

## USING WOODSTOVES

There are few fire hazards that have as much potential for getting out of hand as woodstoves and fireplaces. For that reason I'll begin this section by sharing my limited understanding of some of the precautions required by many of the local building codes.

Floors are threatened by both radiation and conduction from the bottom of the stove, and also from burning particles such as are produced by sparks and the removal of ashes. Required floor protection is as follows:

1. If there is less than 2" of free air space between the stove and the hearth, then there can be no combustible floor beneath it, or within 18" of it in any direction.
2. If its' legs provide between 2" and 6" of free air flow, then there must be a base of at least 4" of hollow masonry under it, arranged so that air can flow freely through the holes in the masonry. This base is to be on or covered by a sheet of metal that is 24 gauge or thicker, and extends at least 18" in all directions from the stove.
3. If the stove has more than 6" of free air flow beneath it, then a 2" layer of bricks or masonry will suffice, if it is on or covered by 24 gauge or thicker sheet metal and extends out from the stove at least 18" in all directions.

Unprotected walls that are not masonry are to be cleared by at least 36". This makes woodstoves a space-hungry item, so protection of some kind can be very worthwhile. Walls are best protected by a sheet of non-combustible material spaced at least 1" from the wall, with all its' edges (including the bottom edge) open so that air can circulate freely behind it. This should cover any portion of the wall within 36" of the stove. With this protection, it is safe to have the stove as close as 18" from the shield. This distance may be reduced to 9" if a second shield is spaced 1" from the first one. Of course the air must have free access to the back side of this shield as well.

The pipe connecting the stove to the chimney needs to be spaced at least 18" from the wall, but this distance may be reduced to 9" if a shield with a free flow of air behind it is spaced 1" from the wall.

I am not sure, but I believe that the single-wall flue must be terminated in a multi-wall system at least 12" below the ceiling.

The entry of the multi-wall system through the ceiling must be sealed by a snug sheet metal collar where it enters the ceiling.

The flue systems have rules and materials that are not to be ignored. I once watched a fire caused by an unshielded pipe running through an upstairs closet. The house got off with only needing half it's roof replaced, but the girl was extremely upset that her entire wardrobe was now limited to a single color.

Your typical through-the-ceiling flue pipe has three walls arranged so that outside air can circulate down the inside of the outermost layer, under the bottom edge of the middle layer, and upwards along the surface of the innermost layer. The innermost wall is made of stainless steel so that corrosive combustion products will not rust it out. The entire assembly is then suspended a judicious distance from any combustible material by means of slender metal braces, and down through the ceiling by means of some sort of a bucket.

