

TR14-214

R.588. Production of black facing bricks

B. Warren of Lucks Brick Works supplied samples of clay used in normal red brick production together with a sample of manganese dioxide.

Previous work (R.541 *Tech. Rep.* 11: 184-185, 1968) has shown that the final colour of the fired brick is a function of the manganese dioxide content, and the intensity of the colour is not significantly affected by reducing, oxidising or high temperature conditions.

PROCEDURE

Various mixtures of clay and manganese dioxide were made, pug milled twice to ensure homogeneity and then extruded. The manganese dioxide had little or no effect on extrusion properties of the mixes and bricks were readily produced, dried and fired. The firing temperature for each mix was 1000° C and, in addition, green specimen bricks were fired at Lucks Brick Works in batches of four throughout the length of No. 2 kiln.

RESULTS

% MnO ₂ added	Colour of fired bricks
2.5	light red
5.0	red
7.5	brown
10.0	black

CONCLUSIONS

Although a high concentration of manganese dioxide is required to produce a black brick, the satisfactory appearance of the product seems to merit the expense. At this level of pigment addition, there may be some reduction in the strength of the final product, but as these bricks will only be used as feature walls, this is unlikely to have any significance.

There was no evidence of vanadium efflorescence on the fired black brick, but it is felt that this possible source of disfigurement must be periodically checked.

Both the muffle- and kiln-fired bricks gave the same colours.