

# Table of Contents

## Foreword

### Higher-Performance Ceramics - Towards 2000

P.S. Nicholson 3

### Ceramic Packaging for Electronics

R. Roy 17

### Ferroelectricity: Materials, Characteristics & Applications

A. Safari, R.K. Panda and V.F. Janas 35

### Piezoelectric Materials and their Applications

D.J. Jones, S.E. Prasad and J.B. Wallace 71

### The Applications of Ion-Conducting Ceramics

G.R. Doughty and D. Hind 145

### Superconducting Ceramics for Power Engineering Applications

J. Cave, D. Willen, W.S. Zhu and R. Roberge 163

### Applications of Hard and Soft Ferrites

A. Lloyd 175

### Ceramic Applications in Gas and Humidity Sensors

G. Vandrish 185

### Ceramic Applications in Temperature Sensing

G. Vandrish 225

### Ceramic Cutting Tool Inserts

R. Bhola, S. Das Gupta and J.K. Jacobs 235

### Ceramic Applications for Wear Protection of Pipe Lines and Cyclones

J. Foster 247

### Heating Elements and Electrically Conducting Ceramics

S. Das Gupta, S. Johar, J.K. Jacobs and G. Das Gupta 279

### Silicon Nitride Valves for Automotive Engines

G. Woetting, H.A. Lindner and E. Gugel 283

### Ceramic Filters for the Cast Metal Industry

A.L. Matthews 293

### Applications of Porous Ceramics

I. Nettleship 305

### The Use of Advanced Ceramics in Abrasive Applications

J.E. Patchett 325

### Applications of Ceramics in Armor Products

B. Matchen 333

### Ceramic Biomaterials

D.W. Jones 345

### Silicon Carbide Ceramics for Nuclear Application

V.D. Krstić, M.D. Vlajić and R.A. Verrall 387

### Applications of Plasma-Sprayed Ceramic Coatings

R.B. Heimann 399

### Applications of Sol Gel Ceramic Coatings

D. Barrow 443

### Thermal Barrier Coatings for Heta Engines

T. Troczynski, S. Cockcroft and H. Wong 451

### Ceramic Linings of Pipes Using SHS Technology

O. Odawara 463

### Applications of Silicon Nitride Ceramics

F.L. Riley 479

### The Manufacture of Alumina and its Use in Ceramics and Related Applications

K.A. Evans 489

### Applications of Zirconia Ceramics

I. Birkby and R. Stevens 527

