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Experimental Investigation of Water-Based Fire Suppression Systems on External Façade Fires

A scientific article on water-based fire suppression systems on external façades was recently published in the Fire Technology journal. The experimental study investigated the effect and efficiency of two different systems: sprinkler and high pressure water mist in various configurations.

What did we do?

A series of large-scale experiments were conducted based on the SP Fire 105 setup, featuring a combustible façade made of oriented strand board (OSB) plates. The study measured temperatures and heat fluxes during one freeburn and four suppression tests, with visual assessment of post-fire damaged.

What did we find?

Both system effectively suppressed the upwards flame migration and reduced the heat flux toward adjacent buildings. The sprinklers acted as a water curtain and kept the façade wet during the fire, mitigating damage. The sprinkler system was the most effective system with regards to reducing the temperatures and heat fluxes. However, the high pressure water mist systems achieved almost the same effectiveness but with a significantly lower water consumption.

Links to more info

The full article is available for free under open access and can be downloaded here:

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