of Obrowski and Prinz will comply with the American table to within similar tolerances.

The authors conclude their paper with a discussion of the results obtained and a consideration of the uncertainties in the measurements. Burns and Gallaher estimate that they do not exceed ±2°C at 1400°C and about ±3 or 4°C at 1750°C.

It is interesting to note that the American results are based almost entirely on comparison techniques, whereas Obrowski and Prinz used the fixed melting point technique. If criticism of this paper may be made it is that the value of the work would have been given more weight if more than one set of batches from each manufacturer had been tested. Apart from this one reservation the authors have presented an extremely competent and valuable paper and the publication of these tables underlines the international recognition of the "Six-Thirty" thermocouple as an accurate, sensitive and stable sensor for the measurement of high temperatures.

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Platinum Metal Electrocatalysts for Fuel Cells

A high proportion of the papers dealing with fuel cell developments presented at the Fifth International Power Sources Symposium at Brighton in September again focused attention on the use of platinum metals as electrocatalysts. Among these contributions was an analysis by A. L. Harrison and G. R. Lomax of Electrical Power Storage of the economic factors determining the role that fuel cells will play in the future as electricity generating devices. This gave some quantitative expression to the most likely areas of fuel cell application, which might include power generation for radio repeater stations, submarines, marine buoys and certain electric vehicles such as fork lift trucks. A 1 kW hydrogen-air fuel cell battery employing a supported palladium catalyst and equipped with full instrumentation to record all aspects of its successful operational life of 2000 hours was also described in detail by M. I. Gillibrand and J. Gray of the same company. Such a battery has also been built into an electrically driven factory truck.

Recent advances in internal reforming methanol-air cells were described by C. G. Clow, J. G. Bannochie and G. J. W. Pettinger of Energy Conversion Limited. Such systems reform methanol with water to yield hydrogen in a reaction chamber immediately adjacent to a silver-palladium membrane that acts as the anode. The hydrogen thus formed diffuses through the anode to the potassium hydroxide electrolyte side, and is consumed as the fuel. A bi-porous nickel cathode is employed, and an integrated unit to provide 6 kW was described. In order to make more economical use of the silver-palladium alloy, a tri-foil developed by Johnson Matthey and consisting of a nickel/silver-palladium alloy/nickel "sandwich" having an overall thickness of 0.005 inch with the alloy thickness of about 0.00003 inch formed the basis of a new "window" electrode structure for such a cell. This development consists of electrolytically removing small windows of nickel on the tri-foil, leaving the thin silver-palladium membrane exposed but supported mechanically by the surrounding nickel overlay.

Activation of Raney-nickel anode electrocatalysts by small amounts of platinum or palladium was demonstrated by M. Jung and H. H. V. Döhren of Varta AG, Germany, to provide a satisfactory technique for providing highly active anodes with low polarisations. Platinum loadings as low as 0.58 mgm/cm^2 proved effective.

A contribution from the U.S.S.R. by V. S. Bagotzky described the mechanism and kinetics of cathodic oxygen reduction on platinum electrodes. Different forms of chemisorbed oxygen, as well as some penetration by oxygen into the upper atomic layers of the metal, could be demonstrated.

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