

Knox County Code Administration & Inspection

IRC – Fire Protection of Floors, Basements & Crawl Spaces R501.3

Rev. 060513

The items in this handout utilize the 2012 International Residential Code ®. This handout is a guide only, and is not all-inclusive.

OPTIONS FOR FIRE PROTECTION OF FLOORS

When a fuel fired appliance (i.e. a gas water heater or HVAC unit) is installed in a crawl space having either floor trusses, I-joists, or floor joists less than 2x10, the floor system above must be fire protected. This may be done in one of three ways:

1. Install ½" moisture resistant gyp board over the entire floor system or 5/8" structural panels. Joints must be tight or caulked.
2. Option 2 allows the equipment to be enclosed in a fire rated compartment or room. The interior of the enclosure is to be lined with ½" moisture resistant sheetrock or other non-flammable (20 minute rated) moisture resistant material. An access panel or door must be provided for full access to the equipment. All clearances required by the manufacturer must also be adhered to. When this option is used only appliances that can be vented by manufacturer's instructions and the code may be installed.
3. Option 3 eliminates the requirement for fire protection of the floor by allowing for a sprinkler to be installed above the unit. Sprinklers are not required in the remainder of the space. The use of domestic water shall be allowed for the sprinkler system. Water piping must be protected from freezing. Sprinkler discharge shall not be blocked by obstructions unless additional sprinklers are installed to protect the obstructed area. Pipe for sprinkler must be ¾" minimum undiminished in size (IRC P2904).
4. Basements – the option for basements will be to install a sprinkler system per manufacturer's instructions.

NOTE: All fire protection sprinkler systems under T.C.A. §§ 62-32-101 and 62-32-103 shall be installed under the supervision of a licensed responsible managing employee."

