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## Large-Scale Testing – The Key to Reliable Fire Safety for Wood Structures

It is not enough to test fire-retardant treated wood in small-scale laboratory tests. The limitations of these tests are many, and they do not provide a realistic picture of how the material behaves in real fire situations. To achieve reliable results, larger-scale tests are required.

Woodsafe Research & Development, part of the Woodsafe Group, has recently published a white paper analyzing testing methods for fire protection of wood. The report highlights the shortcomings of small-scale tests and compares them with more large-scale and realistic testing methods.

Small-scale laboratory tests can provide some insight during product development, but they are not sufficient to ensure overall fire safety. They tend to underestimate the risks in a fire, which can lead to misleading conclusions and incorrect priorities in development. Additionally, they can create an exaggerated perception of risks that do not align with reality.

To make more balanced risk assessments, for example for insurance companies, large-scale tests that provide better data are required. These tests mimic real conditions and provide more reliable results. Examples of such tests include medium-scale methods like **Single Burning Item (SBI)**, where materials are tested in a three-dimensional corner construction, or full-scale facade fire tests like **SP Fire 105**.

### **Realistic Scenarios Provide Reliable Results**

It is crucial to understand how different materials and facade systems behave at the beginning of a fire. Factors such as cladding, insulation, and air gaps play a significant role. Large-scale tests make it possible to analyze flame spread, heat development, and other critical parameters under the most realistic conditions possible.

These tests not only provide a better understanding of how fire-retardant treated wood behaves in a fire but also help to strengthen confidence in wood structures as a safe and sustainable building solution.

### **Focus on Sustainability**

Condemning fire-retardant treated wood based on insufficient tests would be a step back for sustainable construction. An increased focus on concrete as a replacement would undermine global sustainability goals. Therefore, new developed standards that reflect insights from larger-scale tests are needed. The proposed revision of the EN 16755 standard is a step in the right direction.

The fire protection industry is increasingly abandoning small-scale tests in favor of medium and large-scale methods. Woodsafe Research & Development's long-term study is part of the Woodsafe Group's commitment to strengthening fire safety. The company works to show that wood structures are a safe and sustainable solution with maintained fire protection over time.

With facts and research as a foundation, Woodsafe contributes to shaping a safer and more sustainable future for the construction industry.

[You can find the White Paper here](#)

# WOODSAFE®

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*Woodsafe Timber Protection AB is a manufacturer working exclusively with industrial fire retardant treatment of solid wood and plywood. The company's operations are subject to third-party manufacturing control and, since 2008, is the only manufacturer with two systems and type approval certificates according to Boverket BBR and Plan, -och Bygglagen PBL (SFS 2010:900).*

*Woodsafe Timber Protection AB was Europe's first CE-marked manufacturer of fire retardant treated wood and our quality and management system is certified according to ISO 9001:2015, ISO 14001:2015, ISO 45001:2018. Annually we handle more than 1400 projects with distribution all over Europe and parts of the world.*

*Reference projects include the world's tallest wooden skyscraper, Mjøstårnet in Brumunddal, the world's largest oak roof Gardermoen Pir Nord, Ilulissat Icefjord - UNESCO World Heritage Centre in Greenland, and Cederhusen. The WOODSAFE® brand is owned by Woodsafe Timber Protection AB.'*