



DESIGN OF MACHINE ELEMENTS

H.G. Patil
S.C. Pilli
Ravindra R. Malagi
M.S. Patil



Design of Machine Elements, 1/e

H.G. Patil, M.S. Patil, Ravindra R. Malagi & S.C. Pilli

2019	1264 pp	Paperback	ISBN: 9789384588502	Price: 995.00
------	---------	-----------	---------------------	---------------

About the Book

Design of Machine Elements has been written as per the latest syllabus of different technical Universities. This will be a useful resource for the students of Mechanical Engineering to make them understand the concepts that go behind the designing of different machine elements. Each chapter contains a brief theory and a large number of solved examples. The chapters one to five deal with the basic principles of machine design. The topics of design philosophy, engineering materials, mechanics of materials and failure prediction methods are covered. The remaining book covers the design procedures for individual machine elements. The details of the forces acting, stresses induced, materials used and design procedures prescribed by the ISO, ISI AGMA standards are discussed. A large number of problems are solved in SI units using data from various sources. In all solved problems extensive reference is made to the data from our Machine Design Data Hand Book. This is indicated by the equation number, figure number, table number followed by MDHB. The probabilistic approach to design is introduced in the last chapter.

Table of Contents

1. Introduction to Machine Design
 2. Material Selection
 3. Stress and Strain Analysis
 4. Design for Static Strength
 5. Design for Fatigue Strength
 6. Shafts
 7. Keys, Cotter and knuckle Joints
 8. Couplings
 9. Power Screws
 10. Threaded Joints
 11. Riveted Joints
 12. Welded Joints
 13. Cylinders and Cylinder Heads
 14. Springs
 15. Spur Gears
 16. Helical Gears
 17. Bevel Gears
 18. Worm Gears
 19. Clutches and Brakes
 20. Flexible Mechanical Elements (Drives)
 21. Bearings and Lubrication
 22. Ball and Roller Bearings
 23. Design of I.C. Engine - Parts
 24. Flywheel
 25. Probabilistic Approach to Design
- Index

About the Author

H.G. Patil :- H.G. Patil, M. Tech from IIT-Kanpur, served in KREC (NITK) Surathkal; BVB College of Engineering & Technology Hubli; PGH College of Engineering & Technology, Vijaypur, Gogte Institute of Technology, Belagavi; and KLE Society's Dr. M.S. Sheshgiri College of Engineering & Technology, Belagavi. He had been Chairman, Board of Studies; Dean of Engineering faculty; Member of Academic Council; Senate and Syndicate of Karnataka University Dharwad.

M.S. Patil :- M.S. Patil is Professor in the Department of Mechanical Engineering, KLS Gogte Institute of Technology, Belagavi. He did M. Tech (Design Engineering) from KLECET, Belagavi and Ph.D. from NIT Calicut. After having an industrial experience of four years, he has got into the teaching profession in GIT, where he has been teaching since 1996. He has been teaching Machine Design all these years. He has attended many conferences and published many research papers.

Ravindra R. Malagi :- served in Gogte Institute of Technology in various capacities and presently he is working as Professor in Product Design and Manufacturing Department, Center for P.G. Studies VTU, Belagavi.

He has been member of BOE, and BOS in Mechanical discipline in Visvesvaraya Technological University, Belagavi. He has contributed lot to exam section of VTU and served as "special officer" in exam section VTU, Belagavi.

He has been taught subject of Elements of Design Engineering during the major part of his teaching career. He obtained his PhD degree for the thesis titled "A Finite Element Study on Dynamics of Piston Assembly Components in I.C. Engines Emphasis with lubrication and Frictional Losses".

He has published number of research papers in national and international conferences and journals. He is guiding PhD scholars.

S.C. Pilli :- PhD from IISc Bengaluru is Professor, Mechanical Engineering, Acharya Institute of Technology, Bengaluru. Earlier he retired as Principal of KLE's Dr M.S. Sheshgiri College of Engineering & Technology, Belagavi. He has been member of Board of Studies in Mechanical Engineering, Academic Senate, VTU, Belagavi. He has more than 26 years of teaching experience in various capacities.