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## FOOD ESTABLISHMENT PLAN REVIEW AND APPROVAL FORM<sup>(rev.12/19)</sup>

<input type="checkbox"/> New	<input type="checkbox"/> Remodeled or Altered	<input type="checkbox"/> Planning & Zoning Approval	Environmental Health Specialist Reviewing Plans
NAME		ADDRESS	PHONE
Establishment			
Owner/Applicant			
Operator			
Designer/Equipment Supplier			

Establishment Type: <input type="checkbox"/> Food Service (605) <input type="checkbox"/> Retail Market (610) <input type="checkbox"/> Food Processor (615) <input type="checkbox"/> Mobile (602) <input type="checkbox"/> Other: _____ ( )		Menu: Full menu to be attached. (Menu changes may require additional equipment.)		Risk Category assigned (by EH Staff):  <input type="checkbox"/> Low  <input type="checkbox"/> Medium  <input type="checkbox"/> High
Seating Capacity	Sq. Footage	No. Employees Per Shift	Date of Opening	Hours of Operation

- A. **Submit plans prior to construction.** Properly prepared plans and specifications for construction, remodeling, or alteration must be submitted to District Health for review and approval. Such plans should include a floor plan of food establishment, plumbing and mechanical plans, and equipment list with make, model and specifications. **[Chapter 8-2 Idaho Food Code] (Sec. 8-201.11-.12, Idaho Food Code, 2016)**
- B. **Submit**, if applicable, scale drawing of sewage system, well construction.
- C. **APPROVAL** of the plans and specifications is required **PRIOR** to the start of construction/remodel.
- D. **Submit** a Food Establishment License application thirty (30) days prior to anticipated opening. The license fee must accompany the application. **(Sec. 8-302.11-.14)** (Low risk establishments do not submit fee with application; if the operation is determined to be low risk it is not required to be licensed nor inspected).
- E. **Preoperational/Final inspection:** District Health must be notified of a request for preoperational inspection **fifteen (15) days BEFORE (Policy)** anticipated opening of the establishment. **(Sec. 8-203.10)**
- F. **Separate approvals:** Contact the local zoning, building, fire, plumbing and electrical departments for their requirements. If alcoholic beverages are to be sold, contact the Alcohol Beverage Control Bureau (Idaho Department of Law Enforcement) for approval.

Plans reviewed (date): \_\_\_\_\_ Approved by: \_\_\_\_\_  
Environmental Health Specialist

EHS Time: \_\_\_\_\_ Activity 21 (Entered by Clerical staff)

**Note: After plans are reviewed and approved, applicant must sign final page accepting responsibility and verifying that it is understood that the establishment will be built in accordance with the approved plans.**

**A - FOOD PROTECTION (Chapter 3)**

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. Convenient and adequate storage, display, and preparation facilities for ice, frozen food (0-10°F), cold foods (<41°F), hot foods (>135°F), other foods and foods on display. (3-501;4-301.11).
			2. Adequate dry food storage provided in a clean, dry location, and not located in locker rooms, toilet rooms, dressing rooms, garbage rooms, mechanical rooms, under sewer lines, under open stairwells. (3-305.11-.14) (3-306.11-.14)
			3. Storage provision to keep all food in non-waterproof containers a minimum of 6" above floor. Bare wood allowed only in dry goods storage area, unopened foods. (3-305.11; 4-101.19)
			4. Provision for attached thermometers for all refrigerators, freezers and heating units. Metal stem thermometer for internal food temperatures. (4-204.112)
			5. Sneeze guards properly designed. (Measure 54" to 60" from floor to represent customer mouth height. Guard, including ends, must block line between mouth and food on display, includes condiments) (3-306.11)
			6. Dipper wells provided for ice cream scoops (frozen desserts). (3-304.12(D))

