

seems probable that the price differential existing between these two elements will be maintained. Thus the basic material cost of rhodium-platinum alloys is considerably influenced by the rhodium content. Every 5 per cent rhodium addition to platinum increases the cost of the alloy by approximately 10 per cent. For those who use large amounts of rhodium-platinum alloys, such as the manufacturers of high quality glass, the cost savings that can be made by using alloys of lower rhodium content, wherever possible, are significant.

By retaining many of the virtues of the higher rhodium content alloy, ZGS 5 per cent rhodium-platinum offers an attractive economic alternative to ZGS 10 per cent rhodium-platinum.

References

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Commodity Meeting on the Platinum Metals

A SURVEY FOR THE INSTITUTION OF MINING AND METALLURGY

For some years the Institution of Mining and Metallurgy has organised an annual "Commodity Meeting" to discuss the whole background to a particular metal. The eleventh of these conferences, held on 4th December at the Geological Society, was devoted to the platinum group of metals, their history, resources, mining, refining and applications.

After the official opening by the President, Dr. A. J. Robinson, a paper on "Platinum: the History of One of the World's Most Strategic Metals" was presented by Dr. F. D. Collender of Strauss, Turnbull & Co. Outlining the history of its discovery in South America, the first scientific studies of its properties in the eighteenth century and then its more recent developments, the author emphasised how vital platinum has become to meeting man's greatest needs—food, fuel, communications, optics and clothing, playing an essential part in the power, fertiliser, petrochemical, electronics, glass and synthetic fibre and automotive industries.

Professor D. L. Buchanan of the Royal School of Mines described the geology underlying the world's supply of platinum metals, while the investigation of the so-called UG2 reef, below the famous Merensky Reef, was reported by I. M. Hossy and A. A. Saffy.

Recently the control of gaseous pollution of the atmosphere has received greatly increased attention from all quarters, and the development of catalytic procedures, based upon the platinum metals, for this purpose was described by Mr. Colin Jaffray of Johnson Matthey's Catalytic Systems Division. The role of these metals is now crucial in this connection.

The separation and refining of the six platinum metals involves a highly complex series of

hydrometallurgical operations and those in use at the Inco refinery were outlined by Dr. B. F. Rimmer. The current flow sheet includes leaching, precipitation, crystallisation, distillation, ion exchange and solvent extraction.

An informative paper, by B. M. Symes, a consulting metallurgist, dealt with the processing of the platinum metals from minerals onwards, particularly those from the primary source in the western world, the Merensky Reef. The older conventional procedure was compared with the newer solvent extraction process. By this route the metals are refined to a high state of purity, normally 99.95 per cent.

Developments in the market for platinum formed the subject of an interesting paper by Mr. Alan Austin, General Manager Platinum Marketing, Johnson Matthey. This emphasised the rather dramatic developments in the range and size of its applications that have taken place over the last thirty-five years and examined the key factors that have influenced the market.

In conclusion trends in the industrial applications of the platinum metals were discussed by Dr. G. J. K. Acres, Director, Corporate Development (Technology), Johnson Matthey. In addition to their established uses and their dependence upon the chemical and physical properties of these metals and their alloys, recent applications have resulted from the use of coatings and dispersions on polymers, base metals and metal oxides. By utilising such combinations significant advances have become possible in applications such as magnetic alloys, catalysis, electronics and cancer chemotherapy.

The full proceedings of this meeting will be published in July in the Transactions of the Institution.

L.B.H.