

Book Review

Engineering Ceramics 1984. Edited by M. Ish-Shalom and D. G. Brandon. Elsevier Applied Science Publishers, London, 1985. 408 pp. ISBN 0-85334-397-7. Price: £65.00.

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This volume constitutes the proceedings of the International Symposium on Engineering Ceramics which was held in Jerusalem, Israel, during December 16th to 20th 1984. The symposium was attended by 120 research scientists and engineers from 14 different countries.

The reviewer who was fortunate to attend this enjoyable and interesting conference would like to congratulate the editors and publishers for the speed with which they have been able to produce this attractive volume.

The editorial note mentions that the authors of the papers presented at this conference were asked whether they wished to submit their paper for publication in these proceedings. All the papers accepted for publication have been thoroughly refereed. Abstracts of the papers presented at the conference which are not published in full in these proceedings have been included but have not been refereed. Manuscripts had to be submitted at the time of the conference and it is obvious that rapid publication, which is so highly desirable, could only be achieved by not delaying publication for the sake of including late contributions. Thus, of the 59 contributions which were presented, 20 are published only as abstracts because they were either not submitted in time or were not passed by the referees. In fact, one of the contributions which was not ready at the time has been published in the first

issue of *High Technology Ceramics* (G. Ziegler and G. Wötting, Post-treatment of pre-sintered silicon nitride by hot isostatic pressing, *High Technology Ceramics*, **1** (1985) 31–58).

The 59 contributions, full papers and abstracts, apart from the introductory paper by A. G. Evans on Engineering property requirements for high performance ceramics, are grouped in the following sections:

1. Microstructure and properties
2. Reliability
3. Applications
4. Processing
5. Electronic and optical ceramics.

The Local Organizing Committee selected eight key topics to be dealt with by invited speakers. The titles and authors apart from the introductory paper were:

- Strengthening strategies for ZrO_2 -toughened ceramics at high temperatures (N. Claussen)
- Structural reliability of ceramic materials (S. M. Wiederhorn and E. R. Fuller, Jr)
- Recent trends in the development of fine ceramics in Japan (H. Suzuki)
- Applications of high performance ceramics in heat engine design (R. N. Katz)
- Thermal stress resistance of engineering ceramics (D. P. H. Hasselman)
- Processing technology for high performance ceramics (R. J. Brook)
- Recent advances in ceramic coatings obtained by chemical vapour deposition and plasma processing deposition (R. Avni and U. Carmi).

These papers formed the backbone of the conference but other interesting contributions were presented in lectures or as posters. It is gratifying now to be able to study their full text. The ceramic materials covered are: zirconia, alumina, silicon nitride, silicon carbide, silicon oxynitride, sialons (the reviewer regrets to see the use of a commercial trade name, i.e. Syalon, in a title!), titanium diboride, lead zirconate titanate, and complex systems like mullite–zirconia, etc.

Readers of *High Technology Ceramics* will find a lot of interesting information in this volume, which is well produced; contrary to many conference proceedings volumes, it contains an author and subject index which considerably enhances the ability of a reader to find the required information.

Paul Popper