HOMEOWNER REPAIR GUIDE

STRUCTURAL CLAY BLOCKS

If you look at where the ground meets the foundation of the older houses in many northeastern Ohio communities, you may notice different types of building materials. On homes built prior to 1915, cut stone blocks or bricks were most often used for the foundation. From about 1915 to 1950, the foundation walls of many homes were built using structural clay (tile) blocks. These blocks are usually a reddish-brown color, and are quite a bit larger than bricks, usually 8” x 12” or 8” x 16”.

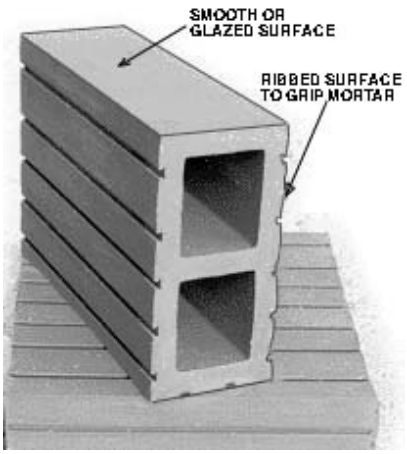
Clay blocks were less expensive than stone blocks and, being lighter weight, were easier to handle. Because their larger size provided a labor savings when constructing the foundation, they were usually found below the soil line (or “grade”) on the outside foundation wall; the more costly bricks were then used only on the exposed portion of the wall, for the few rows above grade that could be seen.

WHY CLAY BLOCKS DETERIORATE

Clay blocks were not fired long enough to have a hardened surface like brick, so they are vulnerable to the destructive effects of weather exposure. If the outside foundation walls become open to the elements, clay blocks can become soft and porous. They will “spall” or deteriorate in a fairly short period of time, creating voids in the foundation that can allow water to seep into the basement.

FILL THE VOIDS

If your foundation is constructed with structural clay tile, it’s important that you fill any voids where the block face may have broken away, using some old bricks and mortar. Use the same method to fill any openings on the interior surface of the wall.



Structural clay block

COVERING EXPOSED BLOCKS OUTSIDE

If your lawn has settled over the years, exposing the clay blocks, it is to your advantage to get the blocks covered back up again as soon as possible. There are several ways to go about this.

METHOD	HOW IT WORKS
Ramp the soil	The easiest approach is to “ramp” soil around the house, piling some dirt high enough to cover the exposed blocks of your foundation and then sloping it away from the house to the level of the rest of the lawn. The ramped soil will also direct surface water away from the foundation, preventing water seepage into the wall.

METHOD	HOW IT WORKS
Raise the lawn	Another way would be to bring in a couple of loads of topsoil to raise the level of the lawn around the house to cover the clay tile. Then, you'll need to plant new grass seed. This method involves a lot of labor – your own or paid help – and patience in tending the new grass.
Build a raised bed	A third method would be to take some railroad ties or treated landscape timbers and enclose an area surrounding the foundation. The enclosed area, when filled with dirt high enough to cover the exposed blocks, will give you a raised bed perfect for planting shrubs or flowers. Keep any shrubs at least a couple of feet away from the house.

THE OBJECT: KEEP THE BLOCKS COVERED

There are some other simple ways of doing all this – but, however you do it, the object is to keep the blocks covered and protected from the weather. Like many smaller repairs, this situation has a way of turning into a bigger problem, if care is not taken.

REPAIRS INSIDE THE BASEMENT

On the inside of the foundation wall, problems can develop, too.

PROBLEM	REPAIR
Deteriorated mortar	Deteriorated mortar between clay blocks can be tuckpointed, just as you would exterior brick. *(See HRRC's "All About Tuckpointing" handout for "how-to" instructions.)*
Large void in a vertical seam	However, sometimes you may find it difficult to pack mortar into a vertical seam, where there is a large void between the hollow blocks. In that case, use low-expansion foam to fill most of the void, and then follow that with a layer of mortar along the face.
Holes in a block	Holes in the block itself can also be repaired with mortar; however, it's a good idea to fill the opening first with brick or stones to fill most of the void, so you don't have to use as much mortar.
Replacing a whole block	If you must replace an entire block, you can get a single block from a brick supply yard. Chisel out the damaged one, butter the sides of the replacement block with mortar and insert it into the opening; then smooth the mortar with a tuckpointing trowel.

Home Repair Resource center

Home Repair Resource Center empowers homeowners to maintain their homes for sustainable and diverse communities.

WWW.HRRC-CH.ORG +1.216.381.6100 2520 Noble Road, Cleveland Heights, OH 44121

© 2026, Home Repair Resource Center