

5. If seepage or leakage is occurring through holes or cracks larger than 1/8 inch, these holes must be cleaned out and patched. For small cracks or holes, simply wire brush the blemish and fill completely (do not leave air pockets) with hydraulic cement or silicon masonry caulking that is designed for use on masonry materials. For larger cracks or holes with considerable seepage, a dovetail groove (wider inside the material than at the surface) must be chiseled out before patching.

FOR MORE EXTENSIVE PROBLEMS

More extensive leakage solutions, which can be expensive and time consuming, are as follows:

1. Install a "weep pipe" baseboard and sump pump system for moderately severe situations caused by a high water table.
2. Use a combination of drain tiles installed under the floor at the perimeter of the interior foundation wall with weep pipes and then install a sump pit. To install this type of system, the floor must be broken up and then repaired appropriately.
3. Excavation of the exterior foundation may be necessary in extremely severe situations in order to seal the exterior foundation wall with a continuous waterproof membrane as well as to install exterior drain tiles to a dry well or drainage area. The homeowner should also consider insulating the exterior of the foundation wall before backfilling. If this does not correct the problem, the floor may need to be jack hammered and re-poured over a continuous waterproof membrane.

The winter and mid-summer months are the best times to track down and solve minor leaks. With this in mind, arm yourself with a piece of chalk to mark wet areas during spring and fall rains for future repair. If you have water in your basement, you're not alone and there are solutions.



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WHAT DO YOU DO ABOUT WATER IN THE BASEMENT

*We prevent the American Dream
from becoming a Nightmare!*



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As many as seven out of ten homes in New England have a problem with water in their basement or crawl space. This brochure is designed to educate homeowners and home buyers about the various types of water problems, their causes and cures.

The impact of excessive basement or crawl space moisture in a home is wide-ranging, from severe, long-term problems such as dry rot in the major structure to less serious problems like mildew, peeling paint, warped paneling and generally unusable space.

WHAT YOU NEED TO KNOW

The first thing to understand is that there are no truly waterproof houses. Any house will leak given the proper conditions, but uncovering signs of past leakage can be challenging. Every leaky basement or crawl space is a unique problem and must be studied individually to determine possible causes and corrective measures.

In general, all water problems can be traced to one of three causes:

1. leakage of water through walls and cracks
2. seepage of moisture from the exterior walls to the interior
3. condensation of atmospheric moisture on interior walls

LEAKAGE

The most serious is number one – leakage, because this can involve a substantial amount of water. It is normally very obvious and occurs during a heavy rainfall or when snow is melting. An excessive amount of water builds up in the soil around the foundation walls, forcing its way through cracks or other defects in poured concrete walls - such as small holes around form wires or through mortar joints in concrete block walls.

Leakage occurs in homes built on sites that have high ground water level, dense clay or other subterranean conditions that inhibit adequate drainage of water away from the foundation. Leakage may occur in any soil type,

but is more likely in areas near marshes or hills. If the area around the foundation has been improperly backfilled or graded, the situation can be even worse. During extremely wet periods, considerable flooding may result.

Note: if you are considering buying a home, you can identify areas with a high water table or impervious soils by contacting the local soil conservation service or the state department of agriculture.

SEEPAGE

Cause number two, seepage of moisture from the exterior walls, is similar to leakage but usually is not as serious. It is evidenced by large areas of dampness on the foundation walls, rather than by water leaking through a particular spot. It will normally be greatest at the base of the wall.

Active leakage or seepage is caused by excessive water pressure that builds up on the outside of the basement walls when the soil around the foundation becomes saturated. The lack of positive grade (ground level running away from the foundation) or the accumulation of rainwater around the foundation or in window/vent wells will also contribute to the problem. The seepage problem may be compounded by porous masonry walls, deteriorated joints, or cracks that allow easy entry of water into the basement or crawl space.

CONDENSATION

Problem number three, condensation, can look a lot like seepage, but here moisture comes from air inside the basement or crawl space, not from an outside source – though seepage can be a contributing factor to a condensation problem. During warm, humid weather, the moisture in the warm air inside the basement changes to a liquid state when it comes into contact with the cool masonry walls, which then seem to “sweat.” It can also happen during colder months when warm air is discharged by a clothes dryer or similar appliance. Moisture from this air condenses on the cooler walls in the form of droplets, which may be mistaken for seepage from outside.

Condensation is the most easily corrected moisture problem in basements or crawl spaces. The most important aspect of dealing with a condensation problem is adequate ventilation.

In cool dry weather, keep the basement windows open whenever possible. On hot, humid days, keep them

closed. In crawl spaces, make sure there is adequate cross ventilation to keep the area dry.

In some cases you may wish to consider installing temperature control vents that are designed to open and close automatically according to the outside temperature. These vents have a spring that opens the vents gradually starting at 40 degrees until they are completely open at 70 degrees. In addition, every crawl space should have a good vapor barrier on the ground in order to keep moisture in the ground and not on the structural members.

Another source of condensation moisture is air-conditioning duct work. During warm weather a tremendous amount of moisture forms on these ducts in basements and crawl spaces and contributes to the overall moisture problem. To correct this, the homeowner should wrap these ducts with insulation to keep the warm air from the cold metal. Finally, the homeowners may wish to install a dehumidifier that will help maintain a constant humidity at all times to control the condensation.

WHAT TO DO ABOUT IT

Correcting seepage and leakage can range from fairly inexpensive in price to very expensive, depending on the cause. The homeowner should begin with the least expensive corrections and move to the more expensive corrections only if the problem persists. The possible corrections are:

1. Install, extend, or repair gutters and downspouts. Ninety percent of all seepage and leakage problems are caused by faulty gutters and downspouts. If the gutters and downspouts are not functioning properly, they will allow huge amounts of water to pour next to the foundation. We recommend that the homeowner extend downspouts a minimum of five feet from the foundation using black corrugated extension pipes that are available at most home improvement stores.
2. If needed, install clear plastic window vent well covers to keep water from leaking through these areas.
3. Check adjacent driveways, walkways, patios, etc., to be sure there is positive drainage away from the house.
4. If seepage is occurring through the concrete block walls, test two coats of waterproofing paint or compound on a basement wall problem area. If the test is successful after several weeks of trial, cover the entire problem area.