

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

PART 1 GENERAL

THE CONTRACTOR IS REFERRED TO THE “SPECIAL NOTICE TO CONTRACTORS SUMMARY FORM “THE “FORM OF PROPOSAL””; THE “FORM OF BID BOND””; “DIVISION 01 – GENERAL REQUIREMENTS” OF THE “CONTRACT SPECIFICATIONS””; THE “CONTRACT DRAWINGS” AND ALL AMENDMENTS AND ADDENDA THERETO; ALL OF WHICH GOVERN THE WORK OF THIS SECTION.

1.01 SECTION INCLUDES

- A. Kitchen Exhaust Hood.

1.02 RELATED REQUIREMENTS

- A. Section 21 23 00 - Wet Chemical Fire Extinguishing System.
- B. Section 23 31 00 - HVAC Ducts and Casings: Exhaust and make-up air ducts.
- C. Section 23 34 23 - HVAC Power Ventilators.
- D. Section 23 74 33: Packaged Outdoor Heating Make-up Air Unit.

1.03 REFERENCE STANDARDS

- A. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.
- B. NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations; 2024.
- C. SMACNA (KVS) - Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines; 2001.
- D. UL 710 - Standard for Exhaust Hoods for Commercial Cooking Equipment; Current Edition, Including All Revisions.
- E. UL 1046 - Standard for Grease Filters for Exhaust Ducts; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation instructions, adjusting and balancing methods.
- C. Shop Drawings: For each custom fabricated unit, provide drawings showing details of construction, dimensions, and interfaces with adjacent construction.
- D. Test Reports for Grease Extracting Hoods: Provide test reports substantiating exhaust volume ratings and grease extraction performance.
- E. Operation and Maintenance Data.
- F. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.

1.05 QUALITY ASSURANCE

- A. A. Manufacturer Qualifications:
 - 1. At least five years experience in the design and manufacture of products of similar type to those specified.
 - 2. For grease extracting hoods, able to provide test data showing performance of hoods to be provided.
 - 3. Having at least one factory-authorized service agency located within 50 miles of project site.
 - 4. Able to provide service to project site within 24 hours after receiving a service call.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Grease Extracting Hoods:
 - 1. Ansul, a brand of Tyco Fire Protection Products; R-102: www.ansul.com.
 - 2. Greenheck Fan Corporation: www.greenheck.com.
 - 3. FloAire.
 - 4. CaptiveAire
 - 5. Approved Equal

2.02 HOOD APPLICATIONS

- A. Canopy-Style Cooking Hoods Type I:
 - 1. Exhaust Volume: Per Drawing cfm.
 - 2. Exhaust Location: Top.
 - 3. Overall Hood Size: Per Drawing
 - 4. Mounting Height: Per Drawing

2.03 HOOD CONSTRUCTION

- A. Provide products that comply with [NFPA 96](#), the requirements and recommendations of [SMACNA \(KVS\)](#), and the requirements of the Authorities Having Jurisdiction.
- B. Kitchen Exhaust Hoods: Provide Type I hoods, with all external joints and seams continuously welded, liquid-tight, and all internal joints, seams, and attachments sealed liquid-tight and grease-tight.
 - 1. Provide fire extinguishing system for kitchen exhaust hoods.
 - 2. Provide complete assemblies listed and labeled by UL under [UL 710](#) for its intended use.
- C. Construction: Materials, inside and out, are stainless steel complying with [ASTM A666/A666M](#), Type 304, stretcher leveled; unless otherwise indicated.
 - 1. Sheet Thickness: 18 gage, 0.048 inch, minimum.
 - 2. Fabrication: Fabricate each individual hood in one piece, with all welds ground and finished to match (inside and out); fabricate flat surfaces exposed to view as double-pan formed panels with internal stiffener members.
 - 3. Finish on Surfaces Exposed to View: No.4 (brushed directional); provide stainless steel faces on all sides exposed to view.
 - 4. Finish on Concealed Surfaces: No.4 or No.2B (dull, matte).
 - 5. Duct Collars: For exhaust and make-up air openings, provide duct collar welded to hood unit; minimum of 8 inches extension from top or back face of unit, with minimum one inch 90 degree flange, unless otherwise indicated.

