

air, they shall be immersed in the hot water and allowed to remain there for eighteen hours. After removal from the water the samples shall not be curled up, shall not have fine hair cracks, nor large expansion cracks, nor shall they be distorted. If separated from the glass, the samples shall break with a sharp, crisp ring.

(b) *Tensile Test. (Neat Cement.)*—Briquettes made of neat cement, mixed with about twenty percent of water, by weight, after remaining one day in air, in a moist atmosphere, shall be immersed in water, and shall be capable of sustaining a tensile stress of 250 lbs. per square inch after submersion for two days; 400 lbs. per square inch after submersion for six days; 500 lbs. per square inch after submersion for twenty-seven days. The tensile test shall be considered as the average of the strength of five briquettes, and any cement showing a decrease in tensile strength on or before the twenty-eighth day shall be rejected. (*Sand and Cement.*)—The sand for standard tests shall be clean quartz, crushed so that the whole shall pass through a sieve of 400 meshes to the square inch, but shall be retained on a sieve of 900 meshes per square inch. The sand and cement shall be thoroughly mixed dry, and then about ten percent of their weight of water shall be added, when the briquettes are to be formed in suitable moulds. After remaining in a damp chamber for twenty-four hours the briquettes shall be immersed in water, and briquettes made in the proportion of one of cement to three of sand, by weight, shall bear a tensile stress of 125 lbs. per square inch after submersion for six days, and 200 lbs. per square inch after submersion for twenty-eight days. Sand and cement briquettes shall not show a decrease in tensile strength at the end of twenty-eight days, or subsequently.

(4) The manufacturer shall, if required, supply chemical analyses of the cement.

(5) *PACKING.*—The cement shall be packed either in stout air and water-tight casks, carefully lined with strong brown paper, or in strong air and water-tight bags.

(6) The manufacturer shall give a certificate with each shipment of cement, stating (1) the date of manufacture; (2) the tests and analyses which have been obtained for the cement in question at the manufacturer's laboratory; (3) that the cement does not contain any adulteration.