

INTERIOR CORN BURNING FURNACES, BOILERS & STOVES

Minimum Requirements

All interior heating systems located within buildings that Grinnell Mutual insures or reinsures, must be tested, listed and approved by a nationally recognized organization following established and recognized safety standards (i.e. UL 391 is the Solid-Fuel and Combination-Fuel Central and Supplemental Furnaces Standard and UL 1482 is the Solid-Fuel Type Room Heaters Standard). Nationally recognized organizations include UL, CSA International, Warnock Hersey, OMNI-Test Labs, etc.

The unit must be specifically designed for interior installations. Installing a heating system that was designed, tested, listed and/or approved for exterior installation inside of a building or enclosure is NOT acceptable.

The heating system should be installed in accordance with the manufacturer's recommendations with regards to clearances to combustible materials. This would include distances to combustibles from the sides, back, top and front of the unit, as well as the distance of the chimney connector to combustible materials. Also, check whether the unit can be placed on a combustible or non combustible floor.

Like all heating appliances, corn burning stoves should be used only to burn the type of fuels recommended by the manufacturer. Heating appliances are tested, listed and/or approved to burn only specific types of fuel (i.e. shelled corn, wheat, sorghum, wood pellets, etc).

Corn burning stoves and furnaces, like all interior heating units, should be vented in accordance with the manufacturer's recommendations. Unlisted single wall steel pipes are not an acceptable method of venting any interior heating appliance at a one or two family residential property, based on NFPA 211 (i.e. National Fire Protection Association Standard for Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances)

Corn burning appliances should be vented into one of three types of chimneys/vents:

1. Type "L" vent
2. Factory-Built Chimney tested and approved to UL 103 or UL 103 HT Standards
3. Clay tile lined masonry chimney

If the type "L" vent is not stated for use by the stove manufacturer, the unit must be vented to item #2 or #3 above.

All heating appliance chimneys should be installed following the 10 foot, 2 foot, 3 foot rule: The chimney or vent pipe must penetrate the roof of the building or enclosure where the heating appliance is located and extend 3 feet above the roof line. The vent or chimney should extend a minimum of 2 feet above the roof ridge or any part of a roof within 10 feet of the chimney or vent pipe.

If mechanical work is being performed within a residential garage, machine shed or commercial building and the heating system for the building is an:

1. **Interior Forced Air Furnace**, the installation requirements are:

- Furnace should be installed in a separate room with one hour fire rated construction and the entry door into the room from the outside of the building.
- Hot air ducts into the garage or machine shed should terminate not less than 8 feet above the floor.
- Air for combustion should be obtained from the exterior of the garage or machine shed (i.e. combustion air for the interior heating system should NOT be obtained from the building being heated).
- Cold air returns to the furnace should draw air at not less than 8 feet above the floor.

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2. **Interior Hot Water Boiler**, the installation requirements are:

- Hot water boiler should be installed in a separate room with one hour fire rated construction and the entry door into the room from the outside of the building.
- Air for combustion should be obtained from the exterior of the garage or machine shed (i.e. combustion air for the interior heating system should NOT be obtained from the building being heated).
- Hot water pipes should be located within the concrete floor or they should be connected to radiators or convectors located not less than 8 feet above the floor.

If mechanical work is not being performed within the building and there is no storage/transfer of flammable or combustible liquids within the residential garage, machine shed or commercial building and the heating system for the building is an:

1. **Interior Forced Air Furnace or Hot Water Boiler**, the installation requirements are:

- Furnace or Hot Water Boiler should be installed in a separate room with one hour fire rated construction and the entry door into the room from the outside of the building.
- Heat ducts into the building may be located at floor level.
- Air for combustion should be obtained from the exterior of the garage or machine shed.

The interior heating appliance and chimney/vent pipes of the interior unit must be maintained, cleaned, etc. in accordance with the manufacturer's recommendations. It is recommended that **at a minimum** the chimney/vent pipe on any type of solid fuel burning appliance be inspected and cleaned on an annual basis by an outside professional chimney sweep.

Homeowners operating solid fuel burning appliances should have at least one 10 lb ABC Dry Chemical portable fire extinguisher located within a visible and easily accessible location within the home or building. Also, smoke detectors should be installed near each sleeping room and at the bottom of each stairway of the home. Consideration should also be given to installing at least one Carbon Monoxide detector in all buildings or structures where a solid fuel burning appliance is present (IL law requires that at least one operable carbon monoxide alarm be located within 15 feet of every room used for sleeping purposes within a "dwelling unit").

If uncertain whether or not a specific unit is listed or approved, please contact Grinnell Mutual Corporate Loss Control Department or the local Corporate Loss Control Representative in your area. Please have available the heating appliance manufacturer's name, the model number for the unit and the manufacturer's phone number or website address.

If you are interested in receiving a copy of the NAMIC "Woodburning Stoves Installation and Procedures" (frequently referred to as the "Woody the Woodburner" booklet), please contact Grinnell Mutual Forms Department at 1-800-362-2041, extension 8476.

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