

Malcolm J. Crocker

John Wiley & Sons Inc., New York NY, 2007 1569 pp., \$195 USD (Hardcover)

ISBN: 978-0-471-39599-7

Handbook of Noise and Vibration Control is the second large (more than 1,200 pages) compendium of acoustical material compiled by Malcolm Crocker with over 125 contributing authors. In addition, the material in 130 chapters was reviewed by more than 250 reviewers who are practicing specialists in each of the chosen subject.

Handbook of Noise and Vibration Control is divided into eleven major parts – I) Fundamentals of Acoustics and Noise; II) Fundamentals of Vibration; III) Human Hearing and Speech; IV) Effects of Noise, Blast, Vibration, and Shock on People; V) Noise and Vibration Transducers, Analysis Equipment, Signal Processing and Measuring Techniques; VI) Principles of Noise and Vibration Control and Quiet Machinery Design; VII) Industrial and Machine Element Noise and Vibration Sources – Prediction and Control; VIII) Transportation Noise and Vibration – Sources, Prediction and Control; IX) Interior Transportation Noise and Vibration Sources – Prediction and Control; X) Noise and Vibration Control in Buildings; XI) Community and Environmental Noise and Vibration Prediction and Control.

Each of these parts has different sub-chapters written by various specialists in the field. Part I has ten chapters: 1) Fundamentals by M.J. Crocker; 2) Theory by M.J. Crocker; 3) Sound Sources by P.A. Nelson; 4) Sound in Rooms by K.H. Kuttruff; 5) Sound in Atmosphere by K. Attenborough; 6) Sound in Structures by J-L. Guyader; 7) FEM by R.J. Astley; 8) BEM by D. W. Herring, T. W. Wu and A.F. Seybert; 9) Aero-Noise by P.J. Morris and G.M. Lilley; and 10) Nonlinear Acoustics by O.V. Rudenko and M.J. Crocker. The above list is a clear indication of the values of each chapter as they are written by recognized specialists in their chosen field.

An overview of Part X, Noise and Vibration Control in Buildings, is provided in this brief review to provide a flavor of the book as a whole. Part X, written in a mere 176 pages, has 17 chapters of varied length and depth and covers information relevant to building noise and its control. The introductory chapter to Part X, Chapter 102, written by L.C. Sutherland, discusses the rationale behind this part as well as the grouping of the remaining 16 chapters into seven main topics. It was refreshing to see three new subjects - wind induced noise and vibration, seismic impacts, and low-frequency noise in buildings, included in this grouping. The main topics cover room acoustics and room absorption, noise sources, regulatory criteria, both in USA and in Europe, ventilation systems and their noise levels, control of mechanical system noise, aerodynamic sound and much more. The main thrust of each of the chapters is seen to be basic introduction and a few ideas about noise and vibration control. The only chapter with considerable control effort was in Chapter 112 while dealing with vibration isolation of ventilation systems. Each chapter is packed with dense information. However, the reader needs to clearly parse the information for one's own use.

As Richard Lyon points out in his foreword, this handbook is useful for those practitioners who have prior knowledge of the fundamentals.

Ramani Ramakrishnan

Department of Architectural Science, Ryerson University,
Toronto CANADA