

New study examines fire risks of combustible and non-combustible structural systems

Brussels, 22 September 2026 - [BIBM](#), the Federation of the European Precast Concrete Industry, and [Concrete Europe](#) commissioned [Augustas Risk Services](#) to conduct a comparative fire risk analysis and are now publishing the completed study and its findings.

The study compares **combustible and non-combustible structural systems** by assessing how they influence fire development, structural performance, damage, and post-fire repair and reinstatement under realistic scenarios across **five building types and different European national contexts**.

Using a risk-based approach, the analysis evaluates wider fire consequences, including **business interruption, repairability and economic impact**. It looks beyond standard fire-resistance test durations and considers how buildings perform under **realistic and more severe fire scenarios**.

The findings show that non-combustible reinforced concrete structures do not contribute to the fire load, generally provide more stable conditions for firefighting operations, and often retain sufficient residual capacity to enable localised repairs and faster post-fire reinstatement.

By contrast, combustible structural elements may, under severe fire conditions, contribute to fire development, prolong fire duration, increase damage and reconstruction needs, and lead to longer periods of disruption.

Overall, the study shows that fire safety should be assessed through the full consequences of a fire, not only through standard fire-resistance test minutes. Material choices can influence how a fire develops, how far it spreads, whether the structure remains stable, and how quickly a building can be repaired and brought back into use.

Sustainable construction must also be safe construction. Buildings should reduce environmental impact while also protecting people, limiting fire spread, reducing damage and supporting recovery after fire.

The full study and its key findings are available on the [BIBM](#) and [Concrete Europe](#) websites.

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About Concrete Europe

Concrete Europe represents the European concrete sector and promotes the contribution of concrete to a sustainable, safe and resilient built environment.

About BIBM

BIBM – the Federation of the European Precast Concrete Industry – represents the interests of the precast concrete sector in Europe, promoting industrialised, sustainable and high-quality construction solutions.

About Augustas Risk Services

Augustas Risk Services carried out the comparative fire risk analysis commissioned by BIBM and Concrete Europe.

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