COMMENTS: \_\_\_\_\_

**B - FOOD EQUIPMENT AND UTENSILS (Chapter 4)**

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. ALL FOOD CONTACT EQUIPMENT must be safe, durable, corrosion-resistant and nonabsorbent; sufficient in weight and thickness to withstand repeated warewashing; finished to be smooth and easily cleanable; resistant to pitting, chipping or distortion; and not allow the migration of deleterious substances or impart colors, odors or tastes to food. (4-101.11)  Food equipment certified by an ANSI-accredited program meets this standard. (4-205.10)
			2. All used or existing equipment requires approval prior to installation; MUST MEET CODE. DOMESTIC TYPE EQUIPMENT NOT ALLOWED.
			3. Counter-type equipment: movable, on 4"+ legs, or sealed to counter. (4-402.11(B), 4-402.12(D)) Floor-type equipment: movable, on 6"+ legs; or sealed to floor/base. (4-402.12(A))
			4. Space between units or walls closed; or opened sufficient distance for easy cleaning along sides, behind or above. (4-402.11)
			5. Aisles - sufficient width: minimum 36"; 42" for two or more workers; wider for mobile equipment. (Uniform Building Code)
			6. Food/vegetable preparation sink provided (if applicable) - indirectly wasted to sewer with a one-inch air gap. (5-202.11) (5-402.11)
<b>DISH AND UTENSIL WASHING AND SANITIZATION</b>			
			7. Adequately sized multi-use utensil and pot wash sinks for manual dishwashing. (4-301.12)
			8. Properly designed drainboards or dish tables provided for soiled and clean utensils. (4-301.13)
			9. Dish machine type: Low temperature, chemical feed <input type="checkbox"/> ; or High temperature <input type="checkbox"/> Pre-rinse and scraping sink required with mechanical dishwasher. Equipped to automatically dispense detergents and sanitizers, with low level alarm. (4-204.117) Required 1/4" IPS (Iron pipe size) valve for pressure gauge if located upstream of the final rinse control valve for hot water sanitizing rinse. (4-204.118)
			10. Warewasher machine(s) provided with a readable data plate indicating the machine's operating specifications: Temperature, pressure and conveyor or cycle speed. Machine make _____; Model number: _____ (4-204.113i)

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			11. Accurate temperature gauges and thermometers indicating water temperature in the wash and rinse compartments of warewashing machines (4-204.115). Test kit provided for chemical sanitizer. (4-501.116)
			12. If no warewashing sinks or mechanical warewashing machines are provided, then only single-use kitchenware and tableware may be used by food employees and consumers. (4-502.12)
			13. Storage for cleaned equipment, utensils, and single-use and single-service articles shall be in a clean, dry location not exposed to splash or contamination, and 6" or above floor. (4-903.11)

Comments: \_\_\_\_\_

**C - WATER SUPPLIES AND SEWAGE DISPOSAL (Chapter 5)**

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. Public water supply (Name of approved supplier/system.) _____ (5-101.11)
			2. Non-municipal supply type: _____ Treatment: _____ <b>PLANS AND SAMPLE MUST BE SUBMITTED AND APPROVED PRIOR TO FINAL INSPECTION.</b> (5-101.11) (5-102.13)
			3. Hot and cold water provided under pressure to all fixtures, and hot water system sufficient to meet the peak hot water demands throughout the food establishment.. (5-103.11 -12)
			4. 140°F water capacity _____ gallons. (5-103.11- adequate) Recovery rate: _____ gals/°F degree rise
			5. 180°F water and/or booster heater for high temp dish machines. (4-501.112)
			6. Public sewer - name: _____ (5-403.11)
			7. Septic system or other type disposal. <b>PLANS MUST BE SUBMITTED AND APPROVED PRIOR TO FINAL INSPECTION.</b> (Rules for Subsurface Disposal call for <b>AIR COOLED</b> ice making equipment, refrigeration equipment and wok ranges.) (5-403.11 - 12)
			8. Grease interceptor or trap sized in accordance to Uniform Plumbing Code, and located to be easily accessible for cleaning. (5-402.12)

Comments: \_\_\_\_\_

**D - PLUMBING (Chapter 4, 5, 6)**

Idaho Plumbing Code IDAPA 07.02.06.20 , modifies UPC (2015) "801.3.3. Add: Food preparation sinks, pot sinks, scullery sinks, dishwashing sinks, silverware sinks, commercial dishwashing machines, silverware-washing machines, steam kettles, potato peelers, ice cream dipper wells, and other similar equipment and fixtures must be indirectly connected to the drainage system by means of an air gap."

