

## AN 03 SAFE RAINSCREEN FACADES AND BEST PRACTICE November 20th 2017 (Under review 30/07/18)

The Metal Cladding and Roofing Manufacturers Association (MCRMA) foresees the publication of no further guidance on Building Regulations from 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, we have 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 18m (such as a five storey blocks of flats). The MCRMA therefore issues the following advice to its members to be taken in conjunction with professional advice:

1. **PE ACM (Polyethylene Aluminium Composite Material) should not be used for construction, internally or externally, at any height.**
2. 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. **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, the MCRMA considers the appropriate threshold for height consideration to be 12m. 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 (>= 12m) – the major elements of the external façade should comprise only limited combustibility materials** (subject to items 7 and 8). 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/m<sup>2</sup>. 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. The 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 (< 12m) – 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 and only 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 purposes of this document, also includes ‘non-combustible’. Above 12m, 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 BS8414 test. 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 12m, the MCRMA would advise where a material is specified with a melting point below aluminium, that 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 (e.g. through visible markings or radio frequency (RFID) tags). This is not only good quality control practice but will also help building control inspectors check that the correct materials are being used during construction.