Position Paper

September 24, 2018

Getting facades fire performance assessment right for Europe

Key Messages

- FSEU commends the European Commission and the contractor for the work carried out in the study to develop a European approach to assess the fire performance of facades published in September 2018.
- Fire Safe Europe (FSEU) urges the Commission to go forward with the "alternative" approach proposed by the contractor and agreed upon by Member States and stakeholders, which presents strong improvements to the BS 8414 and DIN 4102-20 test methods, with better performance criteria and a simpler and clearer classification. system.
- Fire Safe Europe (FSEU) opposes the "main" approach proposed to keep the BS 8414 and DIN 4102-20 test methods. This approach will not guarantee an adequate level of fire safety, would increase costs and complexity and create a non-level playing field in the construction sector.

The proposed approach[1] consists of two highly contested national test methods

- **BS 8414 is currently under question and could be removed from the UK regulatory system:** An independent expert witness at the Grenfell inquiry has stated that BS 8414 does not sufficiently fulfil the purpose of giving guidance on fire safety of facades[2]. Additionally, the UK Fire Protection Association and Association of British Insurers have pinpointed several serious flaws in BS 8414 in a paper published earlier this year.[3] Due to the criticism of the test, the British Standards Institution (BSI) has decided to start a revision process of BS 8414. The UK Government carried out a consultation on "Banning the use of combustible materials in the external walls of high-rise residential buildings", which could result in parts of BS 8414 being obsolete as a compliance test method in the UK. The independent review led by Dame Judith Hackitt also recommends a strong limitation of five-year review cycles on test methods, which has a direct impact on BS8414.
- **DIN 4102 part 20 has been supplemented with an additional test method in Germany:** It was concluded that DIN4102 part 20 does not sufficiently represent the risks associated with an external fire. This conclusion was based upon a detailed analysis of a large number of façade fires. In Germany, a test method has thus been developed to assess this parameter (Technical Regulation A.2.2.1.5). This method is required when testing for compliance of External Thermal Insulation Composite System (ETICS) which is the most commonly used façade system in Germany.
- **This approach will not guarantee an adequate level of fire safety.** It is logical that tests to evaluate the performance of facades in a fire should be based on real-life situations where fires can be large scale. However, these two tests do not meet this fundamental condition. Instead, EU citizens could end up with a "wait and see" approach to find out if a facade

[1] https://publications.europa.eu/en/publication-detail/-/publication/81b91f55-af69-11e8-99ee-01aa75ed71a1/language-en/format-PDF
[2] Expert Report by Prof. Jose Toreros: https://www.grenfelltowerinquiry.org.uk/evidence/professor-jose-l-toreros-expert-report
[3] Cladding Approvals: A review and investigation of potential shortcomings of the BS8414 standard for the approval of cladding systems such as those commonly used on tall buildings https://www.abi.org.uk/globalassets/files/publications/public/property/2018/04/abi-cladding-systems-research-report-2018-04-19.pdf

that is fire-tested in a lab will react the same in a real fire. There is a need for one harmonised test and classification method that prioritize the examination of the large-scale reality of many building fires. This will remove barriers to trade and improve fire safety, without taking away the choice from Member States to regulate on the safety levels they deem appropriate.

- **The key argument supporting the proposed method seems to be that historical data would be kept for the countries which are already using the BS and DIN methods** (i.e. four countries). In practice, according to BRE, there are only 55 test results available[4], performed by 13 different manufacturers. It seems unfounded to argue that these 55 existing test results should be the basis for keeping BS 8414 unchanged. Moreover, the Hackitt review clearly demands that products be retested at least every five years, and innovation in the industry would require retesting frequently anyways. The use of historical data should not be an essential condition for the development of the European approach to assess the fire performance of facades – guaranteeing a good level of fire safety should be the priority.

And will have the following consequences:

- **Market distortion:** Use of old test data, if at all possible, will give UK and Germany based companies an unfair market advantage compared to manufacturers in other countries.
- **Increased costs and complexity:** Keeping both methods (with the consequent very complex classification system), and even worse all three methods, will increase costs for new approvals and will make it difficult for users to understand the classifications and limitations.

In contrast, the "alternative" approach offers key improvements

- Inclusion of secondary opening are necessary to assess the details around openings such as window systems for facades.
- Assessment of horizontal and vertical fire spread through temperature measurement with thermocouples.
- Only one test needed for a specific system to achieve a classification that can be used across EU.
- Improved performance criteria such as temperature measurement and falling parts.
- Simpler and clearer classification system based on flame spread and falling parts for both medium and large fire exposure.
- A test bench calibration record is to be maintained and the test bench is to be recalibrated after completion of any repair that could alter the flame distribution, air supply conditions and any other parameters impacting the heat exposure.

Conclusion

Having a strong approach to assess the fire performance of facades is crucial to ensure the fire safety of our buildings. We therefore commend the European Commission for undertaking this work. In order to have a sufficient level of fire safety, FSEU believes the approach developed by the contractor in the scope of the study should be taken forward and tested through a Round Robin.

[4] https://www.bre.co.uk/regulatory-testing