

Preface

This book was motivated by the inspiration gained during our literature survey in acoustic textiles. A prominent gap was felt to gather concise information in one place. The information available were scattered in some published papers and conference proceedings. Although some books covered the fundamentals of sound and techniques of noise control, there were a few literatures especially a textbook that provides knowledge on the topic as a whole. The editors felt that there is a necessity to include the relevant information in the form of a book, which can provide in-depth knowledge to the readers.

The editors' main aim is to provide in-depth knowledge to all the personnel involved in the production and installation of acoustic textiles. Acoustic textile is multidisciplinary, which needs the knowledge of sound as in physics, engineering principles of noise control, understanding the fundamentals of textile materials, civil engineering and interior designing. As the application of fibrous materials in noise control is increasing in recent years, the knowledge of textile technology is essential for effective design of acoustic materials.

We have tried to make this book informative by covering all the aspects of sound, from its generation, propagation to methods of noise control; from the impact of noise on health to regulations governing the noise control. Various materials used including the manufacturing methods and their evaluation techniques; and influencing factors are highlighted. The major applications of acoustic textiles in transportation and civil engineering are also covered. Standards related to acoustic materials and noise regulations are also covered in this book. It also includes the organizations related to acoustic textiles, list of journals and recommended conferences around the globe.

This book provides state-of-the-art knowledge on fundamentals of sound, principles and materials used for acoustic applications. Contributors of this book are subject experts in their respective fields. The authors have shared their knowledge and experience through their latest research, which will serve as a single source of knowledge in the field. The book is written in simple language so that the people with minimal knowledge can easily understand the subject matter. It is anticipated

that the book with some scientific knowledge and fundamental principles will dissipate knowledge to the acoustic engineers, students and research community.

The editors extend their sincere thanks to all the experts who have contributed valuable time and effort for the successful completion of the chapters, in order to create this important body of work. The editors are also thankful to Springer Publishing for their support for making this book a reality. We hope this book will help the academicians and researchers in the field of acoustic textiles in acquiring information on the subject matter.

Melbourne, Australia

Rajiv Padhye
Rajkishore Nayak

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Padhye, R.; Nayak, R. (Eds.)

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