

1. Record Nr.	UNINA9910963586503321
Titolo	Advanced materials in machine design : special topic volume with invited peer reviewed papers only / / edited by A. Muc, M. Barski and P. Kedziora
Pubbl/distr/stampa	Durnten-Zurich, Switzerland : , : TTP, , [2013] ©2013
ISBN	3-03813-967-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (232 p.)
Collana	Key engineering materials, , 1013-9826 ; ; volume 542
Altri autori (Persone)	MucAleksander BarskiMarek KedzioraP
Disciplina	620.11
Soggetti	Machine design Mechanical engineering Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Advanced Materials in Machine Design; Preface; Table of Contents; Current Problems in Design of Quantum Dots Used in Semiconductors; Defects in Single Walled Carbon Nanotubes (SWCNT); Molecular Dynamics in Simulation of Magneto-Rheological Fluids Behavior; Carbon Nanotube/Polymer Nanocomposites: A Brief Modeling Overview; Optimisation of Crane Mechanisms - Selected Problems; Optimal Design of PZT Actuators and Sensors in Composite Structural Elements; Piezoelectric Transducers; Stress Modification in Multi-Layer Walls of Expanded Pressure Vessels Hydro-Pneumatic Accumulator Study with the Use of Thermodynamic Model SimulationThe Peak Dynamic Loading of a Winch in Term of the Rope Flexibility; Application of Composite Materials in Modern Constructions; Methods of Infrared Non-Destructive Techniques: Review and Experimental Studies; Modern Coating Used in High Pressure Water Hydraulic Components; Application of Selected Multiaxial High-Cycle Fatigue Criteria to Rolling Contact Problems; Innovative Construction of 3-Component Aerodynamic Balance; Certain

Solution of Contact Problem for Spherical Shell

Damage Detection, Localization and Assessment in Multilayered Composite Structure with Delaminations
The Aluminium and the Steel Supporting System for the Horns Assembly in the High Intensity Neutrino Oscillation Project; Synthesis of the Active Cab Suspension Mechanism; Keywords Index; Authors Index

Sommario/riassunto

This book is a collection of papers concerning the application of advanced materials in machine design. Depending on the scale at which they are analyzed and used, we can talk about composites, nano-composites, nano-materials and intelligent materials, e.g. such as piezoelectric materials, magneto-restrictive materials, functional (Shape Memory Alloys) materials. The efficient and effective use of materials in design applications is directly connected with the good knowledge of the static and fatigue strengths of the material. The detection and control of damages and the study of their effects
