

## **"Noise in the plastic Processing Industry" by Bob Peters**

If you are struggling with industrial noise, the second edition of the book "Noise in the plastic Processing Industry" by Robert Peters will be an important item for you. It is written from the perspective of a consultant with several decades of experience. The title and selection of the case studies indicate the plastics processing industry, but it is possible to use all this knowledge successfully in various branches of industry. The book will be useful to all who are involved in the noise control. Health and safety specialists, environmental specialists, engineers responsible for machinery and factory managers, all of them will find there useful information. Due to the wide range of topics discussed and numerous references, it can also be a handbook for an acoustician starting their business in the industry.

The book is organized in ten chapters. The table of contents has been expanded in such a way that the book acts as a guide. The reader can quickly find an interesting issue. At the end of the book, there are the index, glossary, and descriptions of abbreviations and symbols.

In the introduction, the author presents the history of the problem with noise in the industry. He brings up examples of the noise health effects starting from the 18th century and presents the key reports and regulations over the years. He overviews techniques and methods of noise reduction. All of that to show how important and up-to-date is the noise protection subject.

The author begins with the theoretical basics. Chapter 1 explains the basic concepts of sound and the quantities that characterize the noise. The author puts a strong emphasis on decibel scales, which is unintuitive for the beginners in acoustics. Then, he discusses the phenomena of generation and transmission of sound by introducing the necessary definitions.

The next chapter nr 2 discusses the basic principles of noise control. We read why the problem with noise arises and what are the basic noise reduction measures. The author emphasizes that effective action must be preceded by a proper diagnosis of the problem in a particular situation.

Chapter 3 provides a practical guide to the problems identified in the plastics processing industry. The author presents individual production processes, identified noise sources, and possible noise reduction measures.

In chapter 4, the topic of noise in the workplace is discussed in detail: The impact of noise on humans and the types of hearing damage; Established noise limits; Obligations of employers, employees and machine suppliers according to regulations. In fact, most of the knowledge needed by the EHS specialist is included here. Methods of measuring noise and risk assessment and managing workplace noise in the industrial companies are presented.

Chapter 5 contains rules for the selection of hearing protectors. The types of hearing protectors and their selection procedures are discussed, taking into account basic calculations and practical instructions for their use.

In Chapter 6, the author focuses on noise emitted to the external environment from the perspective of current regulations. Here you can take practical advice on environmental noise assessment and tips on how to plan new investments. The extremely broad subject has been presented briefly to assist you with action plans preparation.

Chapter 7 treats the methods of predicting noise levels used in acoustic analyses. A proper and comprehensive diagnosis is the basis of any action plan. We read here about the relationship

between sound levels at any point of space and the noise emission parameters of the source. The phenomena of sound propagation indoors and outdoors and the current computing solutions used for prediction are discussed.

The author devoted the entire chapter 8 to the noise in specifications of the machines. The machine manufacturer is obliged to design machinery minimizing noise and declaring emissions. The user of the machine must know what kind of values the manufacturer declares, under which conditions and for which operating modes the noise is measured. The procedures for testing various types of machines are presented.

The noise in the vicinity of a machine installed in specific space conditions will be different from the value declared by the manufacturer. Therefore, in Chapter 9, the author made practical advice on how to adapt the space around the workplace to minimize the noise.

The culmination of the book is chapter 10 containing case studies that will be probably most interesting from the reader's perspective. Probably because the author devoted them close to one-fifth of the books. Here we have a collection of already published case studies based on data from the HSE (Health and Safety Executive), BRE (Building Research Establishment) and INVC (Industrial Noise & Vibration Centre) organizations and some other sources. Here you can find comprehensively presented problems of entire industrial plants as well as individual machines and processes. You can read what actions have been taken and what was the results in specific cases. The conclusion is that the methodical action based on professional knowledge will help to solve the most pressing problems with noise.

With all responsibility I recommend the book as a source of professional knowledge and examples. The content is presented succinctly and at the appropriate level of detail. The number of references recalled by the author is inspiring. Persons responsible for industrial noise will be delighted by this book and can successfully treat it as a guide in everyday work. It is available in hardcover and well fitted to your suitcase, so I'll wish you all a pleasant reading experience.

Bartosz Chmielewski, Director of the Acoustics Division, KFB Acoustics, Poland