

2021 Virginia Construction Code

CHAPTER 14 EXTERIOR WALLS

SECTION 1406 METAL COMPOSITE MATERIALS (MCM)

1406.1 General.

The provisions of this section shall govern the materials, construction and quality of *metal composite materials (MCM)* for use as *exterior wall coverings* in addition to other applicable requirements of [Chapters 14](#) and [16](#).

1406.2 Exterior wall covering.

MCM used as *exterior wall covering* or as elements of balconies and similar projections and bay and oriel windows to provide cladding or weather resistance shall comply with [Sections 1406.4](#) through [1406.13](#).

1406.3 Architectural trim and embellishments.

MCM used as architectural *trim* or embellishments shall comply with [Sections 1406.7](#) through [1406.13](#).

1406.4 Structural design.

MCM systems shall be designed and constructed to resist *windloads* as required by [Chapter 16](#) for components and cladding.

1406.5 Approval.

Results of *approved* tests or an engineering analysis shall be submitted to the *building official* to verify compliance with the requirements of [Chapter 16](#) for *wind loads*.

1406.6 Weather resistance.

MCM systems shall comply with [Section 1402](#) and shall be designed and constructed to resist wind and rain in accordance with this section and the manufacturer's installation instructions.

1406.7 Durability.

MCM systems shall be constructed of *approved* materials that maintain the performance characteristics required in [Section 1406](#) for the duration of use.

1406.8 Fire-resistance rating.

Where MCM systems are used on *exterior walls* required to have a *fire-resistance rating* in accordance with [Section 705](#), evidence shall be submitted to the *building official* that the required *fire-resistance rating* is maintained.

Exception: MCM systems *that are part of an exterior wall envelope* not containing foam plastic insulation *and* are installed on the outer surface of a fire-resistance-rated *exterior wall* in a manner such that the attachments do not penetrate through the entire *exterior wall* assembly, shall not be required to comply with this section.

1406.9 Surface-burning characteristics.

Unless otherwise specified, MCM shall have a *flame spread index* of 75 or less and a *smoke-developed index* of 450 or less when tested in the maximum thickness intended for use in accordance with [ASTM E84](#) or [UL 723](#).

1406.10 Types I, II, III and IV construction.

Where installed on buildings of Types I, II, III and IV construction, *metal composite material (MCM)* shall comply with [Sections 1406.10.1](#) and [1406.10.2](#) for installations up to 40 feet (12 192 mm) above *grade plane*. Where installed on buildings of Types I, II, III and IV construction, MCMs and MCM systems shall comply with [Sections 1406.10.1](#) through [1406.10.3](#), for installations greater than 40 feet (12 192 mm) above *grade plane*.

1406.10.1 Surface-burning characteristics.

MCM shall have a *flame spread index* of not more than 25 and a *smoke-developed index* of not more than 450 when tested in the maximum thickness intended for use in accordance with [ASTM E84](#) or [UL 723](#).

1406.10.2 Thermal barriers.

MCM shall be separated from the interior of a building by an approved thermal barrier consisting of $\frac{1}{2}$ -inch (12.7 mm) *gypsum wallboard* or material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of [NFPA 275](#).

Exceptions:

1. The MCM system is specifically approved based on tests conducted in accordance with [NFPA 286](#) and with the acceptance criteria of [Section 803.1.1.1](#), [UL 1040](#) or [UL 1715](#). Such testing shall be performed with the MCM in the maximum thickness intended for use. The MCM system shall include seams, joints and other typical details used in the installation and shall be tested in the manner intended for use.
2. The MCM is used as elements of balconies and similar projections, architectural trim or embellishments.

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1406.10.3 Full-scale test.

The MCM system shall be tested in accordance with, and comply with, the acceptance criteria of [NFPA 285](#). Such testing shall be performed on the MCM system with the MCM in the maximum thickness intended for use. Where noncombustible materials or combustible materials permitted by [Section 603](#), [803](#), [806](#), or [1406](#) differ from assembly to assembly or within an assembly, multiple tests shall not be required.

Exception: The MCM system is not required to be tested in accordance with, and comply with, acceptance criteria of [NFPA 285](#) in *buildings* equipped throughout with an automatic sprinkler system in accordance with [Section 903.3.1.1](#).

1406.11 Type V construction.

MCM shall be permitted to be installed on buildings of Type V construction.

1406.12 Foam plastic insulation.

Where MCM systems are included in an exterior wall envelope containing foam plastic insulation, the exterior wall envelope shall also comply with the requirements of [Section 2603](#).

1406.13 Labeling.

MCM shall be labeled in accordance with [Section 1703.5](#).