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Book reviews

W. Possart (Ed.), Adhesion: Current Research and Applications, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany, 2005 (xxxii +575 pp., £120.00, ISBN 3-527-31263-3)

Adhesion is a term, which is basically related to the joint of different materials that can resist mechanical loading. Fundamentally, it summarizes all elementary processes at the interface that make two solid materials stick together. The interface is formed when one of the materials in a liquid state is brought into contact with the other solid one and then solidifies. This close interaction give rise to attractive forces known as Van der Waals forces, as chemical bonds of any form or as the electric double layer which is created by mobile charges. The fundamental adhesion forces not only fix some layers of adhesive molecules on the surface, but they can exert strong influence on the formation of chemical and morphological structure as well as on molecular mobility in the adjacent region of the adhesive during solidification. All the adhesion processes are the subject of intensive research.

Adhesion: Current Research and Applications provides a collection of 34 contributions on the basic and applied aspects of adhesion. As per the editor's note this book is based on the lectures held at the 7th European Conference on Adhesion (EURADH) held at Freiburg (Germany), organized by the German DECHEMA (Society for Chemical Engineering and Biotechnology) in cooperation with French Section and the British Society for Adhesion and Adhesives.

The preliminary chapters provide information on the interfacial chemistry of adhesion, modelling fundamental aspects of surface chemistry of oxides and their interactions, adhesion and fiction properties of elastomers at macroscopic and nanoscale scales etc. The topics on mapping epoxy interphases, mechanical interphases in epoxies, adhesion molecule-modified cardiovascular prostheses, bioadhesion and biocontamination, new resins and nanosystems for high-performance adhesives, novel adhesion promoters, alkene pulsed plasma functionalized surfaces, laser surface treatment of composite materials, ageing mechanisms and durability are also included in the book. Advanced mass transport applications with elastic bonding, The concluding chapters are focussed on elastic bonding in mass transportation applications, adhesive joints for modular components in railway applications, and behaviour of dismantlable adhesives.

In conclusion, this volume explores the current issues and different aspects of adhesion from fundamental research to technical applications, and can be useful resource of information for physicists, chemists, biologists and engineers.

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G.V. Barbosa-Canovas, M.S. Tapia and M.P. Cano, (Eds.) Novel Food Processing Technologies (2005, CRC Press/ Taylor and Francis Group, Boca Raton, FL/USA) (xiv+ 692 pp., £99.00, ISBN 0-8247-5333-X)

Food processing industry is one of the largest manufacturing industries worldwide and possesses global strategic importance. With the advancement of science and technology, new food processing technologies are capturing the attention of many scientists in academia and industry. Consumers prefer high-quality foods with longer shelf life and, clearly, some of the new technologies can meet these demands. Newer strategies have been devised to modify the existing food processing techniques and the adoption of novel processing technologies.

Novel Food Processing Technologies examines the current trends in alternative food processing and preservation techniques. The book also addresses the new challenges facing the food industry by providing specific examples on how these alternatives could be applied to specific food products, As per the author' note, this book is the outcome of EMERTEC conference held in Madrid, Spain, which was organized and sponsored by *Ibero-Amercian Program for Science and Technology*.

Pulsed electric fields (PEF) treatment is one of the most important non-thermal processes available for food preservation because of its potential to inactivate microorganisms without altering the organoleptic and nutritional properties of foods. The opening chapters of the book provide detailed information on the current status, application and future potential of PEF technology. The fundamentals, applications and advances of high-pressure technology in foods are discussed in the subsequent chapters. The topics of food irradiation, ultraviolet light and food preservation, microbial inactivation by ultrasound, use of magnetic fields, sous