

# WHITE PAPER



## MCM Labeling: Who Cares and Why

### OVERVIEW

Anyone searching the internet can find dozens of products that lay claim to being MCM or Composite Materials. Solid extruded plastic core, wood core, corrugated metal core, honeycomb core, the term MCM has come to mean so many things that no one is really sure what an MCM is anymore. This confusion is also found in the designer's office where the best product on the market is often determined by whoever "worked with us on the last project". The whole while, the most important question is not what product name is chosen. The important questions are:

- Is the product/system supported by testing?
- Is there a labeling program in place (as required by code) to ensure the product being supplied to the field uses the same process, components, and quality requirements of the product that was tested?

Product labeling is more than just a name on the back of the panel. Labeling is an assurance of quality, compliance with the stated performance requirements, and conformance to the code.

### DISCUSSION

Labeling of MCM panels has been in the code for a long time in pretty much the same format as it exists today. The labeling path for MCM through the code is a bit convoluted, however it is best described starting in the section specifically dedicated to MCM (IBC Section 1406):

- **1406.14 Labeling** – MCM shall be labeled in accordance with Section 1703.5. Labeling is not an option, nor is labeling tied to successful completion of the NFPA 285. It is a stand-alone item in the MCM Section that applies to all construction types where compliance with the IBC is required.
- **1703.5 Labeling** – Products, materials, or assemblies required to be labeled shall be labeled in accordance with the procedures set forth in Section 1703.5.1 through 1703.5.4.
- **1703.5.1 Testing** – An *approved agency* shall test a representative sample of the product, material, or assembly being labeled to the relevant standard or standards. The *approved agency* shall maintain a record of the tests performed. The record shall provide sufficient detail to verify compliance with the standard.

The key element of this section is "approved agency". The IBC does not recognize every test lab worldwide as acceptable to show compliance with the code. An Acceptance Criteria has been developed that laboratories must comply with to be considered an "approved agency". Without this requirement, a manufacturer could provide test results from a lab that is unfamiliar with or does not have the proper equipment to run some of the very sophisticated tests required by the IBC.

- **1703.5.2 Inspection and identification** – The approved agency shall periodically perform an inspection, which shall be in-plant if necessary, of the product or material that is to be labeled. The inspection shall verify that the labeled product, material, or assembly is representative of the product, material, or assembly tested.

This criteria is required to show that the material being manufactured on a daily basis is equivalent in quality and performance with the material that was tested to show code compliance. There have been instances where changes in procedure have an impact on performance that the manufacturer is unaware of. This section also limits the material source for MCM Suppliers and that material cannot be obtained from several different sources and all marked as “Product X” unless each facility and process supplying material complies with the requirements and plant/process inspection required by the code. This process is time consuming and somewhat expensive with the end result of the inspection being a quality manual that is used to compare the specific production material performance over time to the tested sample product that has been established as the “norm”.

- **1703.5.3 Label Information** – The label shall contain the manufacturer’s identification, model number, serial number or definitive information describing the performance characteristics of the product, material, or assembly and the approved agency’s identification.

A significant amount of confusion has been attributed to this section. It is not required to list test results on this label. The label is intended to be used in the field to a) positively identify the material and the manufacturer, b) provide some identifier that can be used to trace back production information, and c) provide information on the agency that coordinates the product “approval” or compliance. This label is intended to be an identifier for the inspector in the field to assure that the material specified and performance requirements have been met by the material or assembly.

Additional information that could be beneficial in the field is the inclusion of the country of manufacture information (i.e. Made in America or Made in Japan). This information is beneficial for those products that are submitted to comply with any LEED type program or on government funded projects that have material origin clauses.

- **1703.5.4 Method of Labeling** – Information required to be permanently identified on the product, material or assembly shall be acid etched, sand blasted, ceramic fired, laser etched, embossed or of a type that, once applied, cannot be removed without being destroyed.

This section has also created a significant amount of confusion in the MCM industry. The MCM panel cannot typically be identified by the means suggested or the surface finish is damaged to the point of being unusable in the field. Many of the manufacturers have gone to a permanent ink print that is placed on the backside of the panel during manufacture. This print line contains the information required by the IBC and has proven adequate to trace back the product all of the way to manufacturing and material supply.

Many members of the design community and MCM fabricators have suggested that labels “required by the code” be attached after the panels are fabricated, however there are two problems with this line of thought

being compliant with IBC requirements. First, the panel cannot generally be traced back to the panel manufacturing process where many of the key elements are introduced for the panel to meet the code requirements. Second, the method of identification proposed is the use of adhesive labels that contain the required information. While this provides the required information as the panels are being installed, the inspector cannot be sure to find intact labels after several years installed on the building should a question come up on the code compliance of the structure.

## SUMMARY

While no one has come up with an established method of labeling panels, the code does require this identification to show manufacturing and performance compliance when the panel is installed and for traceability of materials in the future. The inspection process is a key element in showing that the product in question is “acceptable” and meets the requirements of the IBC. A similar program, with slightly different requirements exists in other jurisdictions (i.e. Miami Dade Product Approval program). The one common element is positive identification that the material used has been shown to meet the performance requirements of the code.

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