



FIRE CONSTRUCTION PERMIT SUBMITTAL CHECKLIST

SERVING THE CITIES OF LAKE STEVENS, MONROE AND SULTAN

INDUSTRIAL OVENS

PROJECT INFORMATION

Site address:	Associated Permits:
Project Name / Tenant:	Property Owner:

Electronic file standards

File naming standard: Electronic plans and documents shall be named as specified in bold type under “permitting requirements”. For example, the seating plan must be named “Seating Plan”.

Acceptable file types: Plans, calculations, specifications and supporting documents shall be uploaded as a PDF file.

Document Orientation: All plans must be uploaded in “Landscape” format in the horizontal position. All other documents can be in “Portrait” format.

CODE EDITIONS

- 2021 Washington State Fire and Building Code and as applicable -
Lake Stevens Municipal Code 14.84, Monroe Municipal code 15.04.110
and Sultan Municipal Code 15.05.

PERMITTING REQUIREMENTS

A Fire Construction Permit is required to install an Industrial Oven required by Section 105.6.14 of the 2021 Washington State Fire Code and local code amendments. **The following information is required at time of application for the Fire Construction Permit.**

- Completed Fire Construction permit submittal application
- Completed "Industrial Oven – submittal checklist"
- Plans

PLANS

The following is a list of information required on all plan submittals for review of an "Industrial ovens" permit application. The plan shall be drawn to 1/8"=1'-0" minimum scale. The applicant is required to submit all of this information so an accurate and timely review may be done:

- Indicate furnace class – A, B, C or D
 - Furnace Class A:** An oven or furnace that has heat-utilizing equipment operating at approximately atmospheric pressure wherein there is a potential explosion or fire hazard that could be occasioned by the presence of flammable volatiles or combustible materials processed or heated in the furnace.
 - Furnace Class B:** An oven or furnace that has heat-utilizing equipment operating at approximately atmospheric pressure wherein there are no flammable volatiles or combustible materials being heated.
 - Furnace Class C:** An oven or furnace that has a potential hazard due to a flammable or other special atmosphere being used for treatment of material in process. This type of furnace can use any type of heating system and includes a special atmosphere supply system. These furnaces can include the use of special processing atmospheres.
 - Furnace Class D:** An oven or furnace that operates at temperatures from above ambient to over 5,000 degrees F and at pressures normally below atmospheric using any type of heating system. These furnaces can include the use of special processing atmospheres.
- Indicate on the plans where the oven(s) will be located in the building/tenant space.
- Industrial ovens and furnaces shall comply with applicable provisions of NFPA 86 Location:
 - Enclosed rooms or basements containing industrial ovens or furnaces shall be provided with combustion air in accordance with the International Mechanical Code (IMC) and the International Fuel Gas Code (IFGC); and ventilation air in accordance with the IMC.
 - When locating ovens, the possibility of fire resulting from overheating or from the escape of fuel gas or fuel oil and the possibility of damage to the

building and injury to persons resulting from explosion shall be considered.

- Industrial ovens and furnaces shall be located so as not to pose an ignition hazard to flammable vapors, mists, or combustible dusts WSFC
- Roofs and floors of ovens shall be insulated and ventilated to prevent temperatures at combustible ceilings and floors from exceeding 160 degrees F.

□ Fuel Piping:

- Each industrial oven or furnace shall be provided with an approved manual fuel shutoff valve in accordance with the IMC or the International Fuel Gas Code (IFGC)
- Valves for fuel supply lines shall be located within 6 feet of the appliance served.
- The manual fuel shutoff valve shall incorporate a permanent feature which visually indicates the open or closed position of the valve. Manual fuel shutoff valves shall not be equipped with removable handles or wrenches unless the handle or wrench can only be installed parallel with the fuel line when the valve is in the open position.

□ Interlocks:

- Interlocks shall be provided for Class A ovens so that conveyors or sources of flammable or combustible materials shall shut down if either the exhaust or recirculation air supply fails.

□ Fire Protection:

- Class A and B ovens which contain, or are utilized for the processing of combustible materials shall be protected by an approved automatic fire-extinguishing system complying with IFC Chapter 9. Exceptions – small tabletop oven used in laboratory facilities and nonwalk-in ovens that are less than 4 feet in length and width.
- Fixed fire-extinguishing systems shall be provided for Class C or D ovens to protect against such hazards as overheating, spillage of molten salts or metals, quench tanks, ignition of hydraulic oil and escape of fuel.
- Portable fire extinguishers complying with Section 906 shall be provided no closer than 15 feet or more than 50 feet from the oven and related equipment.
- An approved, clearly worded, and prominently displayed safety design data form or manufacturer's nameplate shall be provided stating the safe operation condition for which the furnace system was designed, built, altered or extended.

OVEN REQUIREMENTS

- Roofs and floors of ovens shall be insulated and ventilated to prevent temperatures at combustible ceilings and floors from exceeding 160 degrees F (71 degrees C).
- Fuel-gas piping serving industrial ovens shall comply with the International Fuel Gas Code. Piping for other fuel sources shall comply with this section.
- Each industrial oven or furnace shall be provided with an approved manual fuel shutoff valve in accordance with the International Mechanical Code or the International Fuel Gas Code.
- Valves for fuel supply lines shall be located within 6 feet of the appliance served.
 - Exception: When approved and the valve is located in the same general area as the appliance served.
- The design of manual fuel shutoff valves shall incorporate a permanent feature which visually indicates the open or closed position of the valve. Manual fuel shutoff valves shall not be equipped with removable handles or wrenches unless the handle or wrench can only be installed parallel with the fuel line when the valve is in the open position.
- Interlocks shall be provided for Class A ovens so that conveyors or sources of flammable or combustible materials shall shut down if either the exhaust or recirculation air supply fails.
- Class A and B ovens which contain, or are utilized for the processing of, combustible materials shall be protected by an approved automatic fire-extinguishing system complying with Chapter 9.
- An approved, clearly worded, and prominently displayed safety design data form or manufacturer's nameplate shall be provided stating the safe operating condition for which the furnace system was designed, built, altered or extended.
- Safety data for Class A solvent atmosphere ovens shall be furnished on the manufacturer's nameplate. The nameplate shall provide the following design data:
 - The solvent used.
 - The number of gallons (liters) used per batch or per hour of solvent entering the oven.
 - The required purge time.
 - The oven operating temperature.
 - The exhaust blower rating for the number of gallons (liters) of solvent per hour or batch at the maximum operating temperature.
 - Exception: For low-oxygen ovens, the maximum allowable oxygen concentration shall be included in place of the exhaust blower ratings.
- Industrial ovens and associated equipment shall be maintained in accordance with the manufacturer's instructions.