

Brussels, 10 December 2018

Fire safety of buildings is regulated at national level. This is mostly due to important differences in climatic and geographic conditions as well as in building traditions exist among the Member States. The situation is also different regarding the existence of national standards to assess the fire performance of claddings. Some Member States have their own standards (e.g. BS 8414 series used in the United Kingdom, SP Fire 105 in Sweden, LEPIR2 in France and MSZ 14800-6 in Hungary, ...), while others refer to standards from other countries. Some countries are not using any facade testing standard at all.

The development of a European harmonised standard is essential as it will help to adopt a widely-recognised method to assess the system performance of claddings, thus allowing regulators to better identify and apply relevant system performance requirements.

In this context, the European Commission recently published the final report of a study¹ to which European Aluminium has actively contributed. The report presents two options for a European approach to assess the fire performance of building facades: (i) a first option, the “proposed method”, based on existing testing standards for assessing fire performance and fire behaviour of external claddings and (ii) a second option, the “alternative method”, which proposes a new basis for testing and classification of the same products.

The study also reports about the definition of “facade”, which differs significantly in European countries, varying from the outer skin of a building to the complete exterior wall structure, highlighting the importance that a common understanding of the term is obtained.

1. Our recommendations

Going for the “Proposed method”

European Aluminium supports the “proposed method” because it builds on broadly used test methods described in standards BS 8414-1 for high-rise buildings and DIN 4102-20 for medium scale assessment methods. As several Member States are planning to review their national regulation including the introduction of large-scale tests for facades, there is a sense of urgency in providing them with an effective and readily implementable method. Referring to these ready-to-use solutions (and to the relative valuable existing data) will be decisive to ensure a smoother transition regarding fire assessment of claddings in all the European countries, to the benefit of fire safety in Europe.

European Aluminium is concerned that the choice of the “alternative method” would hardly be incorporated in the national legislation of several countries (e.g. United Kingdom, Germany, Austria...) and cause unnecessary delays. Indeed, while any standard can always be challenged and improved, too much time would be needed to start from scratch a new evaluation of testing scenarios as well as defining new measurements and recording of results for a combination of criteria including, among others, smouldering, smoke, and falling

¹ 2018, Development of a European approach to assess the fire performance of facades. Online available at <https://publications.europa.eu/en/publication-detail/-/publication/81b91f55-af69-11e8-99ee-01aa75ed71a1/language-en/format-PDF>

parts. This would further delay fire safety improvements in Europe and the current absence of a harmonised approach in the EU would obstacle experience-sharing across countries. Finally, European Aluminium is concerned about the costs that such new method will impose to the construction industry. While construction companies already face quite high fees for the testing of their products against the highest standards available for fire safety, they are worried that the adoption of the “alternative method” will turn into even higher costs.

Considering the above, together with other key European stakeholders, we encourage EU policy-makers to pursue a swift implementation of an EU harmonised test standard based on the “proposed method”, allowing Member States to build on relevant experience and data to deliver immediate improvements to fire safety in Europe.

Not only fire performance of claddings should be based on the above-mentioned existing standards, but also reaction to fire performance of products should continue to be tested based on the European standard of reference (i.e. EN 13501-1).

A holistic approach to fire safety is needed

Achieving an increased fire safety in buildings is only possible through the adoption of an approach that does not only look at the fire performance of single construction products. High attention should be put also at the inclusion of fire safety concepts (e.g. a firefighting strategy) in design phase while keeping in mind the use(s) of the building. Furthermore, proper installation of construction products, service apparatuses and devices must be insured aiming to maintain the design specifications during both the construction phase and the entire lifetime of the building.

European Aluminium joins the European Commission in urging the Member States to their best to make sure that the enforcement of fire-related laws and market surveillance are ensured at national level. Furthermore, European Aluminium will keep cooperating with other relevant stakeholders to the activities of the Fire Information Exchange Platform (FIEP) where prevention practices and experiences as well as harmonisation of fire terminology and data collection are more and more contributing to the establishment of a holistic approach concerning fire safety in Europe.

Clearly define the application scope of the European approach to assess the fire performance of facades

In the report issued by the European Commission, a clear definition of “facade” is missing. Several parties that were consulted during the study mentioned the fact that even the title of the report refers to an unclear concept. First and foremost, European Aluminium believes that the European Commission should clearly distinguish facade types for which safety in case of fire can be, from others that cannot be, fully described by the Construction Products Regulation (EU) 305/2011 (the CPR).

