

## SOLVING BASEMENT WATER PROBLEMS

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If you have water running into your basement after a heavy rain, chances are great that the cause is surface water puddling against the outside of basement walls. This is the most common source of basement water problems and one that you may be able to fix yourself.

Begin by checking your gutters. Gutters should be catching the rain and channeling it to the downspouts. Make sure there is no debris blocking the inlet of the downspout preventing water from escaping down the spout.

The downspouts should have extensions so that they discharge the water at least four feet away from the house. If gutters sag or have pulled away from the house they could be dumping water next to the house, which could be a source of basement water.

Next check the grading around the house. The ground should slope away from the house for several feet at a noticeable grade of at least one inch per foot. Unfortunately, the earth that was used to back fill around most foundations settles over the years, so it is extremely common for earth near the house to be lower than the earth further away. You can check the grade with a level placed on a straight piece of wood or metal that doesn't sag. Place one end of the level or straightedge on the earth next to the house and then raise the level so the bubble is in the center



of the indicator. Measure the height between the end of the straightedge furthest from the house and the ground. That will tell you how many inches of drop there is from the house. Do your measuring below any decorative rock or coarse mulch since water will flow right through these materials. If earth is already near the top of the foundations or if your lot slopes toward the house on one side you may need to use another approach. In this case, establish a swale or shallow ditch on that side of the house to intercept the surface water and carry it around the house and

down slope toward the street. Place the drainage path as far from the house as possible. If you have enough space the ditch can easily be blended into the lawn and not be noticeable.

If you have pavement immediately next to the house be sure it slopes away as well. If a drive or sidewalk is either extremely flat or slopes toward the house you have several choices. You can replace the pavement and correct the grade in the process. If it is concrete you can have it mud jacked which usually costs about half as much as replacing the concrete. You can also add an additional layer of pavement next to the house to reverse the slope. If you do the latter you will need to also caulk joints and cracks in the drive or sidewalk so that water which pools on the surface doesn't penetrate and end up in the basement.

Window wells are another common source of basement water problems. The well itself should be much deeper than the window sill to provide a place to catch rain that might fall into it. The top rim should be clearly above grade with the ground sloping away so that water is not channeled into the window well. If the window well is on a side of the house where wind drives rain against the house, installing a plastic bubble cover over the well will help keep rain out.

If you suspect other causes, fixing gutter and grading problems should also be the first step. The solutions are often inexpensive, may surprise you with their effectiveness and will make many of the more expensive solutions more effective since they will have to deal with less water.

If you have cracks in the foundation that allow water in then you should fill them. You can try doing this from the inside. For small cracks you may be able to use polyurethane caulk to seal them. Be sure to apply when the concrete is dry and force the caulk into the crack. For larger



cracks hydraulic cement is probably the best option. This requires opening the crack so that it is three sided and not a “v” shape. An electric hand-held grinder is the usual tool for this. Hydraulic cement actually expands when wet so the plug gets tighter. Cracks can also be repaired from the outside. This requires

excavating the area around the crack, cleaning the crack area to remove all soil from the crack, then applying a coat of mortar to the crack. When the mortar has dried thoroughly, apply a basement water proofing coat and refill the hole. Outside repairs prevent the water from getting into the foundation and will probably be longer lasting.

If water is coming up through the crack between the floor and the walls that you have dealt effectively with all the surface water problems, then you may need to add a drain tile system to collect the water and channel it down slope to daylight or to a sump well and pump. The usual way to do this is to remove a foot or so of concrete around the perimeter of the basement floor, at least the sections that have water problems. Remove some dirt and lay a bed of fine stone, then a plastic drainage tile surrounded with more stone, and then pour new concrete over the tile and stone. The tile should be connected to a sump well with a pump that removes the water through a hose to some place safely away from the house.

If you hire a contractor to take care of your water problem, here are suggestions. Be wary of contractors who come to you offering service. Check with other contractors and customers before accepting such an offer. Be wary of contractors who don't check out your gutters and surface drainage first. If a contractor is conscientious he or she will know that repairing gutters or correcting grading can eliminate many problems. Get at least three bids. Be sure that the bids are for the same work. Get a firm estimate of the total costs with a detailed description of the work to be done.



Many water proofing contractors offer extensive warranties. A warranty is great to have. However, remember that a warranty is only as good as the company that stands behind it. If the water proofing company goes out of business or changes owners you may be out of luck. Having a warranty from a third party such as insurance company can be somewhat safer. Read the warranty carefully to see what problems are covered, which problems are excluded, what costs are covered and who decides.

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