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. All plumbing of safe materials, sized, installed in accordance with the Uniform Plumbing Code (UPC). (5-201.11, 5-202.11)
			2. Water flushed walk-in box floor sloped to proper drain. Drain outside walk-in box. Condensate wastes to floor sink or approved hub drain outside walk-ins. (UPC 801.2)
			3. Floor sinks must be minimum 50% exposed if under equipment, for cleaning. (UPC 804.1) Floor sinks or drains not enclosed in cabinets - may have unseen flooding, humidity damage. Box out with cabinet base or toe kick AND base coving. (4-202.17)
			4. Dipper wells: air gap supply line: open (indirect) drain( 5-402.11)

			5. Dishwasher: air gap fill vacuum breaker rinse line; open (indirect) drain. (5-402.11)
			6. Food sinks for draining/washing ready-to-serve food: open (indirect) drain. (5-402.11)
<b>≡BACKFLOW AND BACK SIPHONAGE PROTECTION FOR: (UPC 603.0)≈</b>			
			7. Chemical reservoir station: PVB 12" above (UPC) (separate water line in Boise)
			8. Garbage grinder/disposal/drainboard scupper: vacuum breaker supply water (UPC 603)
			9. Ice bin and machine: open (indirect) drain; air gap supply line to reservoir (UPC 603; 5-402.11)
			10. Janitorial faucets/hose bibs/threaded faucets: vacuum breaker required if threaded faucet for hoses. (UPC 603.3.7; 5-203.14)
			11. Soap dispensers located on faucets: vacuum breaker required (UPC 603.2.6)
			12. Soda fountain water line to carbonator: reduced pressure device required installed upstream of carbonator and downstream of any copper (metal) pipe (5-203.15) (UPC 603.4.13) Indirect waste drain.
			13. Hood, self-clean type: Minimum - AVB above hood and 6" above chemical injection (UPC 603; 5-203.14)
			14. Hot water and booster heaters= pressure relief: air gap 6" to 24" (UPC 608.5)

**BACKFLOW AND BACK SIPHONAGE PROTECTION: (UPC 603.0 and 801.0)** Backflow or back siphonage prevention devices installed on water supply lines shall meet ASSE standards for construction, installation, maintenance and testing for the specific application and type of device. (5-202.14) Air gaps between the water supply inlet and the equipment or fixture shall be twice the diameter of the supply inlet and not less than 1" (5-202.13)

#### E - TOILET AND HAND-WASHING FACILITIES FOR PATRONS AND EMPLOYEES

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. Patron toilet rooms located so that customers do not pass through food preparation, warewashing or food storage areas. (2-103.11)
			2. Employee toilet rooms and patron toilet rooms: ____ Combined ____ Separate
			3. Fully enclosed toilet rooms, self-closing doors. (6-202.14)
			4. Adequate ventilation - ____ Window ____ Mechanical (6-304.11)
			5. Lavatory sinks with hot and cold water through mixing faucets. (5-202.12) (15-second water flow required if faucet has automatic shut-off)
			6. Adequate number of urinals, water closets and lavatories in toilet rooms. (5-203.12) ____ Female ____ Male
			7. Waste receptacles provided. (5-501.16) Covered waste receptacle for feminine hygiene products in toilet rooms used by females. (5-501.17)
			8. Handwashing cleanser, paper towels, hand dryers or continuous towel rollers provided for handsinks. (6-301.11 and 12)

Comments: \_\_\_\_\_

#### F - EMPLOYEE HANDWASHING FACILITIES (Chapter 5)

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. Adequate; conveniently located, and accessible at all times in food preparation area and service areas. No other use. (5-203.11)(5-205.11)
			2. Food preparation area. (5-204.11.) Number provided: ____

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**Plans = Plans or modifications satisfy items**  
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			3. Dishwashing area. (Pot sink not proper.) (5-204.11)	Number provided: _____
			4. Wait station (All must have sink.) (5-204.11)	Number provided: _____
			5. Handsoap, paper towels, hand dryers or continuous roll towels provided for handsinks. (6-301.11 and 12). <b>Not</b> to be available at other sinks (6-301.13)	

