

### Sand

Before approving a source of supply, samples of sand should be taken at least 10 days prior to the date of acceptance or rejection. Pit samples should be taken only from freshly exposed surfaces, and the number of samples from any given deposit should be sufficient to cover the extreme range in quality of that portion of the deposit which it is proposed to use. Every shipment of sand for bituminous concrete, Portland cement concrete, or grouting, should be sampled, and no single composite sample should represent over 100 cubic yards. Additional samples should be taken whenever the appearance of the sand changes. In the case of sand for sheet asphalt, frequent samples should be taken daily at the plant from the drum or bin.

Samples of sand should weigh approximately 10 pounds. They should be shipped in tight boxes, case, or close-woven cloth bags.

### Mineral Filler

Each shipment of mineral filler should be sampled. When shipped in bags a composite sample should be prepared from one sample taken from each 20 bags in the shipment. A 1-pound sample may be submitted for examination shipped in a tight box or can.

### Total Mineral Aggregates

When the grading of the total mineral aggregate for bituminous concrete or binder course is specified frequent samples should be taken daily at the plant from the drum or bin. Such samples should weigh approximately 10 pounds and if shipped should be placed in tight boxes or cans.

### Sand-Clay or Top Soil

Before approving a source of supply samples of natural sand-clay mixtures, top soil, sand, or clay, should be taken at least 10 days prior to the date of acceptance or rejection. The number of samples from any given deposit should be sufficient to cover the extreme range in quality of that portion of the deposit which it is proposed to use. Additional samples should be taken whenever the appearance of the material changes. When an artificial mixture is made on the road fragment samples of the finished mix should be taken. Samples should weigh approximately 10 pounds and if shipped should be placed in tight boxes or cans.

### Portland Cement

Either individual or composite samples of cement may be submitted. Samples should be taken either at the mill

or from cars. Individual samples from cars should represent not more than 50 barrels. If taken from bins, each sample should represent not more than 100 barrels. Composite samples taken from cars should be made up of a sample from 1 sack in each 40 sacks, or 10 barrels combined to form one sample. Composite samples taken at the mill may be either from the conveyor delivering to the bin, in which case one sample of 8 pounds should be taken from each 100 barrels passing over; from the bins themselves by means of proper sampling tubes, provided samples are taken from points well distributed over the face of the bins; or from the bins at the point of discharge, provided sufficient material is drawn from each discharge to obtain samples representative of the material in the bins. In no case should a single composite sample represent over 200 barrels. Samples should be shipped and stored in air-tight containers. Before testing, they should be passed through a 20-mesh sieve in order to thoroughly mix the sample, break up lumps, and remove foreign material.

### Paving Brick

Samples of vitrified paving brick may be taken at the point of manufacture or from cars at the point of delivery. Samples from the plant should preferably be taken from the kiln at the time of emptying. One or more sets of tests, depending upon the size of the kiln, each set consisting of three separate tests, should be made on each kiln. Each test in a set of three should represent approximately a single degree of burning (based on the position of the brick in the kiln), and all 10 of the brick in a single test should be of the same approximate degree of burning. In general, samples selected from piles at the plant should be as nearly as possible representative of the entire run of the brick. Samples from piles should be taken from as many different points corresponding to the length, breadth and depth of the pile as possible. In no case should they be confined to the upper or outer few layers. Where controversy arises regarding the admissibility of certain types or portions of the lot, entire test samples may be selected from such types or portions having a characteristic appearance in common. When sampled at the point of delivery, a representative sample should be taken from each carload received. Considerations covered under sampling from piles at the plant apply equally to sampling from cars. No bricks should be included in the test lot which would be rejected on the basis of cracks, chips, or other defects covered by the specification clauses for visual inspection. Samples should be shipped in stout boxes or crates in lots of 12, put up in 2 rows of 6 bricks each, separated by a wood partition.

### Stone Block

Stone block may be sampled for quality and size either at the quarry or from cars. A preliminary sample for quality consisting of at least four standard blocks should be submitted from each proposed source of supply at least two weeks prior to the date of acceptance or rejection. Additional samples of blocks may be taken from time to time during the progress of the work, whenever the quality or appearance of the blocks varies, and at such other times as may be directed. No sample should include blocks which would be rejected on visual inspection. Preliminary samples may be omitted in cases where material from the proposed source of supply has been tested within one year prior to the date of acceptance or rejection, in which cases the report of such tests may be used as the basis for acceptance or rejection. Samples of stone blocks should be shipped in stout boxes or crates.

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