

Resilient Building Toolkit Adaptation Measures Factsheet

Name and description of measure: Flood resistant fittings & finishings

There are a range of building and finishing materials which can contribute towards protecting the building from flood damage and/or increasing the resilience of a building and reducing the time it takes to get it back in use. How these are best deployed should be based on a flood risk assessment carried out on the building/site and take into account expected flooding depth and velocity, structural considerations and the vulnerability of the occupants.

Flood resilient finishings: To decrease recovery times after flooding horizontal plasterboard, or lime-based plaster instead of gypsum plaster can be used. Tiled flooring with appropriate grouting will mean that flooring and carpets may not have to be replaced. Fit water-resistant skirting boards, or treat them on all sides. Use water resistant materials in kitchen and bathroom areas such as stainless steel, plastic or solid wood rather than chipboard. Raise key equipment on to plinths.

Tanking : This is the application of a layer of material to a wall or floor to increase its resistance to water entry. Materials used can include: liquid membranes, polymer/cement coatings.

Electricity and Gas: Consider moving the ground floor ring main cables to first floor level with drop down cables to ground floor sockets. Sockets should also be raised to an appropriate height above flood levels. Gas meters can be raised above the expected flood levels during refurbishment works. Provision should be made for purging gas supply pipes If new heating is being installed, pipework routes should be made easily accessible to allow pipes to be maintained and washed down following flooding.

Cost of measure (high, medium or low):

Flood Resilient Finishings: Low - High

The cost of improving the flood protection and resilience of a building will vary depending on many factors including the flood depth, building size, construction type, internal finishes, and the location and type of fittings and services. It is therefore difficult to provide any meaningful cost figures. However, in the majority of cases taking steps to improve the flood resistance of buildings at risk of flooding will provide long term financial cost savings.

Tanking: High

Moving Electricity and Gas: Medium – High

Pros and Cons:

Flood resilient finishings:

Pros

Likely to be fairly low cost.

Usually simple to fit.

Cons

Requires quality workmanship.

Will not protect against flood damage, only minimise recovery time/cost.

Tanking:

Pros

Designed to completely waterproof.

Offers groundwater protection.

Significant guarantees and experience.

Cons

May need sump and pump.
Vulnerable to damage due to later alterations.
Primarily designed to protect against groundwater.
Must be properly fitted.
Check if flood depth is above 600mm.
Not always able to protect against high velocity flood flow.
Regular maintenance of seals and joints.

Moving electricity cables and gas meters:

Pros

Effective, inexpensive compared to damage cost.

Cons

Must be undertaken by professionals.
Building must be completely dry before any work is undertaken.

Effectiveness of measure (high, medium or low):

Flood resilient finishings: High (in terms of building resilience to flooding events), Low in terms of flood resistance.

Tanking: High

Moving electricity cables and gas meters: High (in terms of building resilience to flooding events).
Low in terms of flood resistance.

Photos:



Tiled flooring



Tanking



Tanking

Product review site:

<http://archive.defra.gov.uk/environment/flooding/documents/manage/frrs-scope.pdf>

Additional information;

Water being held back by a water resistant wall will exert a strong force against it. Most walls will be strong enough to resist floodwater up to a depth of 0.9m above ground level; carrying out water resistant measures above this height may cause damage to the structure during a deeper flooding. A qualified surveyor, architect or engineer should be consulted if you wish to install measures to resist floodwaters over 0.6m above ground level.

Historic buildings can be particularly vulnerable to flood damage of stonework, brick and mortar walls, timber frames, wattle-and-daub panels, timber boarding and panelling, earthen walls and floors, plaster, ceilings and many decorative finishes. Specialist advice may be necessary before carrying out flood resistant measures. For Listed Buildings it may be necessary to obtain a Listed Building consent before any work is carried out on the property.