NOTE ON SAGGER CLAY PREPARATION¹

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ABSTRACT

Better mixture of ingredients.—Saggers can be improved in quality by installing a mixing machine immediately following the dry pan. The *soaking pit* may then be eliminated and the clay and water fed directly to the pug mill. This process permits of *large tonnage* and is of course also applicable to other bodies.

In contributions on the subject of sagger making, much emphasis has rightfully been placed upon the composition of the sagger body, the nature and quality of the clays used, the percentage of grog, the size of grinding, etc.

Another factor having a vital influence upon the resultant quality of the sagger is the method by which the various ingredients of the sagger body are brought to the state of plastic mixture ready to be moulded into the sagger.

We are all familiar with the old dry pan, soaking pit, pug mill process by which the body was brought to a condition of apparent homogeneity. Some have used the wetpan as a pugging device in order to develop plasticity and secure more intimate mixture of ingredients. This is a disadvantage from the standpoint of capacity as the wetpan is a retarding element.

Extensive observations led the writer to believe that improvement in quality could be obtained by insisting on greater homogeneity in the body mixture. In the old soaking pit method, a semblance of mixing was obtained by the manner of grinding the clays and filling the pit, and the pugging was supposed to complete the process of securing uniformity. However, by altering the procedure as described briefly below, the following, a distinct improvement in quality, was noted.

An experiment was made in which the proper amounts of ground clay and grog were intimately mixed in an ordinary cement mixer before any water was added. The mixture was

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then wet down and pugged through in the regular way. The results obtained were so satisfactory that the process of dry mixing as a means of securing intimate uniformity became a matter of important attention. Further investigations confirmed the results of this preliminary experiment to the end that the writer strongly recommends the installation of a device of sufficient capacity immediately following the drypan, whereby intimate dry mixing of all ingredients may be secured. The remainder of the process may now be as before, but the status of the mixture makes possible a greater efficiency at this point.

The soaking pit may now be eliminated and the clay and water fed into a double pug mill and auger machine to produce a bar of plastic clay as in a stiff-mud brick installation. This clay can be cut into proper lengths, and made at once into saggars with good results. However, if this clay is stored for a period of thirty-six to forty-eight hours or longer, covering with damp cloths to prevent evaporation, a further marked development of working properties will be secured.

The process as outlined in the foregoing admits of large tonnage capacity and applies, of course, to the preparation of plastic clay mixtures other than sagger bodies.

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