TR10-139-140

R. 488

WYNYARD BRICK COMPANY

Samples submitted

Five soft bricks from third kiln firing.
One soft brick from second kiln firing.
Three soft bricks from Machens kiln firing
Sample of raw materials used for bricks in third kiln.

Test A: on Bricks

Four soft light coloured bricks from third kiln refired to 1050°C in electric muffle furnace. Also two from Machens kiln. One brick from third kiln refired at 800°C in electric muffle furnace.

Test B: on Raw Materials

Nine briquettes pressed from the raw materials as received. These were made under the following conditions:

Three pressed at "Low Pressure"
Three pressed at "Medium Pressure" } Empirical only
Three pressed at "High Pressure"

These pieces were dried and moisture content determined, and one piece from each pressing was fired at 800°C.

The remainder were fired at 1050°C.

Results: *A. Refiring of Bricks*

Refiring at 800°C produced no apparent change in the appearance or texture of the bricks, as received, confirming that this was the approximate condition of firing in the kiln.

On refiring to 1050°C (three hours soaking) sintering of the bricks took place together with a contraction of 6 per cent. The bricks had a much sounder ring, but were of a more open and porous texture than desirable which is probably due to inadequate pressure in the brick press. Colour of bricks refired to 1050°C was dark and rust red.

The evidence from these tests indicates that the specimens submitted are both underfired and inadequately pressed.

B. Briquette manufacture from Raw Materials

Moisture content of pressed brick	14.0 per cent
Firing loss at 1050°C	7.1 „ „
Firing loss at 800°C	5.6 „ „
Drying contraction	½ „ „
Firing contraction 800°C	Nil „ „
Firing contraction 1050°C	5½ „ „

These results duplicate those obtained in previous tests on this type of material.

Bricks fired to 800°C were similar in colour to the underfired bricks submitted, and none of these had a sound ring. Those pressed at low pressure showed a somewhat similar texture to the bricks submitted for tests.

Bricks fired to 1050°C were dark red in colour, well fired with a sound ring. The most firmly pressed specimens had the best appearance, while those pressed at low pressure were somewhat similar in texture and appearance to the underfired bricks refired to 1050°C.

This series of tests shows that test pieces of good appearance and quality can be produced from the materials currently used in brick manufacture by the Wynyard Brick Company, provided that the pieces are firmly pressed and fired to an adequate temperature.