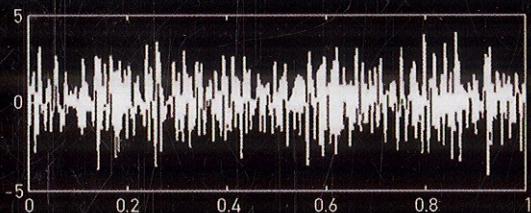


McGRAW-HILL

HANDBOOKS

Harris' Shock and Vibration Handbook

Sixth Edition



ALLAN G. PIERSOL
THOMAS L. PAEZ

CONTENTS

Contributors	xii
Preface	xiii
Chapter 1. Introduction to the Handbook	1.1
Cyril M. Harris and Allan G. Piersol	
Chapter 2. Basic Vibration Theory	2.1
Ralph E. Blake	
Chapter 3. Vibration of a Resiliently Supported Rigid Body	3.1
Harry Himmelblau and Sheldon Rubin	
Chapter 4. Nonlinear Vibration	4.1
C. Nataraj and Fredric Ehrich	
Chapter 5. Self-Excited Vibration	5.1
Fredric Ehrich	
Chapter 6. Dynamic Vibration Absorbers and Auxiliary Mass Dampers	6.1
Sheldon Rubin	
Chapter 7. Vibration of Systems Having Distributed Mass and Elasticity	7.1
Ronald G. Merritt	
Chapter 8. Transient Response to Step and Pulse Functions	8.1
Thomas L. Paez	
Chapter 9. Mechanical Impedance/Mobility	9.1
Elmer L. Hixson	
Chapter 10. Shock and Vibration Transducers	10.1
Anthony S. Chu	

Chapter 11. Calibration of Shock and Vibration Transducers	11.1
Jeffrey Dosch	
Chapter 12. Strain Gage Instrumentation	12.1
Patrick L. Walter	
Chapter 13. Shock and Vibration Data Acquisition	13.1
Strether Smith	
Chapter 14. Vibration Analyzers and Their Use	14.1
Robert B. Randall	
Chapter 15. Measurement Techniques	15.1
Cyril M. Harris	
Chapter 16. Condition Monitoring of Machinery	16.1
Ronald L. Eshleman	
Chapter 17. Shock and Vibration Standards	17.1
David J. Evans and Henry C. Pusey	
Chapter 18. Test Criteria and Specifications	18.1
Allan G. Piersol	
Chapter 19. Vibration Data Analysis	19.1
Allan G. Piersol	
Chapter 20. Shock Data Analysis	20.1
Sheldon Rubin and Kjell Ahlin	
Chapter 21. Experimental Modal Analysis	21.1
Randall J. Allemand and David L. Brown	
Chapter 22. Matrix Methods of Analysis	22.1
Stephen H. Crandall and Robert B. McCalley, Jr.	
Chapter 23. Finite Element Methods of Analysis	23.1
Robert N. Coppolino	
Chapter 24. Statistical Energy Analysis	24.1
Richard G. DeJong	

Chapter 25. Vibration Testing Machines	25.1
David O. Smallwood	
Chapter 26. Digital Control Systems for Vibration Testing Machines	26.1
Marcos A. Underwood	
Chapter 27. Shock Testing Machines	27.1
Vesta I. Bateman	
Chapter 28. Pyroshock Testing	28.1
Vesta I. Bateman and Neil T. Davie	
Chapter 29. Vibration of Structures Induced by Ground Motion	29.1
William J. Hall, Billie F. Spencer, Jr., and Amr S. Elnashai	
Chapter 30. Vibration of Structures Induced by Fluid Flow	30.1
Robert D. Blevins	
Chapter 31. Vibration of Structures Induced by Wind	31.1
Alan G. Davenport and J. Peter C. King	
Chapter 32. Vibration of Structures Induced by Sound	32.1
John F. Wilby	
Chapter 33. Engineering Properties of Metals	33.1
M. R. Mitchell	
Chapter 34. Engineering Properties of Composites	34.1
Keith T. Kedward	
Chapter 35. Material and Slip Damping	35.1
Peter J. Torvik	
Chapter 36. Applied Damping Treatments	36.1
David I. G. Jones	
Chapter 37. Torsional Vibration in Reciprocating and Rotating Machines	37.1
Ronald L. Eshleman	
Chapter 38. Theory of Shock and Vibration Isolation	38.1
Michael A. Talley	

Chapter 39. Shock and Vibration Isolation Systems 39.1

Herbert LeKuch

Chapter 40. Equipment Design 40.1

Karl A. Sweitzer, Charles A. Hull, and Allan G. Piersol

Chapter 41. Human Response to Shock and Vibration 41.1

Anthony J. Brammer

Index follows Chapter 41