Comments: \_\_\_\_\_

**G - GARBAGE AND REFUSE (Chapter 5-2, 5-5, 6-2)**

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS	
			1. Inside containers adequate, convenient, durable, insect- and rodent-resistant, leakproof and nonabsorbent. (5-501.13)	
			2. Outside receptacles for refuse, recyclables and returnables shall be designed to have tight-fitting lids, doors or covers. (5-501.15) Outside garbage area is concrete or asphalt and is smooth, durable and sloped to drain. (5-501.11)	
			3. At least one mop sink or service sink or curbed cleaning facility equipped with a floor drain shall be provided and conveniently located for cleaning of mops and for the disposal of mop water or similar liquid waste. (5-203.13)	
			4. Mop/broom storage provided, rack or hooks for hanging mops to dry. (6-501.16)	

Comments: \_\_\_\_\_

**H - VERMIN CONTROL (Chapter 6-2)**

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS	
			1. Outer openings screened (vents, windows) with 16 mesh or smaller screen; outer doors self-closing. (6-202.15)	
			2. Air screens, plastic curtains provided on doors if needed to control flying insects. (6-202.15)	
			3. Building rodent proof. Wall openings closed. (6-202.15)	

Comments: \_\_\_\_\_

**I - STRUCTURAL DESIGN AND MATERIALS (Chapter 5-5, 6)**

	AREA	FLOOR*	BASE**	WALL***	CEILING***
	Dining Area				
	Kitchen				
	Walk-in Refrigerator				
	Dishwashing Area				
	Food Storage Areas				
	Toilet Rooms****			4 foot wainscot	
	Locker Rooms/Areas				
	Janitorial Room/Area			4 foot wainscot	

	Garbage Storage Area (5-501.10)				
	Stairway (in kitchen or storage must have cleanable, non-absorbent surface.)				
	Outside Areas (6-102.11) - walking and driving areas surfaced to minimize dust and pooling of water				

Comments: \_\_\_\_\_

**\*Floors and floor coverings** shall be durable sealed concrete, terrazzo, quarry tile, ceramic tile, durable grades of vinyl or plastic tile or tight-fitting wood impregnated with plastic. Floors of non-refrigerated dry food storage need not be sealed. Carpet may not be used in food preparation or processing areas, handwashing areas and toilet rooms where urinals and toilets are located. (6-101.11)

**\*\*Base** - junctures between walls and floors shall be coved and constructed so that no seam will be open more than 1/32 inch. Where water-flush cleaning methods, the floor shall be graded to a drain, coved and sealed. (6-201.13)

**\*\*\*Walls, wall coverings and ceilings** shall be nonabsorbent, finished and sealed to be easily cleanable and light colored in food preparation and processing areas, food storage areas, warewashing areas, walk-in refrigerators, dining areas, food display areas, retail sales areas, food service areas, dressing rooms, locker rooms, toilet rooms, servicing areas, and refuse storage rooms. Walls and ceilings of non-refrigerated dry food storage areas and rooms need not be finished and sealed; ceiling studs, rafters may be exposed and rough-surfaced materials used in dining areas. Acoustical materials shall not be used in food preparation and processing rooms, warewashing rooms and refuse storage rooms. (6-101.11) (6-201.11-16)

**\*\*\*\*Floors and walls in restrooms** shall be smooth, hard, nonabsorbent surfaces such as Portland cement, concrete, ceramic tile or other approved material. Floor material must extend upward onto the walls at least 5 inches. Walls shall be of said materials not adversely affected by moisture. Bars, paper dispensers, soap holders that are provided on or within walls shall be installed and sealed to protect structural elements from moisture. (Uniform Building Code, 807.1 & 2)

#### J - LIGHTING, Artificial/Natural (Chapter 6-2, 6-3)

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. All surfaces where food employees are working with food or with utensils such as knives, slicers, grinders or saws - 50 ft. Candles (6-303.11)
			2. At surfaces where food is provided for consumer self-service such as buffets and salad bars, and at handwashing, warewashing, equipment/utensil storage areas and toilet rooms – 20 ft. candles (6-303.11)
			3. All other areas, 30" from floor - 10 ft. Candles (6-303.11)
			4. Covered light provided in all food handling, dishwashing, open food storage, utensil storage and single service storage areas. (6-202.11)
			5. Lights in hoods UL approved. (National Fire Protection Administration)

