National Clay Pipe Manufacturers, Inc.

Washington 6, D. C.

Construction Data

The building site must be well-drained. If the natural ground-slope is not sufficient for good drainage, a simple network of Perforated Clay Pipe should be installed underground. The site should then be levelled and graded. All ground beneath the building should be cleared of organic material. A four to six inch layer of coarse fill is then laid—washed gravel, crushed rock, or stone that has been passed over a coarse screen. Cinders or fine sand should never be used for the fill.

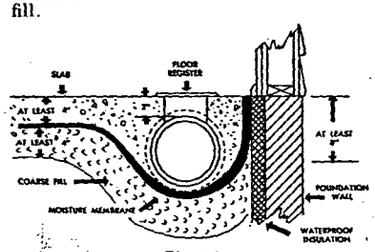


Figure 1

The fill must be covered with a moisture barrier before the slab is poured. This membrane should be the equivalent of a good grade of roll roofing at least 55 lb per 108 sq ft. Strips should be overlapped at least four inches and tarred. The barrier must completely cover the area within the foundation walls and extend up the walls to the top of the slab. See Figure 1.

Edge insulation must be placed completely around the concrete slab. Two-inch thick insulation is recommended, but one-inch is acceptable.

It is not necessary to anchor the Clay Pipe ducts to stakes, or to surround them completely with concrete (as with lighter materials). The Clay Pipe is laid directly upon the membrane, and gravel or sand is used to level it. Small depressions should be made in the sand or gravel so the pipe bells "hang free." This facilitates proper pipe alignment and prevents buckling at the joints. See Figure 2.

Registers must be located before the slab is poured. Wooden forms like those shown in Figure 3 are secured to the pipe by a wire wrapped around the duct.

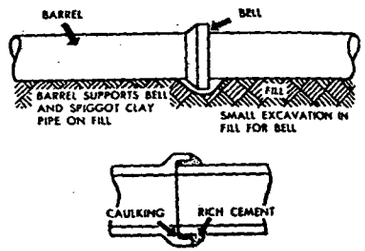


Figure 2

After the slab has hardened, the form can be removed and an opening cut into the pipe with a heavy hammer or bar. Some contractors prefer to retain the wooden register forms in the slab for register mounting frames.

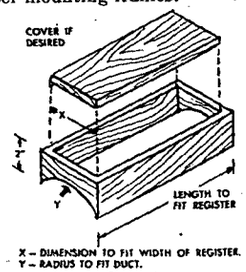


Figure 3

The Clay Pipe bell at the plenum should be butted firmly against the wooden forms of the plenum pit and the concrete poured around it. See Figure 4. The pit floor is poured after the wooden form is removed. The moisture membrane must extend under the pit floor. Recommended distance from the slab floor to the top of the pipe bell is five inches.

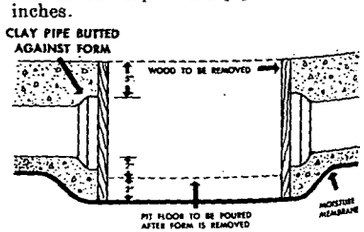


Figure 4

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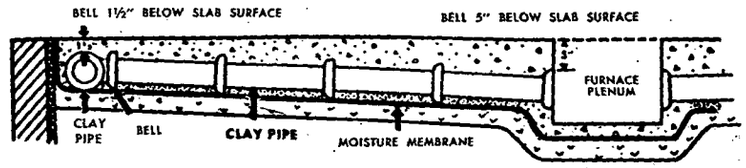


Figure 5

Clay Pipe in the Perimeter Loop should be installed so that the top of the bell closest to the perimeter will be 1½ inches below the slab surface. Feeder ducts should slope downward toward the plenum, so that the top of the bell next to the plenum will be five inches below the floor slab surface. See Figure 5. All Clay Pipe joints must be waterproof.

Care must be taken when the slab is poured not to puncture the moisture barrier or dislodge the ducts. Wheelbarrows should not be moved over the ducts without suitable planking. A strip of mesh should be placed over the top of the ducts to give added strength to the slab. Mesh may be extended over the entire slab at the contractor's discretion

