

Preamble About Compendium “Manufacturing Processes”

Key factors for quality and economic efficiency of industrial production are the choice of the manufacturing processes and their design. Manufacturing Technology is an elemental part of the fundamental knowledge of machining engineers. Also design engineers have to gain knowledge in this field, since they have high responsibility for the manufacturing costs. However, the students as well as practising experts who are willing to enhance their knowledge have the problem to collect information. To the current day there is no extensive, but still clear description of manufacturing processes focussing on the technology itself.

In order to counter this necessity the compendium at hand is supposed to present an overall picture of the most common machining and non-machining manufacturing processes. Additional to the description of the techniques these volumes are desired to deliver an insight in the underlying physical principles whenever it is necessary for the understanding of the processes.

The apportionment of the compendium “Manufacturing Processes” into

Volume 1: Machining

Volume 2: Grinding, Honing, Lapping

Volume 3: Electrical Erosion and Hybride Processes

Volume 4: Forming

Volume 5: Casting, Sintering, Rapid Prototyping

groups techniques with similar active principles together.

In front of the first volume is placed a technique-spanning section to the tolerances and questions of the workpiece measuring techniques used in manufacturing.

Within the individual volumes was tried to avoid an encyclopaedic listing of the techniques. The book series are primarily intended for junior scientists in the fields of manufacturing technology and construction. In addition, the practitioner will be able to refurbish or extend his knowledge. The variety of manufacturing problems