Bulletin – Commercial Kitchens

BC Building Code, Fire Code Regulations & NFPA Standards explained

PURPOSE

This guideline is intended to provide an overview of the City of Fort St John requirements that pertain to commercial cooking. This requirement shall provide the minimum fire safety requirements (preventative and operative) related to the design, installation, operation, inspection, and maintenance of all commercial cooking operations, in order to reduce the potential fire hazard of commercial cooking operations.

REFERENCED REGULATIONS & STANDARDS

BC Building Code Part 6 - Fire Protection systems for commercial cooking equipment using vegetable oil or animal fat shall conform to ANSI/UL 300 or ULC/ORD-C1254.6

BC Fire Code Part 2.6.1.9 - The use, inspection and maintenance of commercial cooking equipment exhaust and fire protection systems shall be in conformance with NFPA 96

NFPA 96 - Ventilation Control and Fire Protection of Commercial Cooking Operations

NFPA 10 – Portable Fire Extinguishers

NFPA 17A - Wet Chemical Extinguishing Systems

Cooking equipment used in processes producing smoke or grease-laden vapor shall be equipped with an exhaust hood that complies with NFPA 96

Cooking that produces grease-laden vapor and that might be a source of ignition of grease in the hood, grease removal device or duct shall be protected by fire extinguishing equipment that conforms to NFPA 10 and NFPA 17A.

Fire extinguishing equipment shall include both automatic fire extinguishing systems as primary protection and portable fire extinguishers as secondary backup.

The cooking equipment shall conform to the components, installation and maintenance as per NFPA 10, NFPA 17A, and NFPA 96.

EXAMPLES OF COOKING CLASSES

Class 1 Cooking Operations (grease-laden vapors)

A Class 1 Cooking Operation is defined as any cooking process which produces significant smoke or grease-laden vapors, and includes any equipment which has been designed by the manufacturer to be able to produce significant smoke or grease-laden vapors, except where specifically approved under another Class. Class 1 cooking operations require Type 1 Hood Duct and Fixed Suppression systems

Examples of Class 1 Cooking equipment include the following commercial equipment:

- Range (burners or hot top), stove, hot plate (gas burner, electric coil or flat top), induction cooker, electric frying pan, convection oven if used for cooking chicken wings or other bulk meats, oven if used for roasting meat, char broiler, wok, fry grill, griddle, salamander, deep fat fryer, pan frying, barbecue, rotisserie, Don air vertical broiler, tilting skillet, braising pan, any equipment recommended to have fire suppression by the manufacturer, any equipment which produces or has been designed by the manufacturer to have the potential to produce comparable amounts of smoke or grease. [NFPA 96, A.10.1.2]

- Cooking operations which receive complaints of producing objectionable odors or are found to cause interior build-up of grease or smoke residue (Provincial Health Act).

The Following requirements apply to Class 1 cooking operations:

- Commercial Listed Type 1 Hood of 16 Gauge welded Carbon steel or 18 Gauge Stainless steel with fully welded seams. Hood shall include listed vertical filters on a 45 deg angle.
- Duct constructed of 16 Gauge Carbon steel or 18 Gauge Stainless steel Fully welded and vapor tight. No penetrations are permitted in the Duct (screws, rivets, etc.)
- Fixed "K" Fire Suppression System installed in the hood and duct, with a fusible link located in the hood/duct plenum and suppression nozzles located in the hood and duck where appropriate. The fan must stay on after the hood suppression system has been activated.
- A remote pull station for the suppression system is required along with signage for its use.
- The Fan shall be located on the roof of the occupancy, be an Up-Blast type, discharge 42" above the roof, and mounted using a hinge kit to allow for inspection/cleaning access.
- A Portable "K" extinguisher is required to be mounted with signage for use near an exit point in the kitchen.
- Make-up air system shall have an auto-disconnect relay when suppression system activated.
- Ventilation system shall be interlocked to the Make-up air system to ensure air balance.
- There must be an audible device connected to the fixed extinguisher system, connected to a fire alarm system or other audible device so that when the suppression system is activated it has an audible sound.

Gas fired Appliances shall have a gas valve solenoid to turn off the supply of fuel when suppression system is triggered

Class 2 Cooking Operations (steam and heat removal)

A Class 2 Cooking Operation is defined as any cooking equipment or process which produces significant steam or heat **but does not produce grease-laden vapors.** lf an appliance is designed with the potential for Class 1 Cooking, and will only be used for Class 2 cooking, then the following additional requirements will apply:

1) A metal sign securely mounted to the front of the hood embossed with the following words sized and colored so that the can be easily read and understood.

   "COOKING CAUSING GREASE-LADEN VAPOURS IS NOT PERMITTED EXHAUST SYSTEM IS DESIGNED FOR STEAM AND HEAT REMOVAL ONLY."

2) Hood and Duct to be constructed of 16 Gauge carbon-steel or 18 Gauge Stainless Steel, fully welded and vapor tight.
3) Hood and Duct clearance to combustibles remain the same as Type 1 systems.
4) Listed Access Panels are required for every turn in the duct, and every 10' of duct.

Examples of Class 2 Cooking equipment include any of the following if they are >6kW (20,478 BTU/h):

- Closed pizza oven, conveyor pizza oven if used only for pizza or bread,
- Baking oven, pastry oven, warming oven, open Bain Marie, range
- Coffee roaster, hot dog display heater, popcorn maker, roll warmer, steam reconstitution device, steamer.

If an inspection of a Class 2 cooking operation is found to be producing grease laden vapors, the inspector will either require an immediate menu change, or an upgrade to a compliant Type 1 system.

Class 4 Cooking Operations (self-contained)

Class 4 Cooking Operation is defined as cooking equipment listed by an accredited certification organization such as ULC, or ETL to ventilate into the room. These devices typically have their own fire suppression and grease filtering systems.

Examples of Class 4 cooking equipment include:

- Giles Vent less Hood Fryer (previously called Chester Fried Vent less Hood Fryer)
- Perfect Fryer PFC model series, vent less commercial deep fat fryers, Belshaw Donut Robot Fryer with insider vent less cabinet

Class 5 Cooking Operations (no hood)

A Class 5 Cooking Operation is defined as cooking equipment where a hood is not provided. Products from the cooking operation may be removed by natural ventilation. Class 5 ***does not include cooking procedures which produce significant grease-laden vapors, significant steam or significant heat.***

Where complaints are received by Northern Health such as mold from too much moisture, overheating in the work environment, objectionable odors, or build-up of grease or smoke residue, the owner or manager is responsible to make the required corrections, such as a menu change or equipment change to comply with the appropriate Class of Cooking Operation.

All equipment shall be operated and maintained in accordance with manufacturer's recommendations and NFPA 10, 17A and 96. Please note that all appliances shall be certified for use within Canada and be rated for commercial use.

IMPLEMENTATION

The City of Fort St John requires the business owner/operator have equipment serviced and approved by a Certified ASTTBC service provider to ensure that all equipment is current, well maintained and safe to operate.