now proceeding with baseplates of more radical design which exploit the improved wetting characteristics of the alloys.

Conclusions

This extension of the ZGS process has resulted in the development of a new material, ZGS 5 per cent gold-platinum, that reconciles the hitherto conflicting needs of XRF analysis equipment, and which has considerably improved the performance of the apparatus and the product, and thus the accuracy of the results. The availability of this unique material has resulted in considerable interest from other markets, notably the glass fibre industry which foresees its use for the development of new high performance bushings for the production of continuous fibre.

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The Control of Nitrogen Oxides Emissions

PROGRESS REVIEWED AT INTERNATIONAL SYMPOSIUM

Nitrogen oxides (NO_x) emissions were first identified as major contributors to air pollution after studies made during the 1950s into the formation of photochemical smog in Los Angeles. These observations led directly to legislation in the United States of America regulating emission of NO_x to the atmosphere from both stationary and mobile sources. Since that time it has been recognised that such emissions constitute a global problem. A recent symposium sponsored by The Netherlands Ministry of Health and Environmental Protection and the U.S. Environmental Protection Agency, held in Maastricht during May, reviewed the state of the art in research and development relating to national and international policies on NO_x control. More than 300 delegates attended, demonstrating the current interest in the subject, and over 75 papers were presented.

The control of nitrogen oxides resulting from nitric acid production was the subject of papers presented by W. Toering of UKF, Rotterdam and A. Kayaert of Nederlandse Stikstof Maatschappij, based on their operational experience. Both pollution control and energy recovery result from the use of suitable platinum metal catalyst systems for the treatment of tail gases.

Emissions from mobile sources were considered in papers presented by H. D. Pletka of DEGUSSA, Hanau and A. E. R. Budd of Johnson Matthey Chemicals Limited. The latter traced the history of ceramic honeycomb supported platinum group metal catalysts from their first recorded industrial application in controlling NO_x emissions from the tail gases of nitric acid manufacturing plants, to the development of three-way catalysts for the simultaneous control of NO_x, carbon monoxide and hydrocarbon emissions in petrol engined vehicle exhaust gases. In addition, reference was made to the successful application of platinum group metals catalysts in catalytic combustion systems for both gas turbine and catalytic engines. Catalytic combustion, that is flameless combustion promoted by a catalyst, promises a number of advantages, including low NO_x emissions without the use of tail gas clean-up devices.

Catalytic clean-up devices are the best developed and most practical method of mobile NO_x emission control currently available, and it is probable that platinum group metal catalyst technology will continue to play an important role in the control of stationary sources of NO_x emissions for some time to come.

The full proceedings of the symposium, and the discussion, are to be published in October by Elsevier Scientific Publishing Company.