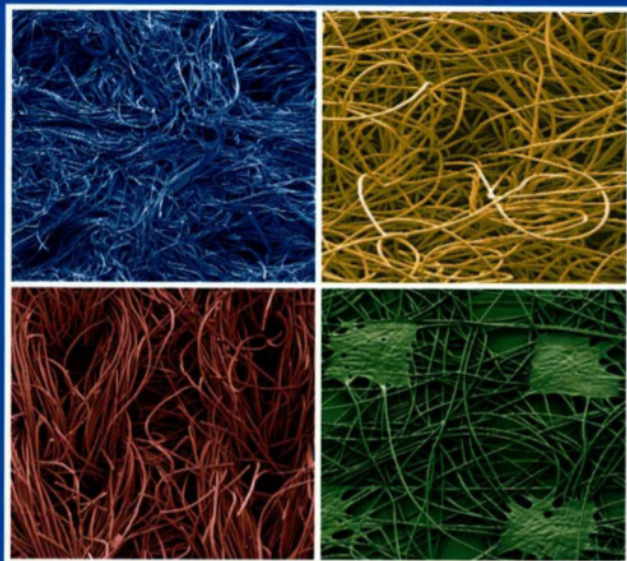


Nonwoven Fabrics

Raw Materials, Manufacture, Applications,
Characteristics, Testing Processes

Edited by
W. Albrecht, H. Fuchs, W. Kittelmann



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Edited by

Wilhelm Albrecht

Hilmar Fuchs

Walter Kittelmann

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Foreword

When in 1981 the world's first authentic and complete handbook on Nonwovens was published, the authors Albrecht and Lünenschloß already noted that these initially relatively simple substitution products had become an independent and technically sophisticated industry in its own right. Nonwovens owed their growth to an unusual multiplicity of raw materials and process options.

Since then 20 years have passed. Sales, distribution and diversity of an originally young and modest industry, whose focal points were clearly in Europe and USA, have multiplied. Experts expect a worldwide production of approx. 3.3 mio. tons at a market value of approx. US\$ 14.6 billion in the year 2000. This means more than 5% of conventional textile production will already be represented by Nonwovens. In numerous market segments, Nonwovens already play a leading role. In certain areas they have assumed genuinely novel functions – for example in textiles for personal and medical care.

Without doubt, the Nonwovens industry has also suffered during the course of its 50-years maturing process. Several markets are not longer growing or do not allow economically acceptable returns on investment any more. In a number of regions and market segments indiscriminating investments and the availability of turn-key technology have done severe harm to the industry.

For the qualified and responsible producer, however, the Nonwovens industry continues to offer endless new challenges and opportunities. Not many other fields of endeavour offer such creative diversity of raw materials and processes as well as a limitless variety of finishing and application possibilities in order to fulfil customer demands with tailor-made solutions. In this respect innovative Nonwovens producers can have confidence in a successful future.

In this spirit I welcome the new up-dated and extended version of the Nonwovens handbook and wish both, the authors and the publishers, the success they deserve. We all shall stand to benefit.

Preface

Twenty years ago, the reference book “Nonwovens” was kindly received by all concerned with textile manufacturing. In that book, more than 20 authors described in detail the raw materials, their processing into a wide range of nonwoven products, the characteristics of the products and the testing techniques then in use. “Nonwovens” was much asked for in industry, education and, with regard to new products, in R&D. Meanwhile, the quantity of nonwovens made worldwide has grown, the range of goods based on nonwovens is much wider, the technical equipment, the raw materials as well as the auxiliaries used have been further developed. Therefore, the idea did not come as a surprise to revise the book. This meant to find a team of authors fully conversant with the current state and the quantitative and qualitative developments going on in a field of industry which is – as hardly any other industry – run on a worldwide scale. A sophisticated project like this called for specialist co-ordination, which was provided by Sächsisches Textilforschungsinstitut in Chemnitz, a research institute preferably dealing with questions of nonwoven production and innovation in the field of nonwovens. This institute works closely together with companies that make or process nonwovens as well as with the suppliers of fibres, the manufacturers of the relevant equipment and the producers of auxiliaries, which has been very helpful.

Today, the nonwoven-producing industry is best characterized as an industry that has accomplished a rise in product quality which the user can see and feel. Its range of products has become ever larger. This has been achieved by creative work and successful co-operation with the suppliers of raw and auxiliary materials as well as the manufacturers of equipment. Based on this co-operation, there are good prospects for novel products coming. Future developments will, in the widest sense of the word, continue to focus on best-possible functionality and lowest-possible consumption of resources. To this end, it will be important all concerned work together even more closely. The editing team give their views of ways to go and aims to reach in the future in the last Chapter of this book headlined

More help was provided by Wiley VCH Publishers, who will, except for the German edition, publish the book in English and Chinese, too. We are grateful to Dr. Böck for comprehensive advice. Thanks to her efforts, the book includes advertisement which will help the nonwoven-producing industry to deliver best quality and to develop new products. Our thanks go to all authors and those who have contributed in whatever way.

Today, nonwovens are part of what is known as the world of textiles. Due to their tailor-made characteristics, they are highly suitable to meet a wide diversity of requirements. Thus, nonwovens are more than products which are up-to-date. They give evidence that it is possible to master the challenge of the future.

We hope the reader can make good use of this book.

Wilhelm Albrecht
Hilmar Fuchs
Walter Kittelmann

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