

13 Passive Working Group review



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Working Group members:

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David Sibert, FBU;
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Richard Wilkinson, Travelers;
Mike Wood, Pilkington.

2017 Meeting dates

- 14 February
- 18 May
- 19 September

Earlier in the year the group published its findings on the testing of External Thermally Insulated Cladding Systems (ETICS). The report describes a series of ad-hoc tests, which took place at our Fire Laboratory in 2015, looking at the ability for fire to spread through the ETICS envelope when applied to a masonry block building. The tests demonstrated that when the polystyrene insulation is encapsulated entirely by the wall, render, and edge detail, the extent of damage from the fire can be limited to a 'melt-out' area (with limited burning from single point air inlet / smoke egress route) coherent with the fire plume size. However, where inbuilt features are encountered within this zone that breach the ETIC system, such as plastic vents or pipes a chimney effect may quickly develop that will cause the very rapid consumption of the insulation and expansion of the damage area. If these inbuilt features are prevalent in the building, such as bathroom vents located one above another on multi-storey apartment blocks, then there is scope for ground to roof fire spread by external means with ingress at each encountered aperture.

The full report is available to download from the RISC Authority website (member only library) along with videos of some of the tests.

Work is currently progressing on 2 new documents:

- *Fire safety management of composite panels*

This document will be a practical guide to insurers and their clients regarding potential fire hazards associated with the selection, installation, management and use of composite panels and insulated boards and linings. These will include systems used to form the external shells or internal partitions of commercial and industrial buildings together with non-load bearing foil covered lining materials. The document will address issues from the types of panels available, the selection of suitable products and the delivery of panels on site to the time of demolition.

- *Fire engineering and property protection*

This document will look at the role of fire engineering and the impact on property and business protection. Specific issues it will look to cover include:

- engineering down periods of fire resistance;
- the role of people in fire and fire protection;
- paring down fire protection systems;
- the consideration of external fires;
- over reliance on the fire and rescue service for property protection.

Both documents are set for completion in early 2017.

Looking further ahead to next year, the group are set to embark on an ambitious but necessary test on the fire performance of composite panels. Materials such as polyurethane, PIR, polystyrene, phenolic foam and Rockwool, etc. are the filling core materials mostly preferred in sandwich panel applications. Some of the sandwich panel filling materials currently on the market are tested to LPS1181 Part 2 – Requirements. The tests for this standard requires the cladding to be setup and tested in the perfect installation where no internal insulation is exposed. Little is currently known about the 'in-use' resilience of these systems, particularly in respect to how they might perform when exposed to real world conditions (panels cut to size, around window ledges, penetrations created for ducting/wiring etc). Of specific interest to insurers is the need to gain a better understanding of how such systems might respond to fires occurring on a wall that has sustained minor or significant impact damage, resulting in exposure of the insulation material.

Probable outcomes from this testing include:

- new test included in LPS 1181 for imperfect build;
- improved installation guidance;
- repair guidance.

The project will commence in late spring – early summer 2017.