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Sommario/riassunto	<p>The mechanics of fracture and fatigue have produced a huge body of research work in relation to applications to metal materials and structures. However, a variety of non-metallic materials (e.g., concrete and cementitious composites, rocks, glass, ceramics, bituminous mixtures, composites, polymers, rubber and soft matter, bones and biological materials, and advanced and multifunctional materials) have received relatively less attention, despite their attractiveness for a large spectrum of applications related to the components and structures of diverse engineering branches, applied sciences and architecture, and to the load-carrying systems of biological organisms. This book covers the broad topic of structural integrity of non-metallic materials, considering the modelling, assessment, and reliability of structural elements of any scale. Original contributions from engineers, mechanical materials scientists, computer scientists, physicists, chemists, and mathematicians are presented, applying both experimental and theoretical approaches.</p>