Comments: \_\_\_\_\_

#### K - VENTILATION (Chapter 6-3)

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. Sufficient ventilation to all rooms to keep them free of excessive heat, steam, grease, vapors, condensation, obnoxious odors and fumes which are a result of the food operation. (6-304.11) Hood ventilators shall be designed, constructed and installed according to the Uniform Mechanical and Building Codes. (UMC Section 507 and 508)
			2. <b>Type of hood:</b> _____ Type I (Grease filters/fire suppression _____ Type II (No grease produced) _____ Wall hung _____ Island _____ Back-shelf ventilator _____ Self-cleaning <b>Equipment under hood:</b> _____ Charbroiler _____ Grill, range _____ Deep-fat fryer _____ Salamander _____ Oven, pizza oven, dishwasher _____ Cheesemelter <b>Cfm exhausted:</b> _____ length X _____ width X _____ multiplier = _____ cfm <b>Is the hood and exhaust system listed?</b> _____ Manufacturer and Model # _____

**Final = Item approved during final inspection (by EH staff)**  
**Plans = Plans or modifications satisfy items**  
**N/A = Not applicable to this establishment**

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			(If a listed unit, then manufacturer's listing terms and installation instructions are used, no calculations on exhaust are required.)  <b>Make-up air:</b> ____ cfm into hood    ____ cfm into kitchen (interlocking switch with exhaust)  <b>Grease filters:</b> Rating ____ cfm      Size: ____ X ____      Number ____  <b>Duct size(s):</b> cfm exhausted ) proposed velocity = ____ sq. ft. (X 144 = sq. in.)  <b>Drawings provided:</b> ____ elevated drawing of hood and duct system ____ floor plan showing hood, make-up air registers, equipment
			3. Hood construction: 22 gage-Type I, 24 gage-Type II. Welded joints & seams, 16 gage for Type I (UMC 508.2) Hood exhaust outlets terminating two feet above roof, ten feet from any air intake openings. (UMC 507.11)
			4. Restrooms vented, or with openable, screened windows (to keep them free of objectionable odors). (6-304.11)

Comments: \_\_\_\_\_

**L - OTHER OPERATIONS (Chapter 4-4, 6-2, 6-3, 7-2)**

FINAL	PLANS	N/A	DESCRIPTION OF CRITERIA AND/OR REQUIREMENTS
			1. Location of employee coat storage, lockers or dressing rooms _____. (6-305.11)
			2. Cleaning materials/pesticides are not stored near food, food contact equipment or containers, paper products. Separate storage, closed cabinets for pesticides. (7-201.11)
			3. A private home, a room used as living or sleeping quarters, or an area directly opening into a room used as living or sleeping quarters may not be used for conducting food establishment operations. (6-202.111) Living or sleeping quarters located on the premises of a food establishment shall be separated from rooms and areas used for food establishment operation by complete partitioning and solid self-closing doors. (6-202.111 and 112)
			4. Laundry equipment (washer/dryer) is not in food preparation or serving areas. (4-401.11.C)
			5. Utility service lines and pipes not installed on the floors, nor unnecessarily exposed on walls or ceilings; those that are exposed shall not obstruct or prevent cleaning of the floors, walls or ceilings. (6-201.12)

Comments: \_\_\_\_\_

*APPROVAL of the plans and specifications does not constitute endorsement or acceptance of the completed establishment, structure or equipment installation. Any changes or deviations from these approved plans must be submitted in writing and approved by the department.*

**IF NOT OTHERWISE MENTIONED, THE RULES IN IDAPA 16.02.19 "FOOD SAFETY AND SANITATION STANDARDS FOR FOOD ESTABLISHMENTS (IDAHO FOOD CODE) SHALL APPLY.**

I have read and understand and agree to comply with the above listed requirements and accept responsibility for any changes needed when not in compliance.

