

Position paper on the development of a European approach to assess the Fire Performance of façades

Executive summary

A study published by the European Commission in September presents two options for a European approach to assessing the fire performance of building façades. The first option, the “proposed method”, is a methodology based on existing testing standards for assessing fire performance and fire behaviour of external façade systems while the second option, the “alternative method”, proposes a new basis for a testing and classification approach combining two tests.

The Modern Building Alliance believes that the proposed method is the most able to deliver quick and impactful results to increase fire safety in Europe. Using existing standards accepted in several European countries will allow for a faster development of the test method to be integrated in national regulatory systems. This method will also allow to draw from the experience of regulators, laboratories and industries with existing tests and rely on valuable data collected by manufacturers so far.

Starting with the proposed method would not exclude further work and research on fire safety of facades and possibly future improvements of the method in the context of a revision. More importantly, the testing method alone cannot guarantee the adequate level of fire safety. A full set of measures is necessary to improve fire safety of European buildings, covering the building design, the fire safety installations and the organisational aspects. For Member States currently using a different method, a transition period and supporting mechanism should be foreseen.

Over the last decades, Europe has achieved tremendous progress in fire safety thanks to the continuous improvements and implementation of national fire safety measures.

When constructing a building, it is important to consider design, installation and organisational aspects as a whole. In the specific case of taller buildings, the performance of façades is a prime element of the building design and therefore, it must be tested as a system and not only as individual components.

Fire safety regulations are set at national level. Some Member States have a national standard for fire performance of façades while others refer to standards from other countries. However, some countries are not using any façade testing standard at all. An EU harmonised standard is essential in this matter as it will help provide a clear assessment and communication about façade system performance and would allow regulators to set application specific façade system performance requirements.

In this context, the European Commission recently published a study presenting two options for a European approach to assessing the fire performance of building façades. The first option, the “proposed method”, is a methodology based on existing testing standards for assessing fire performance and fire behaviour of external façade systems while the second option, the “alternative method”, proposes a new basis for a testing and classification approach combining two tests.

The proposed method for façade testing is the most able to deliver quick and impactful results to increase fire safety in Europe

The proposed method is based on existing UK standard BS8414 and German standard DIN4102-20. Using existing standards will allow Member States to rely on a solid basis, build on experience and focus on delivering immediate improvements to fire safety.

Delivering immediate improvements to fire safety

Relying on valuable existing data from manufacturers will be essential in establishing a workable system that all Member States can implement and integrate in their national regulations as swiftly as possible. As several Member States are planning to review their national regulation including the introduction of large-scale tests for façades, there is a sense of urgency in providing them with an effective and readily implementable method.

On the contrary, starting anew with the alternative method would require extensive basic research to:

- evaluate test scenarios,
- define measurements and recording of results,
- establish new definition of pass/fail criteria, and
- assess the applicability of the new test for different types of façades/cladding systems and their relevance for real fire safety.

The extensive time needed for this would further delay fire safety improvements in Europe and the current absence of a harmonised approach in the EU would hamper experience sharing across countries.

Learning from experience

Even if time is available to develop the alternative method, there would be no guarantee that once developed it would meet the requirements of all regulators.

Experience from past similar projects on EU harmonised fire safety standards (single burning item, harmonised method for external fire exposure on roofs) have proven that developing a harmonised EU method from scratch may face several challenges. For example, developing the European classification system for reaction to fire took over 10 years. This system was based on a new method (SBI) which needed a complete review of regulation that was not comparable to any historic methods or test results. This concluded in a long implementation process.

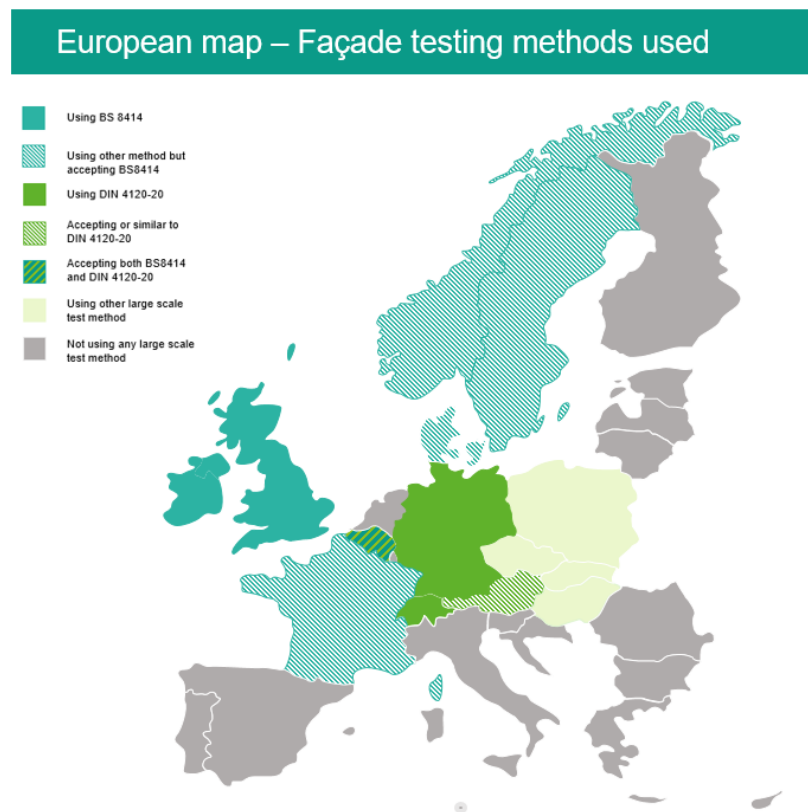
Starting with the proposed method would not exclude further work and research on fire safety of facades and possibly future improvements of the method in the context of a revision.

