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Subject: Requirements for Installation of Hood and Vents Systems

The Idaho Surveying and Rating Bureau, Inc. uses the *Specific Commercial Property Evaluation Schedule* developed by the Insurance Service Office, Inc. This schedule is a nationwide system for establishing commercial property insurance loss costs. This schedule has criteria for evaluation of the hazards presented by cooking and the systems used to exhaust grease laden vapors.

Hood and vent systems that have been installed to National Fire Protection Association Pamphlet #96 will, in most cases meet and exceed the criteria used in the schedule.

The attached sheets are this Bureau's interpretation of the schedule criteria. This criterion is applicable only to the establishment of advisory fire insurance loss costs in Idaho. These criteria do not necessarily meet or exceed federal, state or local building, fire, or life safety codes, laws, ordinances, regulation or rules.

The Bureau will review plans submitted on new installations or alterations to existing systems, or fire extinguishing systems. We will make recommendations on changes that will effect the advisory insurance rates.

Alfred C. Frieze, CPCU

HOOD AND VENT BASIC CRITERIA

The exhaust system shall consist of a hood or canopy, which extends over all grease or smoke producing appliances, a fan and duct, to the outside of the building, and primary grease removal equipment (extractor or filters) all constructed and installed to the following requirements and designed to provide adequate control of grease conditions.

1. **CONSTRUCTION:** The Hood and duct shall be constructed of steel or stainless steel. Aluminum is not acceptable.

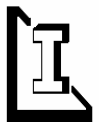
2. **CLEARANCES:**

A: The Hood and Duct(s) shall be installed so that a minimum clearance of 18 inches is maintained to combustible materials or assemblies.

Note 1: Combustible materials and assemblies are defined as any material, or assemblies containing materials, which will ignite and burn, such as all wood, compressed paper, or plant fiber even if "flame Proofed", fire retardant treated, plastered or sheetrocked.

Note 2: The minimum clearance of 18 inches may be reduced, by providing protection over the combustible materials or assemblies as follows:

- (1) 28 gauge Sheetmetal spaced out 1 inch on non-combustible spacers.
The minimum clearance shall be...9 inches
- (2) Two (2) layers of 1/2 inch gypsum wallboard.
The minimum clearance shall be...6 inches
- (3) 22 gauge Sheetmetal on 1-inch mineral wool batts reinforced with wire mesh.
The minimum clearance shall be...3 inches
- (4) 22 gauge Sheetmetal on 1-inch high temperature wire reinforced glass fiber insulation.
The minimum clearance shall be...3 inches
- (5) 22 gauge Sheetmetal on two (2) "additional" layers of 5/8-inch gypsum wallboard.
The minimum clearance shall be...3 inches
- (6) Metal double walled ducts with inner and outer walls separated by a ventilated air space of 2 inches or more may have the minimum clearances of 18 inches and the minimum clearances in 1 to 6 above reduced by 1/3.
The minimum of 18 inches would be 12 inches.
The minimum of 9 inches would be 6 inches.
The minimum of 6 inches would be 4 inches.
The minimum of 3 inches would be 2 inches.



CLEARANCES - Continued

- B: The cooking appliances shall be arranged so that the following clearances are maintained between the lower edge of the grease collecting unit (drip trays, troughs, or gutters) and the cooking or heating surfaces:

No exposed flame (electric units, grills and deep fat fryers)...24 inches

Exposed flame...36 inches

Charcoal or charcoal type appliances (gas, electric or wood)...48 inches

- C: The cooking appliances shall be arranged so that a 6-inch clearance is maintained between the equipment and unprotected combustible material, unless the equipment is U.L. listed for a different distance. The combustible material will be considered as protected for this item only, if covered with gypsum wallboard, plaster or ceramic tile.

3. AUTOMATIC FIRE EXTINGUISHING SYSTEMS:

The Bureau does not require an extinguishing system in addition to the clearance requirements. If an extinguishing system is installed to the following requirements, a credit is made in the property insurance rating.

- A: Systems installed in existing kitchens shall be done only after the hood and duct have been thoroughly cleaned and put in good repair.
- B: Systems shall be installed only by persons properly trained and qualified to install the specific system being provided.
- C: Systems shall be U.L. listed pre-engineered; U.L. listed grease extractors or individually designed systems in conformity with respective N.F.P.A. standards.
- D: Systems shall completely protect the hood and duct(s) and also the cooking equipment. Note: Sectional ovens, broiler (other than exposed charcoal units), pizza ovens, steam cooking, warming units, or coffee urns, do not require protection.
- E: The operation of the system shall automatically shut-off all sources of fuel and heat to all equipment protected by the system. The shut-off valve shall be equipped with a manual reset device.

Note: Electrically heated equipment, other than deep fat fryers or fat kettles, need not be shut-off.



FIRE EXTINGUISHING SYSTEMS - Continued

F: Systems shall be equipped with a manual-tripping device located in an accessible location and clearly identified.

G: Inspection and maintenance: In order to maintain the rating credit for the system, the following shall be required:

- (1) The system shall be inspected and serviced every 6 months by a person or firm - properly trained and qualified to service the specific system.
- (2) The person or firm shall provide recharging service within 24 hours.
- (3) Fusible links shall be replaced annually.
- (4) The person or firm shall provide the Bureau with a copy of the inspection or maintenance report after each inspection.



SIMPLE HOOD & VENT DIAGRAM

