

WHITE PAPER



MCM and MCM Systems for Building Cladding in North America

The use of metal composite material (MCM) as an exterior cladding on high rise buildings is common throughout the world. There are many positive aspects of MCM, however recently, a number of dramatic fires reported around the globe have heightened concern regarding the use of MCM for exterior applications. The intent of this white paper is to provide information about MCM and MCM systems and the controlling factors in North America to ensure these types of fire incidents do not take place.

MCM was first introduced in North America with two aluminum skins bonded to a solid polyethylene core in the 1980s. Over time, alternate fire retardant (FR) core compositions were introduced addressing the needs for fire performance required by the codes.

MCM and MCM system performance have been generally regulated for more than 15 years in the United States by the requirements defined in Section 1407 of the International Building Code (IBC). The MCA has developed a separate technical bulletin detailing the MCM fire performance requirements and test standards defined within the IBC titled: Metal Composite Materials – Fire Performance Testing in the United States and Canada.

Fire is a primary concern not only for MCM, but for the entire wall assembly. Unlike several other areas in the world, large scale wall fire testing has been required by the codes in North America for more than 35 years showing how the entire wall assembly performs during a fire. In the United States, the required fire test standard is the NFPA 285: Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies. In Canada, a similar large scale test is required and identified as CAN/ULC S134: Fire Test of Exterior Wall Assemblies. Both standards involve a 2 story wall sample exposed to fire during a 30 minute test.

It is important to note that there are no major fire events documented in North America utilizing FR MCM as a system that was successfully tested in accordance with either NFPA 285 or CAN/ULC S134.

In summary, it is important to provide a cladding consisting of both the proper MCM and the MCM system meeting the required fire performance. The North American MCM manufacturers and Certified MCM fabricators have a great deal of expertise in the correct use of MCM and MCM systems; contact them to provide guidance for the correct MCM application so the building performs in accordance with the requirements of the building codes.

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