Testing the water

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Understanding the performance of materials is key to reducing the damage caused by flooding, explains Alan Cripps

Following a flood event, we regularly hear the terms ?resistance? and ?resilience?, but what do these terms actually mean? Flood resistance is about reducing the amount of water entering the property. This can be achieved by installing water-resistant doors and frames, non-return drainage valves, air brick covers and automatic closing airbricks.

But while these products are ideal for flash or short-term flooding to a limited height and duration, standing water will find its way through the brickwork. If the height of the flood water reaches above 600mm, depending on its construction structural damage can occur to the property.

Nor do such products protect against groundwater. Before fitting, it is important to assess the type of flood risk together with the type of construction. This should be carried out by a competent and qualified person, such as a chartered surveyor with relevant experience of dealing with flooding and its effects.

Thinking ahead

Flood resilience means taking measures to reduce the damage caused by flood water that enters the property and limiting the disruption to the occupiers. The use of resilient materials is key, such as replacing a timber ground floor with concrete and a tiled finish and replacing a chipboard-based kitchen with stainless steel or 100% waterproof kitchen furniture now becoming available. Other measures include raising ground-floor sockets above the flood level to minimise damage and allow faster reoccupation of the property.

Boilers and other connected ancillary items should be installed above the predicted flood levels, preferably at first-floor level. Ground-floor underfloor heating systems should be avoided and all heating controls should be positioned above flood water levels.

Skirting board within the predicted water levels should be constructed from resilient materials, for instance plastic, with plasterboard wall finishes substituted with a waterproof equivalent. This will allow the clean-up and drying process to be considerably reduced, allowing the homeowner to return to the property faster following the flood. The same applies to door frames and doors, which has the result of making the cleaning up process much faster once the water has receded. In addition, minimal materials would need to be replaced and the occupier would be able to return to the property much more quickly.

The impact of flood water on buildings can be immense, but much will depend on the nature of the flooding and the design and construction of the property. In order to be able to improve the flood performance of the buildings it is first necessary to understand the damage that flooding can cause and the performance of materials, components and elements of the

building.

In its <u>Living with Water report</u>, The Commission of Inquiry of the All Parliamentary Group for Excellence in the Built Environment says: 'Despite the increasing challenges, flood resilience and water management still remains a Cinderella issue at the highest political level, athough its importance is no less than that of transport and power'.

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Further information

- BSI PAS 1188 2014: Flood protection products, specification

-Part 1: building aperture products

- -Part 2: temporary products
- -Part 3: building skirt systems
- -Part 4: demountable products
- BSI will publish <u>BS 85500: 2015 Guide to improving performance of buildings: Flood</u> resistance and resilient construction later this year
- Flooding: issues of concern to RICS surveyors and valuers (residential property), 1st edition RICS information paper has been published online
- Related competencies include <u>Building pathology</u>, <u>Housing maintenance, repair and</u> <u>improvements</u>, <u>Sustainability</u>
- This feature is taken from the RICS Building surveying journal (May/June 2015)