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Nota di contenuto	Preface -- Introduction -- 1.Nuclear Plants -- 2.Materials -- 3. Components and Production -- 4.Mechanical Testing of Nuclear Materials -- 5.Irradiation Damage -- 6. Environmental damage in Nuclear Plants -- 7. Advanced Mechanical Testing and Analysis Methods -- 8. Design, Life-time and Residual Life.
Sommario/riassunto	The clamor for non-carbon dioxide emitting energy production has directly impacted on the development of nuclear energy. As new nuclear plants are built, plans and designs are continually being developed to manage the range of challenging requirement and problems that nuclear plants face especially when managing the greatly increased operating temperatures, irradiation doses and extended design life spans. Materials for Nuclear Plants: From Safe Design to Residual Life Assessments provides a comprehensive treatment of the structural materials for nuclear power plants with emphasis on advanced design concepts. Materials for Nuclear Plants: From Safe Design to Residual Life Assessments approaches structural materials with a systemic approach. Important components and materials currently in use as well as those which can be considered in future designs are detailed, whilst the damage mechanisms responsible for

plant ageing are discussed and explained. Methodologies for materials characterization, materials modeling and advanced materials testing will be described including design code considerations and non-destructive evaluation concepts. Including models for simple system dynamic problems and knowledge of current nuclear power plants in operation, Materials for Nuclear Plants: From Safe Design to Residual Life Assessments is ideal for students studying postgraduate courses in Nuclear Engineering. Designers on courses for code development, such as ASME or ISO and nuclear authorities will also find this a useful reference.

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