

MUNICIPAL DEPARTMENT

HOW TO MAKE A CEMENT SIDEWALK.

Answering quite a number of inquiries that have come to us as to the best method of making concrete sidewalks, we have held quite a number of interviews with different practical experts in this line, and putting the testimony derived in that way side by side there seems to be on the face of the returns, a very wide diversity of opinion, and every one of them declares that he gets the "very best results." On the other hand, when all the testimony is carefully sifted, the principle in all is practically the same; and while we do not feel at liberty to say what might be exactly the "best" cement sidewalk, we can say without the chance of being contradicted, that the following instructions, if carefully followed, will produce a very excellent cement sidewalk.

The foundation should be prepared by excavating to the depth of twelve to fifteen inches below the proposed finished surface and should be well rammed and leveled where the sidewalk is to be laid in new ground. In cases where a sidewalk has existed for a long time the foundation will probably be found sufficient, and such alterations as are made will have to depend upon the judgment and experience of the party who proposes to lay the sidewalk.

But, returning to our foundation, after it is rammed and leveled it should be filled with clean cinders, coarse gravel or broken stone, and again leveled so as to leave at least four inches for concrete finish. This filler or base for a sidewalk should be thoroughly wet and well rammed again so as to insure a perfect setting. The concrete should consist of the following ingredients:

- 1 part Portland cement.
- 2 parts of clean, fresh sand.
- 4 parts of coarse gravel or crushed stone.

The cement and sand should be mixed thoroughly in the dry state and wet to a stiff putty before adding the gravel or crushed stone, then wet the whole and mix thor-

oughly with a hoe, then apply and ram into a layer three inches thick.

The top dressing should consist of one part of Portland cement and one of clean, sharp, dry sand. These should also be thoroughly mixed before adding the water and only sufficient water should be put in to make the mixture plastic. The top dressing should be applied and carefully troweled. Great care should be exercised in getting exactly the right amount of water into the different mixtures, and this is a point where the experience of practical operators contend, and where opinions differ, but we are inclined to think that climatic conditions have something to do with this. For instance, concrete mixed in Memphis or New Orleans will take a little more water than when mixed in Chicago, Cleveland or Buffalo. This should be borne in mind, that cement may be "drowned" by excessive use of water. In other words, the particles of the cement which combine to make the crystals or bond may be so washed about by the water and scattered that its intrinsic value may be destroyed.

Some of the practical men say: "The less water used the better

the concrete that will be produced." Another uses this expression: "You must be sure to get enough water into the mixture to provide all the cement with its necessary supply, for the cement can't set without sufficient water, and you do not want cement in your concrete that is not set."

Another point on which all seem to be agreed is, that cement work in hot weather should not be allowed to dry too quickly. It should be sprinkled with water judiciously and protected from the summer sun and rain until it sets thoroughly.

In troweling the top dressing one of the features of good sidewalk making is that it should be worked until water flushes to the surface and the sidewalk should be laid in sections of convenient sizes to handle with one mixing of the concrete, for no concrete should be used that has already set in the mixing box, and better results are obtained by keeping the surface wet for three or four days after same is set.—Rock Products.

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