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Titolo	Mining Machines and Earth-Moving Equipment : Problems of Design, Research and Maintenance / / edited by Marek Sokolski
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Descrizione fisica	1 online resource (XII, 226 p.)
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Soggetti	Machinery Engineering geology Engineering—Geology Foundations Hydraulics Vibration Dynamics Quality control Reliability Industrial safety Materials science Machinery and Machine Elements Geoengineering, Foundations, Hydraulics Vibration, Dynamical Systems, Control Quality Control, Reliability, Safety and Risk Characterization and Evaluation of Materials
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Resilience Engineering: Agents of Open Pit Mining Machine Disasters in Poland -- Overview of Materials Testing of Brown-Coal Mining Machines -- Modelling, Computing and Analyzing Large-Size Rotary Joints -- Problems of Noise Hazards in Long-Operated Large-Size Mining Machines for Open Pits -- Problems of Research and

Operational Assessment of Earth-Moving Machines -- Dynamical Loadings of Booms in Front-End Wheel Loaders -- Modern Design of the Transport Vehicles Drive Structures -- Problems of Heat Transfer Modelling in Cooling Systems of Earth-Moving Machinery -- Development Trends and Research Problems of Hydraulic Hammers for Mining and Civil Engineering -- Development and Parameters Justification of Vibroscreen Feed Elements.

Sommario/riassunto

This book presents central problems in the design, research and maintenance of large-size mining machines for open pits, mobile earth-moving machinery, hydraulic hammers for mining and civil engineering, and screening processes for bulk materials. It brings together the insights of numerous respected academics to offer a thorough and multifaceted overview of the topic. The first few chapters of the book deal with specific problems that frequently occur in machinery for open-pit mining. They focus on the resilience of large-size mining machines, degradation of steels used for supporting structures, and modelling of large-size rotary joints, as well as the noise hazards in connection with degradation processes. The book then moves on to discuss problems arising in earth-moving machinery, such as new approaches to the assessment of operation and maintenance, dynamic loads in front-end loader booms, and synchronic transfer of power from the engine to the driven wheels. The book concludes by discussing hydraulic hammers for mining and civil engineering, and screening processes for bulk materials that combine a vibroscreen with additional feed elements. The book is primarily intended for undergraduate and graduate mechanical engineering courses, but will also be of interest to researchers and mechanical engineers.