

TR 11- 192- 193

R. 529

**34. PAINTER, MAMO AND ASSOCIATES: BRICK
MANUFACTURING TESTS****Samples**

Two samples were submitted by Painter, Mamo and Associates, Consulting Engineers, Launceston, for brick manufacturing tests. The samples, which appeared to be weathered siltstone, were submitted on behalf of the Burnie Brick Co., and were obtained from land owned by this company in the vicinity of Cooe.

Summary

1. Fair to moderate quality bricks have been manufactured from these materials by semi-dry and stiff-plastic pressing methods. Both materials have poor cohesive and plastic properties which reflected in extrusion tests, columns from both samples being badly dog-eared. A slight tendency to lamination was observed in the pressed bricks.

2. Bricks fired at 1000° C appear to be well fired at this temperature although the texture is somewhat porous and edges and corners are rather easily abraded. Sample No. 1 is slightly worse in these respects.

3. The strength of the green bricks, although not good, appears to be adequate in all cases and they can be handled and stacked without damage. Addition of a quantity of good bonding clay would improve strength of the ware.

4. Bricks from Sample No. 1 fire to a pinkish cream colour, those from No. 2 to a dark rust red. Appearance is quite attractive in both cases.

5. Bricks pressed from a blend of equal parts of the two samples showed similar properties but fired to a light rust red colour.

6. Test results indicate that further investigations of these materials would be warranted if the samples represent deposits of economic importance.

Sample Preparation and Testing

These samples were dried and roll crushed to pass a 10 mesh screen and thoroughly mixed. A blend of equal weights of each sample was made up from minus 10 mesh material.

The amount of water required for the various processes was incorporated by hand mixing, followed by at least one pass through a Rawdon pug mill

Test bricks were made by three methods of manufacture, namely semi-dry pressing, stiff-plastic pressing and de-aired extrusion.

The green bricks were weighed and dried at 110° C in an electric oven.

Moisture content and drying contractions were determined on the oven dried bricks.

The dried bricks were fired to 1000° C in an electric muffle furnace, soaking for two hours at this temperature, after which firing losses and contractions were determined. The only firing temperature investigated was 1000° C.

Test Results

Sample	Method Manu- facture	Moisture in Green Brick	Per Cent Contraction			Firing Loss
			Drying	Firing 1000° C	Total	
No. 1	SD	10.4	Nil	Nil	Nil	3.2
	SP	15.1	2	1	3	
	DAX	14.9	2	1	3	
No. 2	SD	8.8	1	Nil	1	4.6
	SP	12.6	3	1	4	
	DAX	14.3	3	1	4	
Blend	SD	10.7	1	Nil	1	3.9
	SP	13.4	2	1	3	

Note:

SD = Semi-Dry pressing.

SP = Stiff-Plastic pressing.

DAX = De-aired extrusion.