

Twentieth Anniversary of Arora-Matthey

MANUFACTURER OF PLATINUM PRODUCTS IN INDIA

Twenty years ago two long established trading partners, Arora of India and Johnson Matthey of the United Kingdom, set up an Indian associate company dedicated to the refining and fabrication of the noble metals. Since that time Arora-Matthey Limited has progressively increased the products and services it offers to the various user industries in India, and to celebrate the anniversary of this joint venture technical seminars were held in four major Indian cities during February. At these papers were presented which made it abundantly clear that platinum products have much to contribute to the growing chemical, petroleum, glass and electrical industries of India.

In the early years the joint company installed facilities to enable certain basic chemical and metallurgical operations to be carried out. These included refining, melting, rolling, drawing and forming, thus enabling a range of products including laboratory apparatus and thermo-couple elements to be manufactured.

In the chemical industry perhaps the most important application of platinum alloys is as catalysts during the oxidation of anhydrous ammonia to produce nitric acid, the critical step in the manufacture of nitrate based agricultural fertilisers. Typically the catalyst consists of 10 per cent rhodium-platinum gauze, and an unusual feature of the process is that platinum is lost from the catalyst during the reaction. However, much of this metal may be recovered by the use of noble metal catchment gauzes, and Arora-Matthey weaves both catalyst and catchment gauzes to the rigorous standards required.

Catalysts are increasingly used in the form of very small metal crystallites supported on an inert high surface area carrier such as activated carbon or alumina, and depending on the reaction the metal loading will generally be between 0.1 and 10 per cent of the total

catalyst weight. For any particular chemical process a specific form of one of the six platinum metals generally serves as a superior catalyst to the others, and continuing efforts are being made to increase the efficiency and cost effectiveness of the various catalysts offered for sale.

The resistance of certain platinum alloys to erosion by the flow of molten glass is quite exceptional and ensures their widespread use by the glass industry. In particular the manufacture of continuous glass fibres utilises rhodium-platinum bushings such as the one here being inspected prior to despatch. The multitude of small nozzles must retain their size and alignment during use at temperatures around 1300°C.

When platinum metal products are no longer required the intrinsic value of the metals encourages reclamation, and the refining of scrap materials is just one of the services that the Arora-Matthey partnership is pleased to provide for the users of platinum metals and chemicals.

