

MINNESOTA DEPARTMENT OF PUBLIC SAFETY

STATE FIRE MARSHAL



Informal Interpretation Smoke and Heat Venting Requirements

The following is an informal interpretation of the smoke & heat venting requirements of the Minnesota State Fire Code (MSFC).

The Minnesota State Fire Code (MSFC) Chapter 9 lists a few options for smoke and heat venting that may be required by MSFC Chapter 23 (High-Piled Combustible Storage).

Basically, the code allows three methods of smoke and heating venting (see MSFC 910.1.1):

Manual smoke and heat vents MSFC Section 910.3 (primarily for non-sprinklered facilities),

Mechanical smoke exhaust MSFC 910.4 (this is the default method of design),

Engineered smoke exhaust system MSFC 910.5 (calculated design using a fire protection engineering analysis).

Each section contains requirements for equipment and supply air. They are slightly different as each type of system functions differently. The requirements for MSFC Section 910.4 are not intended to be applied to Section 910.5, etc.

For engineered smoke exhaust systems in accordance with MSFC 910.5, there are no requirements for spacing of the exhaust fans (there are 100 foot spacing requirements in 910.4 and vent spacing requirements in 910.3). MSFC Section 910.5 only requires that fans be uniformly spaced and have a maximum individual size of 30,000 cfm. (see MSFC Section 910.5.5). It was intended that the engineering design would be appropriate to remove the volume of smoke without having a specific spacing requirement.

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