

probably slightly superior in terms of stability for long installed life.

Both Obukhov and Walker claim that the application of these control systems has

resulted in very large savings of fuel and, associated with this, an increased glass throughput from the furnace due to operating under stable conditions.

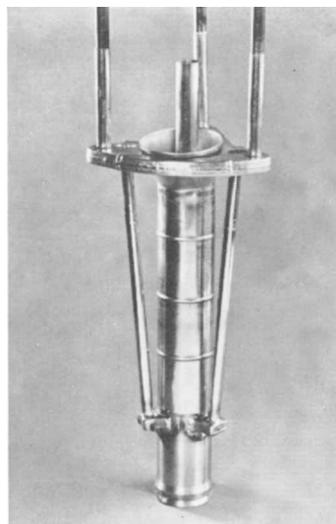
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- 2 N. I. Walker, Application of Instrumentation to Glass Melting Furnaces, *Trans. Soc. Instrum. Technol.*, 1960, **12**, (1), 38-49

## Manufacture of Two-ply Glass Tubing

Glass Tubes & Components Limited of Lemington are using a novel piece of equipment to produce two-ply glass tubing for use in sodium vapour lamps. This apparatus makes the fullest use of the ability of platinum alloys to operate continuously at temperatures at which glass is molten, and yet have sufficient high temperature strength and corrosion resistance to maintain excellent dimensional stability.

The tubing for sodium vapour lamps must be two-ply, the inner sheath being resistant to attack by sodium vapour, the outer resistant to weathering. The new equipment, designed by Glass Tubes & Components and constructed by Johnson Matthey, contains some 220 ounces of platinum and platinum alloys, and is approximately two feet in length. It comprises a platinum alloy valve placed inside a solidly constructed sheath of platinum-alloy-clad high temperature steel. The equipment is maintained in the base of the glass melting furnace, the outer sheath itself acting as a mandrel to form the outer skin of the two-ply tube. The sodium resistant glass flows continuously into the space between the valve and the outer sheath and is drawn through the apparatus to form the inner skin of the two-ply tube. The thickness of the sodium-resistant layer is controlled by the valve setting.



The new apparatus allows continuous working and has resulted not only in an increased output but in an improvement in efficiency over the hand-drawing methods formerly used.