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Soggetti	Surface hardening Furnaces
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Control of Heat-Treating Processes -- Temperature Control -- Temperature Measurement -- Types of Thermocouples -- Calibration of Thermocouples -- Pyrometers -- Temperature Controllers -- Assuring Temperature Control Accuracy and Uniformity -- Temperature-Uniformity Survey -- Development of Temperature-Uniformity Survey Procedures -- Governing Specifications for Temperature-Uniformity Surveys -- Test Thermocouples for Temperature-Uniformity Surveys -- Other Process Variables for Consideration -- Programmed Temperature Cycle Control -- Quenching System Parameters Control -- Quench Media Monitoring -- Quench Bath Temperature Control -- Quench Flow and Agitation Monitoring -- Overall Quench System Monitoring -- Atmosphere Composition -- Atmosphere Circulation Fans -- Endothermic Generator Control -- Atmosphere Carbon Control -- Atmosphere Furnace Pressure Measurement -- Vacuum Furnace Pressure (Vacuum) Monitor and Control -- Hydrostatic Measuring Devices -- Devices for Measuring Thermal and Electrical Conductivity -- Integrated Process Controllers -- Types of Heat Treating Furnaces -- Energy Sources -- Modes of Heat Transmission -- Conduction -- Convection -- Radiation

-- Methods of Gas Firing -- Direct -- Indirect -- General Furnace Construction -- Furnace Shells -- Insulation -- Ceramic Fiber Felts and Blankets -- Furnace Classification -- Batch Furnaces -- Continuous Furnaces -- Furnace Types -- Batch Furnaces -- Box Furnace -- Integral-Quench Batch Furnace -- Furnaces for Heat Treating with Fluidized Beds -- External-Resistance-Heated Fluidized Beds -- External-Combustion-Heated Fluidized Beds -- Salt-Bath Heat Treating Furnaces -- Surface Protection -- Distortion Control -- Selecting a Salt for a Given Application -- Externally Heated Salt Bath Furnaces -- Advantages and Disadvantages of Externally Heated Salt-Bath Furnaces. Immersed-Electrode Salt-Bath Furnace -- Advantages and Disadvantages of the Immersed-Electrode Salt-Bath Furnace -- Submerged-Electrode Furnace -- Advantages and Disadvantages of the Submerged-Electrode Furnace -- Other Types of Batch Furnaces -- Car-Bottom Furnace -- Bell Furnace -- Gantry Furnace -- Continuous Furnaces -- Rotary Hearth Furnace -- Shaker-Hearth Furnace -- Roller-Hearth Furnace -- Rotary-Retort Furnace -- Straight Chamber Continuous Furnace -- Pusher Furnace -- Walking-Beam Furnace -- Continuous-Belt Furnace -- Furnace Atmospheres -- Protect Work -- Transfer Heat -- Conduction -- Convection -- Radiation -- Supply Alloying Elements -- Classifications of Prepared Atmospheres -- Basic Types of Furnace Atmospheres -- Combustion Products Atmospheres -- Applications -- Reactions -- Air Atmospheres -- Applications -- Reactions -- Oxygen -- Nitrogen -- Carbon Dioxide and Carbon Monoxide -- Hydrogen -- Hydrocarbons -- Inert Gases -- Exothermic Atmospheres -- Rich Exothermic Gas -- Lean Exothermic Atmospheres -- Salt Atmospheres -- Temperature -- Low-Temperature Salt Baths -- Medium-Temperature Salt Baths -- High-Temperature Salt Baths -- Specialty Salt Baths -- Control -- Nitrogen Atmospheres -- Control -- Endothermic Atmospheres -- Applications -- Reactions and Control -- Ammonia Atmospheres -- Straight Ammonia Atmospheres -- Dissociated-Ammonia Atmospheres -- Hydrogen Atmospheres -- Inert Gas Atmospheres -- Vacuum Atmospheres -- Plasma Atmospheres -- Ion Nitriding -- Plasma Carburizing -- Other Atmospheres and Processes in Heat Treating -- Steam Atmospheres -- Charcoal Atmospheres -- Exothermic-Endothermic Atmospheres -- Pack Carburizing -- Foil Wrap -- Furnace Atmosphere Hazards -- Fire -- Explosion -- Toxicity -- Vacuum Furnace Processes -- Pressure Levels in Vacuum Furnaces -- Comparison of Vacuum and Atmosphere Furnace Processing.

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Sommario/riassunto

This book familiarizes readers with the causes and effects of vibration in turbine-driven gearboxes and how to troubleshoot and remedy problems in the field and in design. It covers both theory and practice and presents a wide range of examples, explaining how vibration problems arise in power-generating equipment and how they are evaluated, quantified, and resolved.
