

ALUCOBOND® and Fire Retardancy

Fire has played a vital role in the evolution of human race from the ancient times until today. The taming of fire pulverized the creation of modern civilization and differentiated our species against others. As much as tending fire has its benefits, it can bring with it destruction leading to fatalities and injuries as well as great loss to property. Fire incidents have never stopped from their occurrence in our routine life, and there is no institution or situation which is immune to it. However, there are actions which can mitigate this risk and which is what we will delve into here.

With a drastic increase in high profile buildings succumbing to fire, the subject of fire safety and fire retardancy is becoming increasingly popular amongst architects, developers, and contractors alike across the world. One of the key elements of propagation of fire in a building has been usage of inappropriate grade of aluminum composite material (ACM) which are usually installed on the facade of the buildings.

That is one of the reasons why minimizing fire risk, particularly in places with significant human traffic has become increasingly complex and challenging. In places where there are no regulations, it becomes a responsibility of the developer, architect, façade consultants and the contractors to choose the right materials and systems.

Since the invention of Aluminium Composite Materials almost 50 years ago, there have been a number of improvements on the product especially in terms of fire resistance. Such higher grade fire retardant and the available non-combustible versions of the product have been developed in compliance with European and American building code requirements almost 15-20 years ago. Even in the absence of such regulations, many developers, architects and consultants have been specifying such grades and proper systems. While being one of the first things conceived for a new building project, the façade is only sourced and installed in the very late stages of a building project where time is short and budgets tend to be overrun. Therefore, in many cases the building project management initiates a value engineering exercise to speed up and reduce cost. In such cases, many a times the initial specifications get reviewed and lesser quality choices get made. Also, some material suppliers suggest that one can get the same quality for cheaper. The lower cost of this product however involves choosing lower quality components, raw materials and processes that compromise the main product functionalities: protecting the building from the outdoors, keeping people and capital safe in case of a fire, and looking good – and all of it for decades.

Lower quality producers tend to boast but often utilize irrelevant test reports and don't use their own regular production as a source for testing samples. Random checks of actual deliveries show regularly that the supplier delivers different specifications than promised, required and tested. It would be very simple to make a few checks for anyone with tools worth less than US \$100 to determine some key factors such as aluminium content, overall thickness and weight of the panel. The latter is the best possible indicator for what the core of the panel is made of, largely highly combustible LDPE or a varying degree of non-combustible mineral content (the higher the more fire resistant). There is an app available which allows that prediction to be made in a matter of seconds, while this video link will show you how to test these materials. You can also download the app from [here](#).

Fire retardancy (FR) in the context of a building façade needs to be understood in totality rather than in isolation of a product and the systems used to clad it on the wall. Understanding the key performance criteria and thereby choosing the right test methodologies and test reports holds the key. The right test method has to ideally be a combination of product tests along with the intermediate-scale multi story tests addressing most of the performance criteria. These performance criteria are:

- Lateral and Vertical spread of fire
- Smoke emission
- Droplets
- Self-extinction of fire on the ACM

If you are interested to know more about the relevant test methodology and qualification tests, please download our brochure [here](#).

A true 'Fire Retardant' ACM should have:

- An ideally recommended mix and density of non-combustible content in the core (no less than 70%).
- Appropriate certifications from a credible third party authority.
- The correct installation system incorporated to support it.

ALUCOBOND® has been the pioneers of ACM worldwide for over 45 years now and has worked closely with Architects, Façade Consultants and Developers across the world to develop tools and knowledge base to help understand this concept of Fire Retardancy.

Merging aesthetics and safety, ALUCOBOND® plus and ALUCOBOND®A2 are therefore able to set new standards for cladding materials with certified and proven fire retardancy characteristics.

ALUCOBOND® plus

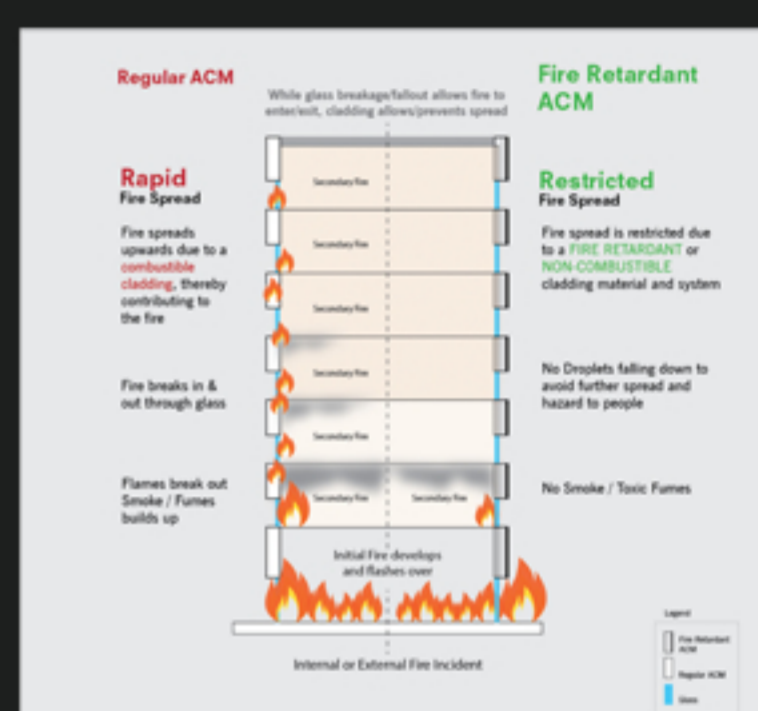
ALUCOBOND® plus has been developed exclusively for the more stringent fire prevention regulations in architectural products. Because of its mineral-filled core, ALUCOBOND® plus meets the strictest of requirements for most fire classifications. Because it is hardly inflammable and offers all the proven product properties of the ALUCOBOND® brand, ALUCOBOND® plus plays an imperative role in minimizing damage to both human lives and structures.

For more information about ALUCOBOND® plus, please click [here](#).



ALUCOBOND® A2

In addition, ALUCOBOND®A2 is the first non-combustible aluminum composite panel used in architecture that fulfils worldwide standards. Due to its mineral core, ALUCOBOND®A2 meets the strict requirements of some of the toughest fire regulations while retaining the possibilities for the concept and design of buildings. Similar to other products within the ALUCOBOND® family, ALUCOBOND®A2 allows for simple processing, is impact-resistant, breakproof, and weatherproof. For more information about ALUCOBOND® A2, please click [here](#).



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