

1. Record Nr.	UNINA9910254034703321
Titolo	Self-healing Materials // edited by Martin D. Hager, Sybrand van der Zwaag, Ulrich S. Schubert
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-32778-X
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (VIII, 413 p.)
Collana	Advances in Polymer Science, , 0065-3195 ; ; 273
Disciplina	620.11
Soggetti	Polymers Materials science Engineering—Materials Surfaces (Physics) Interfaces (Physical sciences) Thin films Nanochemistry Metals Polymer Sciences Characterization and Evaluation of Materials Materials Engineering Surface and Interface Science, Thin Films Metallic Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Self-healing concrete: From biobased self-healing concrete to application -- Self-healing metals -- Self-healing asphalt: From general principles to self-healing highways -- Self-healing polymers based on encapsulated healing agents -- Self-healing polymers based on reversible covalent interactions -- Self-healing polymers based on supramolecular interactions -- Self-healing coatings -- Self-healing functional materials -- Modeling of self-healing materials -- Characterization of self-healing materials: From microscopic to macroscopic properties -- Biological archetypes for self-healing

materials: Learning from Nature -- Industrial applications of self-healing materials.

Sommario/riassunto

The series *Advances in Polymer Science* presents critical reviews of the present and future trends in polymer and biopolymer science. It covers all areas of research in polymer and biopolymer science including chemistry, physical chemistry, physics, material science. The thematic volumes are addressed to scientists, whether at universities or in industry, who wish to keep abreast of the important advances in the covered topics. *Advances in Polymer Science* enjoys a longstanding tradition and good reputation in its community. Each volume is dedicated to a current topic, and each review critically surveys one aspect of that topic, to place it within the context of the volume. The volumes typically summarize the significant developments of the last 5 to 10 years and discuss them critically, presenting selected examples, explaining and illustrating the important principles, and bringing together many important references of primary literature. On that basis, future research directions in the area can be discussed. *Advances in Polymer Science* volumes thus are important references for every polymer scientist, as well as for other scientists interested in polymer science - as an introduction to a neighboring field, or as a compilation of detailed information for the specialist. Review articles for the individual volumes are invited by the volume editors. Single contributions can be specially commissioned. Readership: Polymer scientists, or scientists in related fields interested in polymer and biopolymer science, at universities or in industry, graduate students.
