

Exhaust Fans

Listed upblast fans with motors surrounded by the airstream or in-line fans with the motor located outside the airstream may be used with commercial cooking equipment. They should be selected according to their ability to exhaust the required quantity of air to capture and remove grease-laden cooking vapours and to ensure that the air velocity through any duct is not less than 457.2 m (1500 ft.) per minute. They must have openings for cleaning, servicing and inspection.

Make-Up Air

Replacement air (make-up air) must be provided to prevent creation of negative pressures in the cooking area and the building. Negative pressures may cause spillage of combustion products or backdrafting of chimneys, and may make doors difficult to open or close. More information about selection and installation of make-up air units may be obtained from SaskPower, Gas Inspection Division.

Fire Extinguishing Systems

Automatic fire extinguishing systems are required because of the combustibility of the materials passing through the exhaust system.

A readily accessible means for manual activation of the system must be provided in a path of egress. Operation of the extinguishing system is required to automatically shut off all sources of fuel and heat protected by that extinguishing system.

Automatic fire extinguishing systems must be supplemented by alkali base dry chemical portable fire extinguishers.

Operations and Maintenance

Exhaust systems must be operated during all periods of cooking. Instructions for manual operation of the extinguishing system must be conspicuously posted and should be reviewed periodically with employees.

Hoods, grease removal devices, grease filters, fans, ducts, and other appurtenances must be cleaned at frequent intervals to prevent surfaces from becoming heavily contaminated with grease or other residues.

Depending on the amount of cooking equipment usage, the entire exhaust system should be inspected weekly. In general, exhaust systems should be cleaned at intervals not greater than 12 months, but for deep fat cooking, char broiling, or similar cooking operations, the intervals should be 3 months or less. Flammable cleaning materials or solvents must not be used for cleaning exhaust systems. Fire extinguishing systems should be inspected at least every 6 months by properly trained and qualified persons.

The contents of this brochure are for information purposes only. Designers and builders should refer to *The Uniform Building and Accessibility Standards Regulations* for the purposes of interpretation and application of the law.

For more information contact:

Your local municipal office

or

Building Standards

Saskatchewan Municipal Affairs,

Culture and Housing

310 - 1855 Victoria Avenue

Regina SK S4P 3V7

(306) 787-4113 or fax (306) 787-9273

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Saskatchewan
Municipal Affairs,
Culture and Housing

Building
Standards

Commercial Cooking Equipment



*“Promoting
construction of
safe buildings
through leadership
and guidance”*

General Requirements

The following requirements are based on the National Building Code of Canada (NBC) 1995 as adopted and amended by *The Uniform Building and Accessibility Standards Regulations*. Commercial cooking equipment must be served by a ventilation system that is designed, constructed and installed to conform to NFPA 96–1994 “Ventilation Control and Fire Protection of Commercial Cooking Operations.” (NFPA is the National Fire Protection Association.)

Even when the cooking equipment is intended for normal residential use, NFPA 96 may apply. If cooking equipment not located within a dwelling unit will be used in a manner that will produce substantially more smoke and grease-laden vapours than would be produced in a typical household environment, compliance with NFPA 96 is required. If the cooking equipment is used primarily for reheating food that has been prepared elsewhere or is used occasionally for demonstration or educational purposes, there would be no expectation of applying the requirements of NFPA 96.

NFPA 96 includes additional requirements that apply to solid fuel cooking operations. Solid cooking fuel is defined as any solid, organic, consumable fuel such as briquettes, mesquite, hardwood, or charcoal. This brochure does not include any special requirements that apply to solid fuel cooking operations.

Anyone installing or designing facilities with commercial cooking equipment should obtain NFPA 96–1994 from the Canadian Association of Fire Chiefs, Suite 301, 1066 Somerset Street West, Ottawa ON K1Y 4T3, 1-800-668-2955 or fax (613) 728-6976.

Listed equipment

Materials and equipment are “listed” if they are included in a list published by an acceptable certification or testing organization that is concerned with product evaluation, such as ULC, cUL, ETL, etc. The organization maintains periodic inspections of production of listed equipment or materials. The listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner. To assist with identification, the listed equipment will bear a label from the listing organization.

Listed equipment for ventilation of commercial cooking equipment includes: exhaust hoods, exhaust fans, power ventilators, grease removal devices, grease filters, grease ducts, grease duct insulation, grease duct access door panels, fire extinguishing equipment, and some auxiliary equipment.

accordance with the terms of its listing and with the manufacturer’s instructions.

Clearances

Unless the hoods, grease removal devices, exhaust fans, and ducts are listed for lesser clearances or an enclosure is required, the clearances must be 457.2 mm (18 in.) to combustible material (i.e., plywood or gypsum wallboard on wood framing) and 76.2 mm (3 in.) to limited-combustible material (i.e., gypsum wallboard on steel studs). No clearance is required to noncombustible material (i.e., concrete or concrete block). Protection of combustible and limited-combustible materials may allow a reduction to the required clearances.

Exhaust Hoods

If not listed, the portion of the equipment that is designed for collecting cooking vapours and residues (the exhaust hood) must be constructed of and supported by steel (No. 18 MSG), stainless steel (No. 20 MSG), or other approved material to provide equivalent strength and fire and corrosion resistance. (Galvanized metal will not meet this requirement.) The exterior of the hood must be liquid-tight and the interior must be grease-tight.

Listed grease removal devices must be provided and must be located a minimum distance above the cooking surface, gas outlet, and flame. Grease filters must be installed at not less than 45 degrees from the horizontal, and must be easily accessible and removable for cleaning. A drip tray is required beneath the lower edge of the grease filters.

Duct Systems

Ducts must lead as directly as practical without dips or traps to the exterior of the building, and without passing through fire walls or vertical fire separations. Duct systems may not be interconnected to other ventilation systems. Access openings with suitably marked panels must be located on the sides or top of the duct and at changes of direction to provide access for cleaning. Sometimes a fire damper is placed in the hood where the duct connects to prevent fire spreading into the ductwork.

Interior portions of ducts that pass through fire-rated floors, ceiling, or roofs must be enclosed in a suitable fire-rated assembly or be listed for such installation. Exterior portions of ducts must be vertical, where possible, and protected from the effects of weather with a suitable coating.