

A TECH NOTE

NON-COMBUSTIBLE SUBFRAMING IS BEST

Avoid fireblocking and fire testing by specifying non-combustible subframing systems.

Non-combustible in Nature

All of ECO Cladding's system components are non-combustible and are not triggers for either fireblocking or fire testing requirements in the International Building Code (IBC). Our components are made of raw aluminum and stainless steel. These metals qualify as non-combustible per IBC language. Other components in the rainscreen assembly, such as the weather barrier, insulation type, cladding panel, etc. may trigger the requirement for NFPA 285 fire testing but nothing supplied by ECO Cladding is combustible in nature and therefore will not be a contributor to assembly combustibility for either fireblocking or NFPA 285 fire tests.

ECO Cladding systems do not contribute to the amount of combustible materials in an assembly and specifying our systems may provide extra flexibility in design, that cannot be achieved with combustible framing materials.

Criteria for Fire Performance

In general, for buildings less than 40 feet, the IBC requires cladding & components to meet flame spread and smoke developed performance limits. Those are determined through performing ASTM E84 test criteria.

For High Rise exterior wall panel applications, primarily installations higher than 40 feet above grade, the IBC imposes specific fire performance criteria for use of combustible exterior cladding, as well as non-combustible wall coverings erected with combustible frames. Subject to certain exceptions, High Rise applications in buildings of Type I, II, III, or IV construction generally require the use of non-combustible cladding and framing. The recognized method used to determine non-combustibility within the code is the ASTM E136 test.

Testing and Approval

In Section 718.2.6 of the IBC, it clearly defines that when exterior wall coverings or other exterior architectural elements are permitted to be of combustible construction as specified in Section 1405 or where erected with combustible frames, fireblocking shall be installed in the cavity between the back of the cladding and the face of the sheathing. As a result, even non-combustible wall coverings, if using a combustible subframing system, will still be subject to fireblocking and/or NFPA 285 fire testing requirements.

Thus, for all installation heights, even below 40 feet, subframing made of combustible materials will trigger the requirement to either a.) install fireblocking within the exterior cavity or b.) conduct fire testing in accordance with NFPA 285 on the entire assembly, as installed.

In a given rainscreen assembly, if any of the specified components trigger NFPA 285 and the wall assembly has been successfully tested to meet the NFPA 285 criteria for approval, Fire Safety Engineers have consistently stated that the same configuration with ECO cladding components will perform the same or better than the original design.

To meet the needs of hundreds of projects, we have tested both our exposed and concealed systems with many combustible cladding material types (HPL, ACM, Plastic Composites, etc). We support the role of both fireblocking and fire safety testing in evaluating the overall fire performance of each wall assembly. With the exponential increase in High Rise building construction in the United States, it is critical to ensure that the entire rainscreen wall assembly meets the code requirements in order to be safe, secure, and suitable for the intended application.

Questions? Need to know more? Call us at **855-237-3370** or email info@ecocladding.com.