

PLANT/OPERATIONS PROGRESS

Edited by T. A. Ventrone

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REVIEWS IN CHEMICAL ENGINEERING

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AIMS & SCOPE: The main aim of *Reviews in Chemical Engineering* is to develop new insights and to promote interest and research activity in chemical engineering and applied chemistry, as well as the application of new developments in these areas. The *Reviews* offers authoritative articles written by leading chemical engineers, applied scientists and mathematicians, focusing on significant topics in the chemical engineering field. Expanded articles which review an entire field are also occasionally solicited. Due to the broadening effects of and interest in chemical engineering issues and developments, *Reviews in Chemical Engineering* has become an important source of information and is sure to play a significant role in the growth of the field as a whole.

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BOOK

Principles of Polymerization Engineering

By J. A. Biesenberger and D. H. Sebastian, Wiley
Interscience, 1983, 744 pp., \$54.50.

Polymerization engineering refers to that part of chemical reactor engineering that is unique to processes for polymeric products. Special features of polymer reactors include the distributions of molecular size and composition produced, the difficult mixing, heat and mass transfer operations, the unusual post-reactor treatments and the multiobjective optimization problems.

Biesenberger and Sebastian's book is the first complete volume devoted to polymerization engineering. The book has six chapters (Fundamentals, Reaction Phenomena, Mixing Effects, Thermal Effects, Flow Phenomena and Polymer Devolatilization), followed by seven appendices covering details of chemistry, mathematical methods and other background. There are two classes of audiences for a book of this nature. Industrial workers without sufficient background in polymerization engineering may wish to fortify their chemistry background in polymerization with engineering aspects or their background in other sorts of chemical reactors with information on the idiosyncrasies of polymer reactors. Academics may hope to use such a volume as a course textbook. This book attempts to serve both audiences. I think it is somewhat more successful toward the first group than the second.

The first chapter on fundamentals is useful to all. Beyond the first chapter, the book becomes progressively more a recounting of the research directions and accomplishments of the authors in the last twenty years. This is not necessarily bad as the senior author especially has long been an important contributor, and in the preface the authors say clearly that this is their intent rather than a comprehensive review of the area.

Consequently, however, the book does suffer from a certain lack of balance or perspective. I have used the book as required reading for a senior/graduate student elective course. While I found it a wealth of information for myself, I do not think that it is a particularly effective means by which to be introduced to the field. It can be used for a course such as this only if the instructor is willing and able to provide the proper balance, counter point and additional information.

The authors are to be commended for a useful effort. They have provided a service to many in making their ideas more accessible and have no doubt stimulated others both to learn more about the subject and also extend their efforts.

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