

TR 10. 145

R. 493

CRISP & GUNN CO-OPERATIVE LTD., HOBART:
BRICK MANUFACTURING TESTS*Sample*

A sample of red clay was received from the above company for brick manufacturing tests by stiff plastic pressing methods. The sample as received contained 30.0 per cent water (calculated on a dry basis) and preliminary tests indicated that addition of a further 4 to 5 per cent of water was necessary to make the material sufficiently workable for the stiff plastic process. The material was of fine texture except for occasional small nodules and crushing or grinding prior to moulding was not necessary.

Preparation and Testing

The required amount of water was incorporated by hand mixing, followed by a pass through a Rawdon pug mill.

The green pressed bricks were allowed to dry naturally for two days and finished in an electric oven at 110°C.

The dry bricks were then fired at 1050°C in an electric muffle furnace with two hours soaking at this temperature.

Summary

1. The material is a strong clay with excellent plastic and cohesive properties. The firing loss is indicative of a clay content in excess of 80 per cent.

2. The pressed bricks show high drying and firing contractions, and the fired specimens are subject to deep transverse cracks extending, in some cases, to half the width of the brick. Some distortion was also noted. The fired bricks are rust red in colour and are well fired at 1050°C.

3. In view of the above, it is considered that the material, if used undiluted, is unsuitable for brick manufacture. However, the material should have a useful application as a bonding agent when blended with more or less inert substances, such as sand or grog.

Test Results

	Moisture in Green Brick	Per Cent Contractions			Firing 1050°C Loss
		Drying 110°C	Firing 1050°C	Total	
R.493 Red Clay	34.6	8	8	16	11.5