
The design, planning and realisation of tensile structures made of flexible elements require a holistic approach and a close cooperation of all parties involved. The necessary knowledge can be obtained by the study of the book at hand by Michael Seidel, which is based on his PhD Thesis at the Technical University of Vienna.

The first part of the book represents a comprehensive overview of all flexible elements such as ropes, belts, keder, coated fabrics, knitted fabrics and foils. Their production process, function and mode of operation are explained. In addition to the thorough discussion of ropes, the group of the coated fabrics is given special attention. Their mechanical behaviour, patterning, connection and joint methods are discussed with regard to the handling and assembly of the single elements in complex structures.

The second part of the book covers the assembly and erection planning – a question of vital importance for the design and creation of convincing solutions and the key contribution of the book to the building with flexible elements. The common equipment used for transport, lifting and tensioning of linear and surface elements are described. The most important assembly methods of typical mechanically pre-stressed membrane and rope structures are presented and discussed. All necessary steps starting from the preparation and pre-assembly to the erection on the construction site are investigated, compared and commented on.

The great value of the book is the well-founded analysis, classification and evaluation of the complex process of planning and creation of tensile structures. The contents are accompanied by comprehensible illustrations and informative photos. The book can be warmly recommended to all architects and engineers concerned with the design and construction of membrane structures.

Christoph Gengnagel