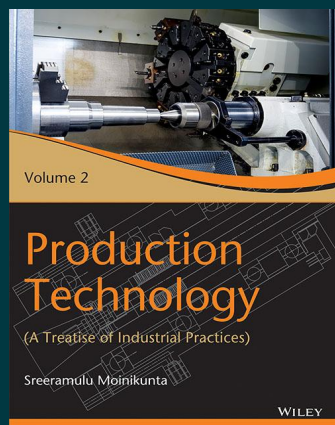




# Production Technology, Vol 2: A Treatise of Industrial Practices

By Sreeramulu Moinikunta

Paperback

9788126571260

**₹1,499.00**

**Pages: 516**

## Description

Production Technology (Vol. II) is a ready reckoner data handbook for the practicing engineers and technicians in the manufacturing engineering industry. It aims to re-orient the students or the just-passed-out graduates and develop in them the skills required for the industry as a whole, in particular, for the manufacturing engineering industry. It gives reference or guidance data in the form of figures, tables and photos. This book intends to be readily referred as a reference guide for all relevant subjects with appropriate application knowledge, which is specified in design practices. The book is designed to provide the students an industry-compatible education.

## About the Author

### Sreeramulu Moinikunta

Mr. Sreeramulu Moinikunta worked in Hindustan Aeronautics Ltd., Koraput, Orissa

## Table of Contents

Foreword

Preface

About the Author

Acknowledgments

Chapter 1: Theory of Metal Cutting

1.1 Introduction

1.2 Theory of Metal Cutting

1.3 Mechanics of Chip Formation

1.4 Built-Up Edge Formation (BUE)

1.5 Chip Breakers

1.6 Orthogonal Metal Cutting

1.7 Merchant's Circle Diagram and its Use

1.8 Temperature in Metal Cutting

Chapter 2: Cutting Tool Technology

2.1 Introduction

2.2 Cutting Tool Materials

2.3 Tool Wear

2.4 Mechanics of Cutting Tool Wear/Types of Tool Wears

2.5 Geometry of Tool Wear

2.6 Tool Life

2.7 Machinability

2.8 Cutting Conditions

2.9 Cutting Fluids

2.10 Designing and Manufacturing of Cutting Tools

Chapter 3: Machining Processes and Machine Tools

3.1 Introduction

3.2 Turning Process

3.3 Turning Machines

3.4 Milling Process

3.5 Drilling and Boring

3.6 Drilling and Boring Machines

3.7 Planing

3.8 Planing Machine

3.9 Slotting

3.10 Broaching

3.11 Gear Cutting

Chapter 4: Abrasive Machining Processes

4.1 Introduction

4.2 Characteristics of Grinding Wheels

4.3 Types of Grinding Wheels

4.4 Types of Grinding Operations

4.5 Types of Grinding Machines

4.6 Abrasive Wheel Bonds and Cutting Speeds

4.7 Grinding Wheel Wear

4.8 Dressing and Trueing

Chapter 5: Superfinishing Processes

5.1 Introduction

5.2 Honing Process

5.3 Lapping Methods

5.4 Superfinishing Process

5.5 Polishing

5.6 Buffing

5.7 Burnishing

Chapter 6: Unconventional Machining Processes

6.1 Introduction

## 6.2 Characteristics of UCM Processes

## 6.3 Chemical Machining

## 6.4 Photochemical Machining

## 6.5 Electrochemical Machining

## 6.6 Electrochemical Grinding

## 6.7 Electrical Discharge Machining

## 6.8 Wire-Cut EDM

## 6.9 Electron Beam Machining

## 6.10 Plasma Arc Machining

## 6.11 Laser Beam Machining

## 6.12 Ultrasonic Machining

## 6.13 Abrasive Jet Machining

## 6.14 Water Jet Machining

## 6.15 Abrasive Water Jet Machining

## Chapter 7: Engineering Materials

### 7.1 Introduction

### 7.2 Steels

### 7.3 Cast Iron

### 7.4 Non-Ferrous Materials

### 7.5 Non-Metallic Engineering Materials

## Chapter 8: Phase Transformations

### 8.1 Introduction

### 8.2 Phase Transformations

### 8.3 Terminology

### 8.4 Iron–Carbon Phase Diagram

### 8.5 Some Conclusions

### 8.6 Phase Transformations: Kinetics

### 8.7 Isothermal Transformation (Ttt) Diagrams

## Chapter 9: Heat Treatment Processes

### 9.1 Introduction

### 9.2 Types of Heat Treatment Processes

### 9.3 Objective-Based Categorization of Heat Treatment Processes

### 9.4 Annealing Processes

### 9.5 Hardening

### 9.6 Induction Hardening

### 9.7 Carburizing

### 9.8 Case Hardening

### 9.9 Flame Hardening

9.10 Plasma Nitriding

9.11 Tempering

## Chapter 10: Surface Treatments

10.1 Introduction

10.2 Main Classification

10.3 Treatments Covering Surfaces

10.4 Treatment Altering the Surfaces

## Chapter 11: Design for Manufacturing

11.1 Introduction

11.2 Design Practices

11.3 Projections

11.4 Dimensioning

11.5 Geometrical Accuracies

11.6 Introduction to Computer-Aided Design and Drafting (CADD)

11.7 Design Analysis

## Chapter 12: Limits, Fits, and Tolerances

12.1 Introduction

12.2 Limits, Fits, and Tolerances

12.4 Fundamental Deviation (Allowance)

12.5 Process Allowance

12.6 Size Designations in Tolerancing

12.7 Fits

12.8 Symbols Used in Fits and Tolerances

12.9 Preferred Fits

12.10 Machining Process Capability and its Grades

12.11 Tolerance and Capability Studies

12.12 Process Control Charts

## Chapter 13: Surface Finish

### Learning Objectives

13.1 Introduction

13.2 Components of Surface Texture

13.3 Main Components of Surface Deviations

13.4 Measuring Parameters As Per Din En Iso 4287-1998

13.5 Surface Finish Measurements

13.6 Manufacturing Process Capability and Achievable Surface Finish

## Chapter 14: Process Planning and CAPP\_335

14.1 Introduction

14.2 Basic Functions of Process Planner

14.3 Manufacturing Process Planning

14.4 Review and Control Process

14.5 Introduction to Computer-Aided Process Planning (Capp)

Chapter 15: Jigs and Fixtures

15.1 Introduction

15.2 Principles of Location

15.3 Principles of Guiding Elements

15.4 Drill Jigs

15.5 Fixtures

15.6 Power Clamping Systems

15.7 Modular Fixturing System

Chapter 16: CNC Machine Tools

16.1 Introduction

16.2 What is Numerical Control Machine?

16.3 What is CNC Machine?

16.4 Introduction to DNC

16.5 Basic Principles of CNC Machines

16.6 CNC Machine Advantages Over Nc Machine

16.7 How CNC Machine Works

16.8 Application of CNC Machines

16.9 CNC Machines

16.10 Special Attachments on CNC Machine Tools

16.11 CNC Programming

16.12 Computer-Aided Design and Computer-Aided Manufacturing

16.13 Modular Tooling Systems

16.14 Tool Pre-Setting

Chapter 17: Standardization

17.1 Introduction

17.2 Design Standards

17.3 M-Material Standards

17.4 Tooling

Review Questions

Objective-Type Question

Short Answer Questions

Long Answering Questions

GATE Model Questions

Answers

References

**To purchase this product, please visit:**

<https://www.wileyindia.com/production-technology-vol-2-a-treatise-of-industrial-practices.html>



Scan to buy