1. Record Nr. UNINA9910779512703321

Titolo	Heat treatment [[electronic resource]] : theory, techniques, and applications / / Gregory J. Bonami, editor
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61324-684-6
Descrizione fisica	1 online resource (313 p.)
Collana	Materials science and technologies
Altri autori (Persone)	BonamiGregory J
Disciplina	671.3/6
Soggetti	Metals - Heat treatment Tempering
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	""HEAT TREATMENT: THEORY,TECHNIQUES ANDAPPLICATIONS""; ""CONTENTS""; ""PREFACE""; ""HEAT TREATMENT OF VITRIFIEDGRINDING WHEELS""; ""ABSTRACT""; ""1. INTRODUCTION""; ""2. GRINDING WHEEL STRUCTURE FORMATIONDURING HEAT TREATMENT""; ""2.1. Physico-Chemical Processes That Occur during Firing""; ""2.2. Ceramic Bond Minerals That Form during Firing""; ""3. CASE STUDY I: INTERFACIAL COMPOUNDS ANDTHEIR EFFECT ON GRINDING WHEEL WEAR""; ""3.1. Wear Mechanisms""; ""3.2. Microstructure of Abrasive Grains""; ""3.3. Experimental Procedure""; ""3.4. Experimental Results"" ""3.5. Discussion of Interfacial Compounds on Grinding Wheel Wear""""" 4. CASE STUDY II: DISSOLUTION OF QUARTZ AND ITS EFFECT ONGRINDING WHEEL WEAR""; ""4.1. Dissolution Models for Vitrified Grinding Wheel Bonds""; ""4.2. Experimental Procedures""; ""4.3. Experimental Results""; ""5. DISCUSSION""; ""6. CONCLUSIONS""; ""ACKNOWLEDGMENTS""; ""REFERENCES""; ""THE POTENTIAL FOR COST AND WEIGHTREDUCTION IN TRANSPORT APPLICATIONSTHROUGH THE USE OF HEAT TREATED ALUMINUMHIGH PRESSURE DIECASTINGS""; ""ABSTRACT""; ""INTRODUCTION""; ""Component Design""; ""APPLICATION TO INDUSTRIALLY PRODUCED COMPONENTS"" ""Development of Heat Treatment Procedures""""""Reject Rates due to Heat Treatment""; ""Experiments Using an Industrial Heat Treatment Facility""; ""COST BASIS""; ""Examples of Cost and Weight Reduction: Materials Replacement Strategy""; ""Case 1. Replacement of a Small

HPDC with a Heat Treated HPDC""; ""Case 2. Replacement of a Large HPDC with a Heat Treated HPDC""; ""Case 3. Replacement of a Large Sand cast Component with a Heat TreatedHPDC Component""; ""Other Considerations in Replacing Permanent Mold Castings with HeatTreated HPDCa€?s""; ""FRACTURE RESISTANCE""
""New HPDC Alloy Developments""""""SUMMARY AND CONCLUSIONS""; ""REFERENCES""; ""QUENCHING UNDER FOG CONDITIONS: THEORY, TECHNIQUE AND APPLICATIONON ROLLING MILLS""; ""ABSTRACT""; ""1. THEORY ON QUENCHING UNDER FOG CONDITIONS""; ""1.1. Chemistry and Phase Diagrams""; ""1.2. Quenching""; ""1.3. Quenchants""; ""2. TECHNIQUE FOR OBTAINING FOG""; ""2.1. Spray Characteristics""; ""2.2. Spray Performances ""; ""2.3. Atomization ""; ""2.4. Heat Transfer Tests""; ""2.5. Results and Discussion""; ""3. APPLICATION FOR 70VMOCR28 ROLLING MILL""; ""3.1. Experimental""; ""3.2. Results and Discussion""
""4. CONCLUSION""""""REFERENCES""; ""ALCU2,5MG ALLUMINUM ALLOYHEAT TREATMENT: THEORY,TECHNIQUES AND APPLICATIONS""; ""ABSTRACT""; ""1. INTRODUCTION""; ""Aluminum Heat Treatment""; ""Heat Treatment Processes""; ""Aging""; ""Annealing""; ""Homogenization (Ingot Preheating Treatments)""; ""Quenching""; ""Tempering""; ""Batch Installations""; ""Continuous Installations""; ""Integration with Lean and Agile Manufacturing""; ""2. ESTABLISHING THE EXPERIMENTAL TECHNOLOGICALCONDITIONS. PROGRAMMING THE EXPERIMENT""; ""2.1. Establishing the Preliminary Experimental Conditions""
""2.2. Programming the Experiment""