Curtain walls should remain out of scope

As a matter of fact, “facade” is a term that is frequently used for curtain walling. Curtain walls are usually made of a framework of horizontal and vertical profiles, connected and anchored to the supporting structure of the building, and containing fixed and/or openable infills, which provides all the required functions of a wall (see Figure 1).



Figure 1: Installation of a curtain wall

For this type of facades (i.e. curtain walls), the components of the system are pre-defined by the manufacturers or their system suppliers and are having detailed technical specifications under the CPR (i.e. hEN 13830) that sufficiently describe the safety in case of fire of the kits that are made available on the market.

For the above reason, and since the report issued by the European Commission does not refer to curtain walls, European Aluminium suggested several times to replace the term “facade” by “claddings” or “cladded facades”, on which the report is focused.

Claddings should remain in the scope

Cladding is a material applied over another one to provide a skin or layer and used to provide a degree of thermal insulation and/or weather resistance, and to improve the appearance of a building. Contrary to curtain walls, claddings do not provide all the required functions of a wall as they are just applied to walls.

For claddings, the components of the systems are in most cases not all pre-defined and, despite the existence of harmonised technical specifications (i.e. ETAG 034, recently replaced by EAD 090062-00-0404) for components under the CPR, they are not sufficient to secure safety in case of fire of the final solution applied to the building (that is as such not placed on the market).

For the above reason, European Aluminium supports the development of a European technical specification dealing with safety in case of fire for claddings. This should go beyond the scope of the CPR by addressing the combination of different construction products (both materials and design of project solution) and be based on the “proposed method”. Such technical specification could then be used as basis for regulations at Member States level.

2. More information about aluminium-based cladding products

Aluminium cladding products provides a degree of weather resistance and usually protect a wall, or an underlying insulation layer applied to a wall.

Aluminium cladding products can come in the form of aluminium sheet (bare, coated or anodised) or aluminium composite material (ACM).

Bare and anodised aluminium sheets and a wide range of coated aluminium sheets are non-combustible.

ACMs are available with various core material, including fire retardant and non-combustible options.

When used in exterior ventilated facade, the outer cladding is the visible part of the system that protects the wall insulation from the rain, separated from each other by an air gap (see Figure 2).

The outer cladding material, wall insulation material and fire barriers all have an influence on the flammability of a facade.

Example of a ventilated cladding solution using ACM²

- | | |
|-----------------------|---------------------|
| 1. Wall | 4. ACM |
| 2. Thermal insulation | 5. Aluminium sheets |
| 3. Air gap | 6. Core material |

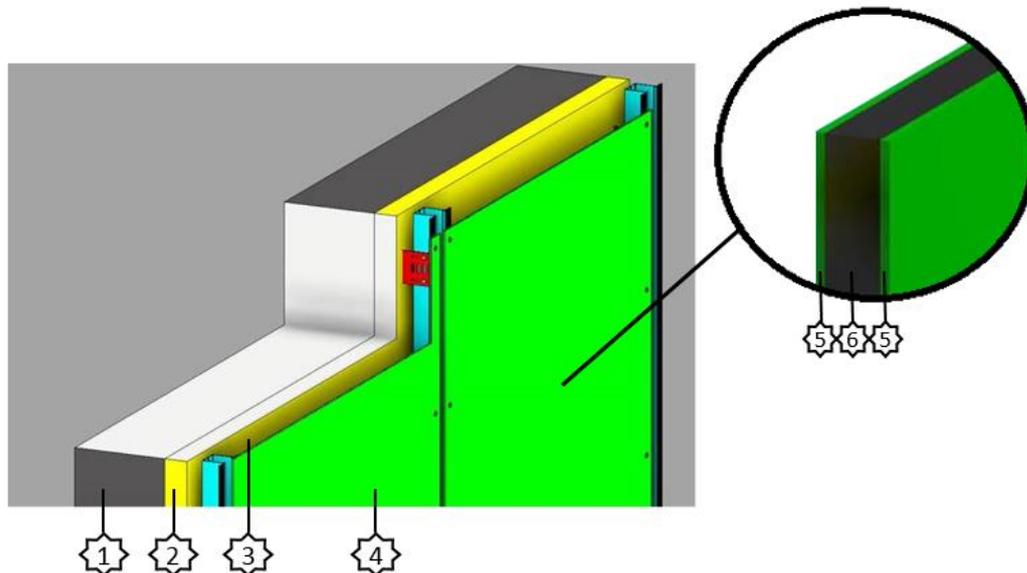


Figure 2

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² Several other components, not represented in the chart, can be part of the final cladding solution applied to a building, e.g. fire barriers.