

Section 2.—Ceramic Investigations

by P. L. James

TR 10-138-139 R. 485

WYNYARD BRICK COMPANY

The Sample

A sample of raw material in the form of green pressed bricks was obtained from the company's works by the Chief Chemist and Metallurgist. The bricks were stated to be representative of raw material from Walker's Quarry, Quiggins Road, Wynyard, which is currently being used for brick manufacture.

Investigation

Brick manufacturing tests by semi-dry pressing methods were performed on the sample to compare results obtained with those from samples R.443-4 and R.444-5 (Manson and James, 1964) and stated to have been obtained from the same locality.

Sample preparation and methods of testing were similar to that detailed in report No. R.440-R.448 (Manson and James, 1964).

In general, the results obtained verified those of previous investigations and showed that this material was similar to samples R.443-4 and R.444-5.

Firing temperatures investigated were 1000°C, 1050°C and 1100°C. Bricks fired at 1100°C are overfired, showing high shrinkage and rather severe glazing. Bricks fired at the lower temperatures are well fired and of good appearance and quality.

TEST RESULTS—SEMI-DRY PRESSING

Moisture contents of the green pressed bricks

	Per cent moisture in Green Brick	Per cent water added to Dry Clay
R.485	12-15	13-18
R.443-4	10.2	11.3
R.444-5	9.5	10.5

Firing Loss at 1000°C

	Per cent loss in weight
R.485	5.5
R.443-4	5.5
R.444-5	4.5

Contractions—Based on original length of green brick

	Drying 110°C	Contraction—Per cent		
		Firing—Total at		
		1000°C	1050°C	1100°C
R.485	0.5	4.0	5.5	8.0
R.443-4	0.5		6.0	
R.444-5	0.5		5.0	

Refractoriness

	Softening Point	Fusion Point
R. 485	1380°C	1410-1450°C
R.443-4	1360°C	1400-1420°C
R.444-5	1340°C	1400-1420°C

Reference

MANSON, W. St. C. and JAMES, P. L., 1964—R.440-R.448. Clay from Wynyard.
Tech. Rep. Dep. Min. Tas., 8, 234-242.