

Paving the way for improved fire safety in Europe

Modern Building Alliance's position following publication of the Commission's study evaluating the need to regulate on the toxicity of smoke produced by construction products in fires

Over the recent decades, Europe has achieved substantial improvements in fire safety thanks to the continuous adjustments of regulations and implementation of national fire safety measures. Fire fatalities have dropped by 65% in EU Member States over the last 30 years¹. According to statistics, fire fatalities represent about 2% of accidental deaths in the EU².

However, each fire victim is one too many and all stakeholders involved must intensify their efforts to find and implement effective solutions. Recent tragic events have rightly triggered a renewed concern on how to improve fire safety in Europe. In this regard, members of Modern Building Alliance welcome the recent Commission's study on the toxicity of smoke produced by construction products in fires. The report provides independent expert guidance on how to best address fire safety and smoke toxicity in Europe.

1. Simple solutions exist and can lead to meaningful improvements to buildings' fire safety

The Commission's study confirms that all smoke from fire is toxic, regardless of its origin and exact composition. Thus, preventing or containing fires should be a priority as large fires always produce a lot of smoke. Furthermore, in case of fire people should be properly protected from smoke exposure. The Modern Building Alliance strongly believes that the impact of smoke toxicity on fire fatalities can be reduced through a combination of easily and readily implementable actions that both national and EU policy-makers can support.

Firstly, proper detection systems are essential to alert building occupants to a fire. In 2005, only 6 European countries (Norway, Denmark, Sweden, Finland, UK and the Netherlands) had made smoke detectors mandatory³. Smoke alarms provide a critical early warning of fire, allowing additional time to escape. Fire statistics in Sweden⁴ reveal that two thirds of fatal fires between 2000 and 2004 occurred in homes with no or non-functioning smoke alarms. In the U.S., similar statistics⁵ point out that almost a quarter of civilian fire deaths occurred in homes where smoke alarms were present but not operating. This highlights the importance of training and public awareness. Better communication on the usefulness of detectors, the need for their maintenance and how to behave in a fire situation and respond to alarms are also essential.

In addition, to prevent fire hampering escape routes, the use of sprinklers can also lead to further reductions in fatalities. The lowest fire death rates were seen in homes with hardwired smoke alarms and sprinklers⁶. Evidence shows that while sprinklers are primarily intended to contain or control fires, they can also be instrumental in saving the lives of people in the room of origin of a fire⁷.

Finally, fire fighters, who are exposed to the toxic effects of the fire effluents, need to be adequately protected during and after the fire intervention by personal protection equipment (breathing apparatus, skin protection, etc.) and give special attention to hygienic measures such as cleaning of the equipment and clothing. Also here, regular information and proper training will prove most effective.

¹ The Geneva Association, *World Fire Statistics Bulletin n°28*, October 2012 and International Association of fire and rescue services (CTIF), *World Fire Statistics/2014/n°19*.

² European Commission, *Study to evaluate the need to regulate within the Framework of Regulation (EU) 305/2011 on the toxicity of smoke produced by construction products in fires*, published 17 January 2018, p.37.

³ *Ibid.*, p. 35. To our knowledge, since 2005 France, Austria, Flanders, Wallonia and most German states have introduced or decided to introduce such an obligation.

⁴ KEMI, *Fire and fire protection in homes and public buildings*, February 2006. Available [here](#).

⁵ National institute of Standards and Technology (NIST), *Smoke Alarm Research*, available [here](#).

⁶ Marty Ahrens, *Smoke Alarms in U.S. Home Fires*, NFPA report - September 2015.

⁷ Chief Fire Officers Association, *The business case for sprinklers*, June 2013, available [here](#).

2. Regulating the toxicity of smoke from construction products would have limited benefits⁸

When a fire occurs, the content of the building will burn first in most cases. Experiments have shown that, by the time construction products become involved in fire, the smoke exposure from the contents of the building would already be unsurvivable⁹.

Thus, if regulation would be put in place, it should include all items which could contribute to a fire, including furniture and fittings. This would prove challenging, if not impossible in practice. Fires are complex to regulate and smoke and the resulting hazard are dependent on a combination of many factors. Thus, improving fire safety will not be achieved by regulating the smoke toxicity of individual construction products. The responses collected in the Commission study also state that such regulation is not required¹⁰.

3. A consistent approach to fire statistics is needed

The Commission's study revealed an important data gap. Fire casualties and sources can only be understood with common reliable data. Currently, the type and format of data collected varies across Member States which makes any comparison even more challenging. The study's third conclusion suggests that collection of harmonised fire statistics at EU level is needed, particularly to assess the effectiveness of possible safety approaches, regulatory or otherwise.

4. Conclusion and next steps

The recently released study on smoke toxicity is an opportunity for the EU and national governments to better understand what the most effective measures are to improve fire safety in Europe. The work initiated with the creation of the Fire Information Exchange Platform (FIEP) is a further important step and members of the Modern Building Alliance are keen to continue contributing to this constructive dialogue. We will also closely monitor the conclusions of the investigation on the Grenfell Tower fire and stand ready to respond in the most appropriate way when it comes to fire safety in high rise buildings.

We urge Members of the European Parliament to champion the solutions highlighted in this paper to increase prevention, detection and protection, as they have the best potential for swift and significant improvements. We ask MEPs to recognize the need for a more holistic approach to fire safety in Europe as opposed to a narrow focus regarding toxicity of smoke from construction products. By promoting better fire data collection and encouraging their national governments to get involved in the work of the FIEP, MEPs will effectively improve fire safety in Europe.

About the Modern Building Alliance

As an alliance of trade associations¹¹ and companies¹² representing the plastics industry in the construction sector, we are committed to supporting the EU's efforts to advance safe and sustainable construction for its citizens. Plastics are increasingly used in building and construction applications, from window frames and durable pipes to state-of-the-art insulation solutions, making our buildings more sustainable. At the same time fire safety has always been and continues to be a key pillar of our industry. It is fully integrated in our product design and manufacturing, as well as our innovation strategy, developing solutions with lower ignitability and reduced impact on fire spread.

⁸ European Commission, *Op. Cit.*, conclusion no.8

⁹ *Ibid*, p.40.

¹⁰ *Ibid*, conclusion no.5.

¹¹ EUMEPS, Exiba, ISOPA, PlasticsEurope, PU-Europe

¹² BASF, Covestro, Huntsman, Kingspan