Canadian Society of Civil Engineers.

Standard Portland Cement Tests.

Report of Committee.

(Submitted to Annual Meeting, January 28th, 1902.)

All experiments shall be carried on, as nearly as possible, at a uniform temperature of 65 deg. Fah., except when tests are being made for the purpose of ascertaining the comparative strength of cements required for winter use.

(1) Proportions.

All proportions shall be determined by weight.

(2) Fineness of Cement.

A maximum residue of 10 per cent. shall be retained on a sieve of 10,000 meshes to the square inch, and the whole of the cement shall pass through a sieve of 2500 meshes to the square inch. A mechanical sifter, working automatically by jig motion, and thus eliminating personal error, is recommended.

In the case both of hand mixing and sifting with the mechanical mixer, the process shall occupy a definite time, depending upon the weight to be sifted, and the diameter of the sieve. For example, with a weight of 10-oz. of cement, and sieves 8-in. in diameter, the sitting shall be continued 2½ minutes on No. 120 sieve, 1 minute on No. 100, ¾ minute on No. 80 and ½ minute on No. 50.

The introduction of small weights, such as washers, into the cement, while being sifted, is to be deprecated, as they tend to push an undue proportion of the cement through the mesh, to stretch the wires and to increase to some extent the grinding. Such practice should not be allowed, excepting on works of construction, where there may be a necessity for ordinary rough tests.

The sieves shall be periodically examined with great care, as moisture sometimes collects on the wire, so that when a residue test is made this moisture mixes with the cement, causing a coating on the wires, and often appreciably diminishing the area of the mesh.