

the edge of the mould. With an iron trowel the mortar shall then be patted, beginning from the side, first gently, then harder, until it becomes elastic and water appears upon the surface. No additional material must be added, as the briquettes must show a uniform density throughout. Superfluous mortar shall then be taken off by means of a knife or sharp-edged trowel, and the surface smoothed.

The moulds shall then be carefully removed and the briquettes laid in a damp chamber (zinc lined), furnished with a lid (also zinc lined), to prevent irregular drying. After a period of 24 hours the briquettes shall be laid in water and shall be kept completely submerged during the whole period of hardening.

(b) *Machine-Made.*

(1) If possible, briquettes, prepared as above, shall be subjected to a uniform specified pressure (say, for example, 20 lbs. per square inch) by means of a ram of the same gauge as the moulds, or,

(2) A Bhme apparatus may be used. In this case the moulds shall be filled with about 4-10ths of a lb. of mortar, prepared as in (a), and shall be placed in the machine; 150 strokes shall then be applied to the core with a hammer of about 4.4 lbs. in weight (2 kilog). After removing the mould and the core the briquettes shall be smoothed off, taken off the subjacent plate and treated as in (a).

By care in following the instructions given in (a) and (b) it will be found that hand work and machine work will give fairly uniform results. Doubtful cases, however, should be invariably decided by machine made briquettes.

(8) TESTING MACHINES.

Testing machines shall be of the positive lever automatic type, so arranged as to apply the loads quietly and uniformly at the rate of 200 lbs. per minute.

(9) CLIPS.

The style of clips shall be such as will break the briquette at the line of least section. Clips with adjustable rubber or paper composition rollers are found to work satisfactorily and should be used.

(10) CHEMICAL TESTS.

Chemical tests and full quantitative analyses are strongly recommended, and preference will be given to cements, of which analyses are furnished by the manufacturers.