

ADVANCED CERAMICS IN CHEMICAL PROCESS ENGINEERING

Edited by

B. C. H. STEELE

Department of Materials, Imperial College, London, SW7 2BP

and

D. P. THOMPSON

*Department of Mechanical, Materials and Manufacturing Engineering,
The University, Newcastle upon Tyne, NE1 7RU*

BRITISH CERAMIC PROCEEDINGS No. 43 DECEMBER 1988



Published by The Institute of Ceramics
Shelton, Stoke-on-Trent, Staffs. U.K.

Contents

1.	Engineered Ceramics for the Chemical Industry <i>H. Knoch</i>	1
2.	Erosion and Microstructural Relationships of Glass Ceramics <i>S. Carter, R. D. Rawlings and P. S. Rogers</i>	13
3.	The Development of a Comparative Corrosion/Erosion Test for Engineering Ceramics <i>J. M. Cox and R. Morrell</i>	29
4.	The High-Temperature Corrosion Prevention of Alloys by means of Thin Al_2O_3 Films deposited by MOCVD <i>R. W. J. Morssinkhof, T. Fransen, M. M. D. Heusinkveld and P. J. Gellings</i>	41
5.	The Volumetric Ceramic Receiver (VCR) Potential of Ceramics for Solar Heat Exchangers <i>W. E. C. Pritzkow</i>	51
6.	The Design of Composite Ceramic Catalysts for Use in a Reactor powered by Electromagnetic Energy <i>A. Ovenston, S. Miri and J. R. Walls</i>	57
7.	Applications of Ceramic Honeycomb Monoliths for the Combustion of Organic Emissions <i>C. Bennett, S. T. Kolaczkowski and W. J. Thomas</i>	67
8.	The Control of Pore Size in the Manufacture of Ceramic Filters <i>R. A. Clark, M. F. Hall and J. N. Kirk</i>	77
9.	Porous "Ceramic" Membranes produced from Anodizing Aluminium <i>R. C. Furneaux and M. C. Thornton</i>	93
10.	Ceramic Membranes as Catalytic Active Materials in Selective (Oxidative) Dehydrogenation Reactions <i>V. T. Zaspalis, K. Keizer, W. van Praag, J. G. van Ommen, J. R. H. Ross and A. J. Burggraaf</i>	103
11.	New Inorganic Membranes <i>L. Cot</i>	111
12.	Initial Studies of a Novel Ceramic Membrane Catalytic Reactor <i>A. P. Davidson and M. Salim</i>	119
13.	Properties and Applications of Electrode Materials based on a New Process for Manufacture of Ti_2O_5 , (Ebonex [®]) <i>K. Kendall, J. D. Birchall, N. McN. Alford and R. L. Clarke</i>	131

14. Carbon Monoxide Oxidation over Platinum supported on Yttria-Stabilized Zirconia	139
<i>I. S. Metcalfe</i>	
15. Development of Ceramic Oxide Electrolytes for the Electrochemical Separation of Oxygen from Air	151
<i>M. Denis-Dumelie, G. Nowogrocki and J. C. Boivin</i>	
16. Ceramic Electrochemical Reactors Incorporating Solid Oxide Electrolytes	163
<i>B. C. H. Steele</i>	
Author Index	173
Subject Index	175