventilator for power and fuel shutoff during system actuation.

SPEC WRITER NOTE:

1. Symbols below correspond with "Room Equipment Guide" identification system. Verify project requirements before specifying equipment that deviates from "Room Equipment Guide."
2. Edit symbols to coordinate with identification shown on drawings.

D. Water-Wash Exhaust Ventilator System Requirements:

SYMBOL	Description	Type
K1301	Ventilator	Single sided
K1302	Ventilator	Dual sided

K1303	Control panel for exhaust and sequential water-wash system, recessed in wall	Detergent container included
K1304	Fire-protection system	-
K1305	Fire-protection system with remote, wall-mounted pull station(s) located near door(s)	-

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install ventilators level and plumb; arranged for safe and convenient operation; with access clearances required for maintenance and cleaning; and according to manufacturer's written instructions.

SPEC WRITER NOTE: Show on drawings overhead support for equipment specified in this section. Specify requirements for support in Section 05 50 00.

- B. Coordinate installation of ventilators with overhead supports; see Section 05 50 00, METAL FABRICATIONS.
- C. Interconnect ventilators to service utilities.

SPEC WRITER NOTE: Retain paragraph below if required for project location.

- D. Install seismic restraints for equipment.

3.2 FIELD TESTING

- A. Field Testing, General: Following installation, test ventilators for compliance with specified requirements and those of authorities having jurisdiction. Perform testing after air-handling systems have been balanced and adjusted.
- B. Smoke Test:
1. Test Conditions:
 - a. Perform tests with cooking equipment served by ventilator turned off.
 - b. Perform tests with supply and exhaust fans serving the food service kitchen area turned on.
 2. Test Procedure: Move a smoke bomb around the perimeter of cooking equipment at the top surface.
 3. Test-Performance Requirements: No visible smoke shall escape from the ventilator canopy into the room.
- C. Wash System Test:

1. Test Conditions:
 - a. Perform tests with cooking equipment served by exhaust ventilator turned off.
 - b. Perform tests with air-handling units serving food service kitchen turned on.
 2. Test Procedure: Fill detergent reservoir with detergent, activate wash cycle at control panel with programmable timer and manual wash switch.
 3. Test-Performance Requirements: Activation of wash cycle shall automatically stop exhaust and supply fans. Restart of exhaust and supply fans shall be by manual operation.
- D. Chemical Fire Extinguishing System: Test system to verify that equipment operation complies with NFPA 96.

3.3 CLEAN-UP

- A. At completion of the installation, clean and adjust equipment as required to produce ready-for-use condition.
- B. Where stainless-steel surfaces are damaged during installation procedures, repair finishes to match adjoining undamaged surfaces.

3.4 INSTRUCTIONS

Instruct personnel and transmit operating instructions in accordance with requirements in .

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