Starting from solid foundations and allowing a swift implementation

As mentioned above, the proposed method is based on existing UK standard BS8414 and German standard DIN4102-20. Both are used in different situations which have different specific requirements which are essential to consider.

The UK BS 8414 standard is designed to test façade systems against very stringent performance requirements needed for high-rise buildings above a height where fire-fighting and escape possibilities are very limited. It has a larger scale than any other known façade fire test and is more intense and longer lasting than experimental compartment fires.

The German standard DIN 4102-20 test is designed to test façade systems against intermediate performance requirements adapted to buildings where firefighting and escape possibilities are better (below a maximum height limit).



Both tests are used as essential elements of the regulatory framework aiming to ensure fire safety in taller buildings in the countries where they are used¹. Regulators, testing laboratories and manufacturers from all over Europe have significant experience with the BS 8414 and the DIN 4102-20 for around 20 years. Using both

¹ BS8414 is used in the building codes in UK, Ireland, Dubai, Abu Dhabi and Australia. It is also accepted in a performance based design as evidence in Sweden, Norway and Denmark. DIN4102-20 is used in the building codes of Germany and Switzerland. Austrian standard ÖNormB 3800-5 is very similar to DIN4102-20. France is using the Lepir 2 method but also accepts BS8414 as evidence together with assessment of details to be compliant with IT249. Poland and Hungary have their own method (respectively PN-B-02867:2013 and MSZ 14800-6:2009), while Slovakia and Czech Republic are using ISO standards. Belgium is preparing a revised regulation referring to both BS8414 and DIN4102-20. Other Member States are not using any large scale fire test method.

tests as basis for an EU classification system of facade performance is a pragmatic and robust solution. While any standard can always be challenged and improved, it should not be used to delay the introduction of a harmonised approach in the EU for the countries currently not using any façade testing method.. The sense of urgency is less important for the countries currently referring to a different method, a period of transition and supporting mechanism should therefore be foreseen for these countries.

A holistic approach to fire safety in building is ultimately needed in Europe

While it is absolutely necessary to assess and classify the performance of façade systems (regardless of type of materials used), any testing method alone cannot guarantee the adequate level of fire safety. A full set of measures is necessary, covering the building design, the fire safety installations and the organisational aspects. For façade systems of taller buildings, that would mean:

- The use of large scale system testing as basis for all systems (regardless of combustibility of components);
- Consideration of all elements of the system;
- Ensuring an unambiguous description of system components via harmonised specifications; and
- Defining the extended application of large scale test results.

Above all, an efficient mechanism for compliance and enforcement must be in place. BS 8414 tests commissioned by the British government in the aftermath of the tragic Grenfell fire clearly showed that the system applied on the building did not meet the requirements of the Building Regulations, and which other combinations of insulation and cladding can perform better².

The Modern Building Alliance is also participating in the discussions of the Fire Information Exchange Platform (FIEP) and believes that product manufacturers have a direct responsibility in:

- Contributing to the development of robust product standards and having their products classified and labelled according to these standards;
- Presenting unambiguous and clear information about their product performance, installation and use guidelines. For façade systems, this also includes applying large scale system testing and providing clear information about the systems and applications in which their products may be used.
- Contributing to the training of the designers, planners and installers.

Therefore, we encourage EU policy-makers to pursue a swift implementation of a EU harmonised test standard, based on the proposed method, the only able to deliver such prompt implementation at the moment. We also encourage the Commission and regulators to organise additional discussions with Member States and stakeholders to further clarify some points highlighted in the study, such as the development of a clear definition of façades, and to discuss an appropriate transition period and support mechanism for Member States currently referring to a different method.

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² <https://www.gov.uk/guidance/building-safety-programme>