

Floods: Floodproofing - Wet

Material provided by Federal Alliance for Safe Homes <http://www.flash.org/>

This procedure makes uninhabited parts of your home resistant to [flood damage](#) when water is allowed to enter during flooding. An example of wet floodproofing is to install flood vents, creating permanent openings in the foundation walls. This retrofit requires at least two vents on different walls. The size of the vents must be 1 square inch per square feet of enclosed floor area. For example, a 1,000 square foot house would require 7 square feet of flood vents.

Another way to protect your property from shallow flooding is to add a waterproof veneer to the exterior walls and seal all openings, including doors, to prevent the entry of water. The veneer can consist of a layer of brick backed by a waterproof membrane. Before the veneer is applied, the siding is removed and replaced with exterior grade plywood sheathing. If necessary, the existing foundation footing is extended to support the brick. Because the wall may be exposed to flood water, changes are also made to the interior walls to resist moisture damage. In the area below the [flood level](#), standard batt insulation is replaced with washable closed-cell foam insulation, and any wood blocking added inside the wall cavity is made of exterior grade lumber.

Benefits of Using This Mitigation Strategy

- The advantage of wet floodproofing is that it is less costly than other retrofits, no additional land is required and it does not affect the appearance of the house.
- Helps to prevent flood water from entering a building, which could result in the structure being uninhabitable while undergoing repairs.

Tips

Keep these points in mind if you plan to have a waterproof veneer added to the exterior walls:

- Adding a waterproof veneer is appropriate in areas where the flood depth is less than 2 feet. When flood depths exceed 2 feet, the pressure on waterproofed walls increases greatly, usually beyond the strength of the walls. If greater flood depths are expected, consult with a licensed civil or structural engineer before using this method.
- Changes to the foundation must be done by a licensed contractor, who will ensure that the work is done correctly and according to all applicable codes. This is important for your safety.
- If your property is being remodeled or repaired, consider having the veneer added as part of the remodeling or repair work. It will probably be less expensive to combine these projects than to have them done separately.
- If your property has brick walls, you can still use this method. The new brick veneer and waterproof membrane are added over the existing brick.
- If your property is flooded by groundwater entering through the floor, a waterproof veneer will not be effective.

Estimated Costs

If you have a contractor add a waterproof brick veneer, you can expect to pay about \$10 per square foot of exterior wall. For example, a 3-foot high brick veneer on a structure measuring 60 feet by 30 feet would cover about 540 square feet and would cost approximately \$5,400. This figure does not include the cost of sealing doors and other openings or extending the foundation.

Technical Information Provided by FEMA