

Patching cracks in concrete with epoxy -- a DIY kit

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You know that I don't believe in trying to keep a basement dry by simply patching all the cracks in a wall. First I want to remove as much of the water as possible from the other side with rain gutters on the roof, downspouts running far away from the house and the landscaping sloped away from the house. If you haven't taken care of those essentials, you may seal one crack, only to find the water moving down the wall coming in another. Once you have taken care of the basics and you want to seal up those cracks, there is a DIY kit available called the Crack-Pac distributed by Simpson Strong Tie -- the people who make all the construction brackets. There are three parts to the system. A two part epoxy paste used to seal the inside of the crack and attach the injection valves. You paste on an injection valve about every eight inches up the crack. When that is cured solid, then you use the special liquid epoxy mixture that comes in a special caulking tube. It fits into your regular caulking gun but there is a special mixing head that mixes the two part epoxy as it comes out of the tube. The long tube has a clip on the end that opens up the injection valves on the wall and locks itself into place at the same time. In the last photo we injected epoxy into a crack between the wall and a piece of Plexiglas so we could see it flow. It is quite liquid. You put it in the bottom injection valve and continue to pump until it comes out the next one. Removing the tube will shut off the valve, move up and keep on going right to the top. The epoxy paste patch that you put on the inside will hold the flow in while the soil on the other side should be packed tightly enough to hold back the flow on the other side. If it doesn't seem to want to reach the second valve it may be flowing too much on the other side. Take it apart, wait for it to set and go again. The first flow usually makes a good base for the second flow. When all finished, knock the valves off the wall and you have a solid epoxy fill all the way through the wall. Epoxy is a good adhesive and a good sealant but it has the one drawback that it cures very rigid. If there is any vibration or movement in the wall, the concrete can easily crack again, right next to the epoxy repair. Follow this link for information on choosing between rigid epoxy and flexible polyurethane injection systems.

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