

AN 03 SAFE RAINSCREEN FACADES AND BEST PRACTICE

INTRODUCTION

The Metal Cladding and Roofing Manufacturers Association (MCRMA) foresees the publication of no further guidance on Building Regulations from the Department for Communities and Local Government (DCLG) until the outcome of the Building Regulations Enquiry. An understandably common theme is evident in the submissions to the Enquiry that have been made public however, there remains considerable confusion and disagreement within the industry while dangerous loopholes and ambiguities remain in the advice and guidance currently available.

As a profession, MCRMA has an obligation to interpret the current situation and adopt a suitably responsible approach. Guidelines are not legal requirements, and should be considered the minimum acceptable standards. The legal requirement is for buildings to adequately resist the spread of fire and therefore, common sense suggests the use of limited combustibility materials wherever reasonably possible. Furthermore, it is a great concern that to date there is no guidance to discourage highly combustible facades from being installed on buildings under 18 metres (such as a five-storey block of flats).

The MCRMA therefore issues the following advice to its members to be taken in conjunction with professional advice:

1 **Polyethylene aluminium composite material (PE ACM)**

Polyethylene aluminium composite material (PE ACM) should **not** be used for construction, internally or externally, at any height.

2 Ensure that the building adequately resists the spread of fire

The overwhelming priority is to satisfy yourself that you have taken reasonable steps to ensure that the building adequately resists the spread of fire, **not** that you have followed the minimum requirements of the current guidance. **NOTE:** A marginal cost benefit is **not** a reasonable justification for choosing a significantly more combustible product.

3 Height

For the purposes of fire safety, and in the knowledge that refurbished buildings may have poor standards of passive fire safety, MCRMA considers the appropriate threshold for height consideration to be 12 metres. This represents a typical three storey building where one would have a reasonable expectation to survive escaping via a window, in the event that stairs were inaccessible.

4 High buildings ($\geq 12\text{m}$)

NOTE: The major elements of the external façade should comprise only limited combustibility materials (subject to items 7 and 8 below).

These include the sheathing board (where used), the insulation, the mounting system and the external facing material. Thermal isolation pads and vapour membranes located between the sheathing board (or structure) and insulation are not included, but the total combustible energy content of minor components should not exceed 20 MJ/m².

There are currently too many concerns regarding the BS 8414 test to confidently use it as the sole measure of fire safety of an 'as-installed' system. MCRMA is seeking further evidence on the robustness and predictability of BR 135 results when systems contain commonly found construction errors and variations such as wall penetrations.

5 Low buildings ($< 12\text{m}$)

Having no limitation on the combustibility of low-rise buildings (which often includes hotels, hospitals, schools) is not *adequately* preventing the spread of fire.

- a. If combustible insulation is used, it should be Euroclass B or C.

NOTE: Combustible insulation should only be used in conjunction with limited combustibility (A1 or A2) external facing material.

- b. If combustible external facing material is used it should be Euroclass B (and used with class A1 or A2 insulation).

6 Toxicity

It is possible that in future, toxicity and smoke performance will be regulated. It is nevertheless common sense to choose materials with superior toxicity and smoke characteristics (i.e. 's2' or above).

7 'Limited combustibility'

For the purpose of this document – this also includes 'non-combustible'. Above 12 metres, limited combustibility external facing products that rely on bonding or adhesives for their mechanical integrity must prove their mechanical stability in a fire through the successful pass of a BS 8414 test.

NOTE: This includes ACM material, non-mechanically fixed materials and sandwich panels.

8 Low melting point materials

Care should be taken with materials such as zinc. Above 12 metres, MCRMA would advise that where a material is specified with a melting point below aluminium, a BS 8414 test verifies the mechanical performance. Similarly, MCRMA advises against using an external facing material that has a significantly higher melting point than the mounting system (e.g. Corten on aluminium). There is a danger in such situations that the load bearing framework could disintegrate in a fire prior to the facing material, resulting in a catastrophic collapse of the entire façade.

9 Roofing

MCRMA reminds members that similar diligence should be shown when considering the fire performance of a roof.

10 Product identification

Missing or incorrect product marking was a major obstacle in the identification of materials following the Grenfell fire. Given the difficulties associated with identifying similar looking materials, MCRMA recommends that the installed major elements are traceable and identifiable through visible markings or radio frequency (RFID) tags etc. This is not only good quality control practice but will also help building control inspectors to check that the correct materials are being used during construction.

DISCLAIMER

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