Signed:

Firm/Company:

Date:

Copy of plan review given to:

District Health Reviewer :

Date(s) and Time Spent (List Below):

Time of Initial Plan Review: \_\_\_\_\_

Correction letter, phone call or meeting: \_\_\_\_\_

Time on Reviewing Revised Plans: \_\_\_\_\_

Other: \_\_\_\_\_

Approval letter, phone call or meeting: \_\_\_\_\_

**Key to Abbreviations:**

NFPA - National Fire Protection Association  
IDAPA - Idaho Administrative Procedures Act  
ASSE - American Society of Safety Engineers  
ANSI - American National Standards Institute  
UBC - Uniform Building Code  
UMC - Uniform Mechanical Code  
UPC - Uniform Plumbing Code  
UL - Underwriters' Laboratories



# ADDENDUM TO FOOD ESTABLISHMENT PLAN REVIEW

## COMMERCIAL KITCHEN HOODS

### Uniform Mechanical Code, Section 508 Air Flow Formulas

Type of Equipment Under Hood	Canopy Hood with 4 Sides Exposed (Island Hood)	Canopy Hood with 3 or less Exposed Sides	Canopy Hood Alternative Formula (Using PD)	Non-Canopy Back-Shelf Ventilator System
<b>High Temp/Smoke:</b> Charcoal or Grease burning charbroilers	<b><math>Q = 300 A</math></b>	<b><math>Q = 200 A</math></b>	<b><math>Q = 100 PD</math></b>	<b><math>Q = 300 L</math></b>
<b>High Temp:</b> Deep fat fryers	<b><math>Q = 150 A</math></b>	<b><math>Q = 100 A</math></b>	<b><math>Q = 100 PD</math></b>	<b><math>Q = 300 L</math></b>
<b>Medium Temp:</b> Grills and Ranges	<b><math>Q = 100 A</math></b>	<b><math>Q = 75 A</math></b>	<b><math>Q = 50 PD</math></b>	<b><math>Q = 300 L</math></b>
<b>Low Temp No Grease:</b> Ovens, Pizza Ovens, Dishwashers	<b><math>Q = 75 A</math></b>	<b><math>Q = 50 A</math></b>	<b><math>Q = 50 PD</math></b>	

**Where:** Q = Quantity of air in cubic feet per minute (cfm)  
A = Horizontal surface area of hood in square feet  
D = Distance in feet between cooking surface and lower lip of hood  
P = That part of perimeter of hood that is open, in feet  
L = Linear feet of cooking surface (back-shelf ventilator)

**Example:** Wall hung canopy hood over a charbroiler, sized 8' X 4', with two sides exposed. First use  $Q=200A$  /  $Q=200 \times 32$  /  $Q=6400$  cfm

Using the alternate formula  $Q=100 PD$ , with 3.5' between cooking surface and bottom of hood.  $Q=100 \times 8 + 4 (12) \times 3.5 = 4200$  cfm

### DUCT SIZING (UMC, 507.8)

Divide the air to be exhausted (cfm) by the proposed velocity to be drawn through the duct (fpm). Velocity must be a minimum of 1500 fpm and not exceed 2500 fpm. 1800 fpm is considered ideal.

**Example:** 6400 cfm ) 1800 fpm = 3.55 sq. ft. X 144 sq. in. per sq. ft. = 511 sq. in.

The duct size would then be 23" X 23" ( or 22 " X 24", or 20" X 26")

If round duct is to be used, size with this chart:

Round Duct Diameter	Area	
	Sq. In.	Sq. Ft.
10 inches	78.54	.545
12 inches	113.1	.785
13 inches	132.7	.9218
14 inches	153.9	1.069
15 inches	176.7	1.227
16 inches	201.01	1.396
18 inches	254.4	1.767
19 inches	283.5	1.969
20 inches	314.1	2.182
21 inches	346.3	2.405
22 inches	380.1	2.640
24 inches	452.3	3.241
25 inches	490.8	3.409
27 inches	572.5	3.976
28 inches	615.7	4.276

### MAKE-UP AIR (UMC 508.10)

Required volume of air to be returned to the room, connected with the hood exhaust system by an interlocking electrical switch -- must equal the air exhausted. May be in registers in a compensating hood, or registers in the kitchen -- or 80% through compensating hood and 20% from kitchen.

### GREASE FILTERS OR EXTRACTORS (UMC 508.5)

Mesh or baffle-type filters for Type I hoods are listed with fpm ratings, usually ranging from 400-600 fpm. It is necessary to get the manufacturer=s specifications to get this rating. Take the air to be exhausted ) the fpm rating to give you the filter area required.

**Example:** 3600 cfm ) 600 = 6 sq. ft.

Take a 16" X 16" filter = 256 sq. in. ) 144 = 1.77 sq. ft.

Then take 6 sq. ft. needed ) 1.77 sq. ft. = 4 filters required.