

SUGGESTIONS FOR USING PORTLAND CEMENT.

Keep the cement perfectly dry until to use it in mortar.

"dry, clean, sharp sand, and use the amount that will fill the voids. Increasing the percentage of sand reduces strength and slows the setting. Wet only so much mortar at one time as can be used before setting commences.

Do not permit the finished work to dry too quickly; after it has commenced to harden cover with wet sand or burlaps and keep wet for a fortnight. Concrete ditches, drains, and reservoirs should be washed over with a thin cement, grouting as fast as built. After the mortar has set a day or two, it is well to flood it and keep the water standing stagnant a fortnight.

If the finished work cannot be kept covered as above, keep wetting it by daily sprinkling. Water is the life of Portland cement mortar.

When concrete is laid in large bodies, it is allowable to imbed irregularly throughout its mass as many large stones as is consistent with their being well bonded together by the mortar.

In concrete it is desirable that the aggregates should be graduated in size; then they pack closer and require less cement to fill the voids. The stone should be angular, and free from dust.

Do not mix lime with cement; it tends to cause the mortar crack.

In masonry the stone or brick should be thoroughly wet before laying.

In sidewalks, as fast as the concrete is

tamped to a surface the top coat should be spread on, in order to bond the two layers together.

Ordinarily lampblack injures cement mortar, mineral colours do not; sienna, Prince's metallic, Venetian red, Prussian blue, ground coal, or oxide of manganese are good.

A correspondent sends to the "Builder" an interesting account of some remarkable deposits of petrified wood existing in one of the rivers in South Russia. The deposit consists of a quantity of calcined oak lying in the bed of the river in layers three or four feet deep, and extending over an area of some 150 miles. A main feature—which, indeed, constitutes the chief value of this specific hardwood—is its variety of colours. No fewer than twelve shades in pink, blue, yellow and that known as American walnut have been found. This

peculiar formation would seem to have been caused by the variegated character of the soil at the bottom of the river.

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