

Code Interpretation: Smoke and Heat Removal Methods for High-Piled Combustible Storage

Background

Section 910 of the 2020 Minnesota State Fire Code (MSFC) provides three methods of smoke and heat removal.

The three methods include:

- Smoke and heat vents per MSFC Section 910.3 (primarily for non-sprinklered facilities)
- Mechanical smoke exhaust per MSFC Section 910.4 (the default method of design)
- Engineered smoke exhaust system per MSFC Section 910.5 (calculated design using a fire protection engineering analysis)

Where smoke and heat removal is required for high-piled combustible storage in Table 3206.2, Section 910.2.2 references only 2 of the 3 smoke and heat removal methods; smoke and heat vents per Section 910.3, and mechanical smoke exhaust per Section 910.4.

Interpretation

Although an engineered smoke exhaust system per MSFC Section 910.5 is not listed as an option for the protection of high-piled combustible storage in Section 910.2.2, the intent of Section 910.5 (as amended) is to provide an alternative design method to the default mechanical smoke exhaust system in Section 910.4. In other words, Section 910.5 is an option for any scenario where mechanical smoke and heat removal is required. This view is supported by MSFC Section 910.1.1, exception 1, which allows use of the calculated engineering design method (Section 910.5) for mechanical smoke exhaust in fully sprinklered buildings.