6. Access Panels: Provide removable or hinged access panels sufficient for maintenance and replacement of operating components inside unit; maximum width of 40 inches.
7. Electrical: Run electrical wiring in conduit or raceways, factory pre-wired, with single connection point per hood.
8. Supports: Stainless steel mounting brackets, struts, and threaded hanger rods.
 - a. Hanger Rods: 3/8 inch diameter, minimum.
 - b. Hanger Spacing: 48 inches on center, maximum.
 - c. Attachment to Structure: Mechanical fittings or inserts, stainless steel.
9. Accessory Panels: Where indicated, provide filler and closure panels of same construction as hoods, to close spaces between hoods and adjacent construction; mount with panel face flush with face of hood.
 - a. Where top of ceiling hung hood is lower than the finished ceiling, provide panels to close space between top of hood and ceiling.
 - b. Where back of hood must be set away from wall, provide filler panels to close space between hood and wall.

2.04 HOOD ACCESSORIES

- A. Fire Extinguishing Systems:
 1. Manufacturers:
 - a. Ansul, a Tyco Business; _____: www.ansul.com.
 2. Fire extinguishing system to comply with [NFPA 96](#).
 3. Exposed Piping Under Hood: As specified in section 21 23 00.
 4. Exposed Piping Outside Hood: Not permitted.
 5. Nozzles: Stainless steel or chrome plated brass.
 6. Electrical Components: Provide all components required for properly operating system, including but not limited to wiring, raceways, contactors, circuit breakers, switches and solenoids.
 7. Manual Actuators: Wall-mounted pull station shall be located at or near means of egress from the cooking area, a minimum of 10feet and a maximum of 20 feet from the kitchen exhaust system. The manual actuation device shall be installed not more than 48 inches or less than 42 inches above the floor and shall clearly identify the hazard protected.
- B. Controls:
 1. Fans: Provide manual push button controls for starting and stopping fans and labeled indicator lights showing fan status. If not manually started, exhaust fan shall start automatically when temperature exceeds the setting of the hood exhaust duct collar mounted temperature sensor.
 2. Cooking Equipment: Provide manual shutoff and reset button located where indicated; combine with fire extinguishing actuation.
 3. Fire Extinguishing System: Provide automatic actuation complying with [NFPA 96](#); provide local and remote manual actuating stations clearly labeled "Hood Fire Protection"; upon actuation of fire extinguishing system, automatically:
 - a. Exhaust fan serving the hood shall continue to run. Make-up air unit supply air fan shall stop.
 - b. Shut off fuel source to equipment under hood; actuate solenoid gas valves provided as part of gas piping work.
 - c. Shut off electric power to equipment under hood including hood light fixtures by actuating the contactors or switches provided as part of electrical work.
 - d. Activate local audible and visual alarms.
- C. Control Panels: Factory assembled and pre-wired, ready for utility connections.
 1. UL listed for use with specific hood.
 2. Provide a single control panel combining all control functions for a particular hood, unless otherwise indicated.
 3. Enclosures: Flush-mounted; stainless steel, to match hood.

4. Provide indicator lights on control panel door showing status of fans and power supply.
- D. Lights Inside Hoods: Incandescent in quantity and locations indicated, in UL listed vapor-proof fixtures, pre-wired to junction box on top of hood.
 1. Incandescent: Surface mounted, thermal shock proof glass globe with chrome plated steel wire guard; 100 watt bulb.
 2. Locate switch for operating lights in locations indicated.
- E. Grease Filters: Stainless steel, washable, complying with [UL 1046](#), UL listed and labeled;
- F. Exhaust Ducts: 18 gage, 0.048 inch stainless steel sheet, [ASTM A666/A666M](#); with external seams welded continuously, liquid-tight; see drawings for extent, location, and size of exhaust ducts.
 1. Where ducts penetrate ceilings or walls, provide stainless steel angle flange trim with welded corners, 16 gage, 0.06 inch minimum thickness.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that overhead supports are installed in correct locations.
- B. Do not begin installation until substrates have been properly prepared.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions and [NFPA 96](#).
- B. Install hoods level and plumb, securely fastened, with seismic restraints as specified, and free of vibration during normal operation.
- C. Weld hood duct collars to ductwork, liquid-tight.
- D. Connect to utilities.

3.03 SYSTEM STARTUP

- A. Obtain the services of the manufacturer's representative experienced in the installation, adjustment, and operation of the equipment to supervise the starting and adjusting of equipment.
- B. Prepare equipment for startup, start and operate equipment for sufficient period to verify proper operation; correct equipment not operating correctly.
- C. Demonstrate operation to Owner's designated personnel.
- D. Report deficiencies in writing to Architect.

3.04 CLOSEOUT ACTIVITIES

- A. Conduct training of Owner's designated personnel in the operation and maintenance of equipment.
- B. Perform at least 2 hours of training, for minimum of 2 people, at project site.
- C. Arrange training sessions with Owner at least 2 weeks in advance.
- D. Have operation and maintenance data on hand for training sessions.

3.05 CLEANING

- A. Clean surfaces of equipment.

3.06 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

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