

TOWNSHIP CODE AUTHORITY

Fireplace & Chimney Clearances

While not used for practical purposes, as in years past, fireplaces are still found in many of today's new homes. Years ago, the area around the fireplace was used for cooking and as a main gathering space during the cold months, since the fireplace provided the main source of heat for a home. Today fireplace are put in more for aesthetic reasons, many containing a gas log system, so that with the flip of a switch, an instant fire is burning. While fireplace construction hasn't changed much over the years, there are specific code requirements that must be followed, in order to construct a fireplace that will not be considered a hazard.

Chapter 10 of the 2003 Michigan Residential Code (MRC) contains many of the code sections dealing with masonry fireplace and chimney construction. Manufactured, or zero clearance fireplaces, typically fall under both. The rules of the building code and the mechanical code, and must be installed as specified in the manufacturer's installation manual. These manufactured units are put through approved testing methods, and when approved for use, and properly installed, provide a safe fireplace unit. The manufactured fireplace unit provides a lower price alternative to the masonry fireplace. Thermal protection is probably one of the most important aspects of fireplace and chimney construction, in both manufactured and masonry units.

Specific clearances must be provided in fireplace and chimney construction, and are clearly addressed in the following sections of the 2003 MRC.

1. Section R1001.7 The minimum wall thickness of a masonry chimney must no less than 4 inches.
2. Section R1001.15 Any part of a masonry chimney that is located within the interior of a building, or within the exterior walls, must have a minimum of 2 inches of airspace clearance to any combustible materials.
3. Section 1003.5 Masonry firebox walls must be constructed of concrete, solid or grouted solid hollow masonry units, or stone, and be minimum of 8 inches thick, when a lining of firebrick at least 2 inches thick is provided. Firebrick may not have joints larger than ½ inch and must be laid with medium duty refractory mortar meeting ASTM C 199 standard.
4. Section R1003.9 Masonry fireplace hearths and hearth extensions are to be constructed of concrete or masonry, supported by noncombustible materials. Combustible material may be used as a form material under a hearth or hearth extension, but must removed after construction. The thickness of a fireplace hearth must be a minimum of 4 inches.
5. Section R1003.10 Areas of a hearth extending outward from the fireplace opening must extend at least 16 inches in front of and at least 8 inches beyond each side, when the total fireplace

opening is under 6 square feet in area. If the fireplace opening area is 6 square feet or larger, the hearth must extend outward at least 20 inches in front and at least 12 inches on each side of the fireplace opening.

6. Section R1003.11 All wood including joists, beams and studs, and any other combustible materials must have a clearance of no less than 2 inches from the front and sides of masonry fireplaces. A minimum of 4 inches of clearance to combustibles is required from the back face of a masonry fireplace. The airspace provided, between the masonry and combustible materials should not be filled except in areas where code compliant fire blocking may be required.
7. Section R1003.12 When installing the mantel and trim around a masonry fireplace, any woodwork or other combustible material used cannot be placed within 6 inches of the project more than $\frac{1}{8}$ inch for each inch of distance from the opening. For example, if a trim is placed 7 inches away from the fireplace opening, the maximum projection from the fireplace opening of that trim piece can be no more than $\frac{7}{8}$ inch. At 8 inches from the opening, the maximum projection would be 1 inch. The further the trim is from the opening, the further it may project outward from the fireplace opening. Once the material is 12 inches or more from sides or top of the fireplace opening, there is no maximum projection, so the mantel or trim may extend outward to any desired distance.
8. Section R 1004 This section addresses factory built fireplace units and states that factory built fireplaces must be tested in accordance with UL 127. Factory built fireplaces must be listed, labeled, and installed as per the installation manual and any conditions of the UL listing. Factory built units may have other requirements not listed in the above code sections, so careful attention to the installation manual is very important for approval of the installation of a factory built unit.

When constructing a fireplace, following the code sections above, regarding fireplace and chimney clearance, can help in having your project approved when the time comes for inspection. Have to make changes to framing and masonry can be very time consuming and costly, so it only makes sense to install or construct your project to building code requirements right from the start. Should you have any questions regarding fireplaces or any other construction, contact the building dept. for further information.