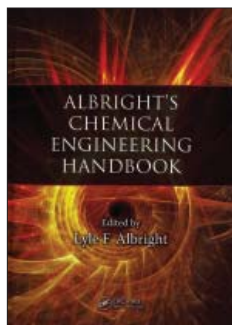




ALBRIGHT'S CHEMICAL ENGINEERING HANDBOOK

Lyle Albright, Editor, CRC Press, Boca Raton, FL, 1,909 pages, \$170, Nov. 2008, ISBN: 978-0-824-75362-7



With a heft and title similar to “Perry’s Chemical Engineers’ Handbook,” “Albright’s Chemical Engineering Handbook” arrived as a welcome rival to the old standby, Perry’s. As suggested in my June 2008 review, Perry’s — overburdened with legacy words and old figures — could benefit from some fresh competition. As a competitor, however, the Albright volume has its own faults.

Overall, Perry’s retains the lead, due in part to the head start it received through its origins at DuPont 80 years ago. Its prime advantage is its selection of contributors, which gives it more practical content.

What is better about “Albright’s Handbook?” It benefits from some excellent chapters — most of which have a single author, providing good continuity within chapters. Noteworthy chapters include “Fluid Flow” by Ron Darby and “Distillation” by Jim Fair. Others fill gaps that Perry’s surprisingly left open, like biochemical engineering. Also, CRC Press did an excellent job on clarity and scaling in its drawings.

What is disappointing about Albright’s? Even though it carries a 2009 date, the content looks older even than Perry’s latest edition (which retains contributions from some long-departed authors). Indeed, reference dates suggest that most of Albright’s chapters were composed in the last century.

A second overriding problem is that practical engineering content is sparse. Space is heavily used for concepts, rather than examples and data. This is most evident in the first chapter, which is devoted to physical and chemical properties. It offers a good discussion of background relationships, but supplies only a single table with values for steam and water. In contrast, Perry’s chapter on physical and chemical data provides 364 tables and 31 charts. Even more to my liking, Perry’s offers 42 worked examples for property prediction.

The preface to Albright’s posits that a handbook should differ from a textbook, yet, with its focus on concepts rather than applications, Albright’s does not always fulfill its own “handbook” definition. Where case histories exist, they often lack specifics, similar to the problems at the end of a college text chapter. What an engineer needs in an example is enough information to avoid making major mistakes in interpretation. As an industrial problem-solver or process designer, I might read the material out of curiosity but would not have used it in the course of my work.

A symptom of the academic tone is the presence of

references. “Chemical reaction engineering” has 324 references, “electrochemical engineering” has 196 references, and “mathematics” has 199. These may add credibility, but for a handbook they mainly add clutter. Someone selected to author a handbook chapter should carry the implicit endorsement of the editor, and needn’t provide excessive references — beyond a few carefully chosen ones for users who want to delve deeper into a subject.

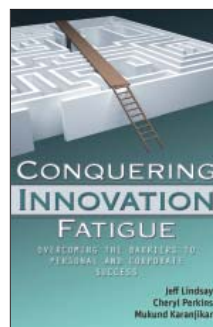
Most of Albright’s authors came out of the academic community, although Dow supplied three authors and Fluor supplied one. Missing are contributions from other companies that have been technology leaders, such as ExxonMobil, DuPont, BASF, BP, and Shell. The chapters on extraction, reactor design, drying, biochemical engineering and electrochemical engineering would have benefited from being written by engineers who had more contact with industry.

We could still use a better chemical engineering handbook. I’d like the next edition of Albright’s to include more authors with more-current design experience. I’d give points for cross-referencing between chapters. A better index in either Albright’s or Perry’s would be worth even more points. I’d deduct points for each redundant chart or figure.

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CONQUERING INNOVATION FATIGUE

Jeffrey Lindsay, Cheryl Perkins and Mukund Karanjikar, John Wiley & Sons, Inc., Hoboken, NJ, 279 pages, \$40, July 2009, ISBN: 978-0-470-46007-8



Subtitled “Overcoming the Barriers to Personal and Corporate Success,” this book looks at the challenges faced by business people, inventors, entrepreneurs, and leaders in both the corporate and civic arenas. Two of the authors, Lindsay and Karanjikar, are chemical engineers (and leaders of AIChE’s Forest Bioproducts and Management Divisions, respectively), and they bring their own leadership experiences and

interactions with other creative people to this examination of factors that can discourage and hinder innovation.

The authors identify nine major “innovation fatigue factors” across three categories: personal and interpersonal factors; organizational factors, including strategy and culture; and external factors, including regulations, patents, and industry-university interaction. The book shows how these factors can block progress, and offers practical and cost-effective approaches to overcoming such barriers, leading to freer innovation and achievement.