



Industrial Oven Submittal Checklist

Updated Sept. 2, 2016 to the 2015 International Fire Code



Electronic Plan Standards

File Naming Standards:

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.

Plan Sheet Standards:

All plans shall be drawn to scale, as identified in the checklist, and each sheet shall state the scale.

Document Orientation:

All **plans** must be uploaded in **"Landscape"** format in the horizontal position. All other documents can be in "Portrait" format.

PROJECT INFO

Site address: _____ Associated Permits: _____
Project name/Tenant: _____ Property Owner: _____

PERMITTING REQUIREMENTS

An IFC Fire Installation Permit is required to install an industrial oven or furnace in a building or space. **The following information is required at time of application for the Fire Installation Permit:**

- Completed **"Fire Installation Permit Application"**
- Completed **"Industrial Oven Submittal Checklist"**. Check all checkboxes that are applicable to your project.
- Plans**
- Manufacturer's **Cut Sheets** for oven and associated equipment

OVEN CLASSIFICATION

Industrial ovens are classified according to the following definitions per IFC Chapter 30:

- 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.

PLANS

The following is a list of information required on all plan submittals for review of an **industrial oven installation**. 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:

General Requirements:

- 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 (IFC 3003.1).
- 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 (IFC 3003.2).
- Industrial ovens and furnaces shall be located so as not to pose an ignition hazard to flammable vapors, mists, or combustible dusts (IFC 3003.3).
- Roofs and floors of ovens shall be insulated and ventilated to prevent temperatures at combustible ceilings and floors from exceeding 160 degrees F (3003.4).

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) (IFC 3004.2).
- Valves for fuel supply lines shall be located within 6 feet of the appliance served (IFC 3004.2.1).
- 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 (IFC 3004.3).

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 (IFC 3005.1).

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(IFC 3006.1).
- 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 (IFC 3006.2).
- 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 (3006.3).
- 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. (IFC 3007.1)