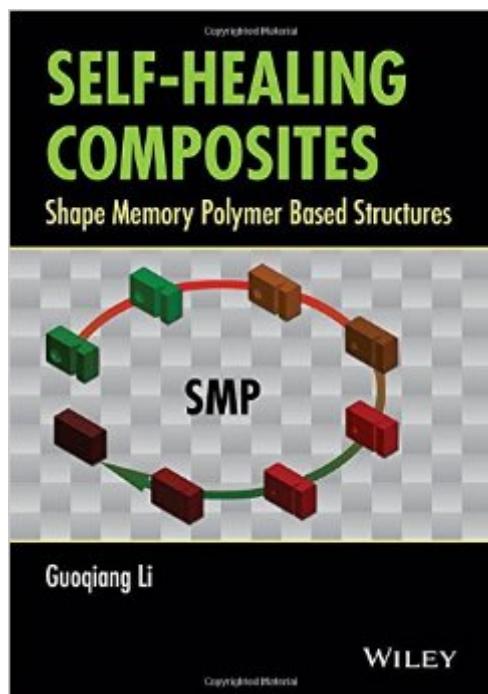


The book was found

# Self-Healing Composites: Shape Memory Polymer Based Structures



## Synopsis

In this book, the self-healing of composite structures with shape memory polymer as either matrix or embedded suture is systematically discussed. Self-healing has been well known in biological systems for many years: a typical example is the self-healing of human skin. Whilst a minor wound can be self-closed by blood clotting, a deep and wide cut needs external help by suturing. Inspired by this observation, this book proposes a two-step close-then-heal (CTH) scheme for healing wide-opened cracks in composite structures "by constrained shape recovery first, followed by molecular healing. It is demonstrated that the CTH scheme can heal wide-opened structural cracks repeatedly, efficiently, timely, and molecularly. It is believed that self-healing represents the next-generation technology and will become an engineering reality in the near future. The book consists of both fundamental background and practical skills for implementing the CTH scheme, with additional focus on understanding strain memory versus stress memory and healing efficiency evaluation under various fracture modes. Potential applications to civil engineering structures, including sealant for bridge decks and concrete pavements, and rutting resistant asphalt pavements, are also explored. This book will help readers to understand this emerging field, and to establish a framework for new innovation in this direction. Key features: explores potential applications of shape memory polymers in civil engineering structures, which is believed to be unique within the literature balanced testing and mathematical modeling, useful for both academic researchers and practitioners the self-healing scheme is based on physical change of polymers and is written in an easy to understand style for engineering professionals without a strong background in chemistry

## Book Information

Hardcover: 392 pages

Publisher: Wiley; 1 edition (November 17, 2014)

Language: English

ISBN-10: 1118452429

ISBN-13: 978-1118452424

Product Dimensions: 7 x 1 x 9.9 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #2,024,647 in Books (See Top 100 in Books) #65 in Books > Engineering & Transportation > Engineering > Materials & Material Science > Fracture Mechanics #7759

[Download to continue reading...](#)

Self-Healing Composites: Shape Memory Polymer Based Structures Memory Exercises: Memory Exercises Unleashed: Top 12 Memory Exercises To Remember Work And Life In 24 Hours With The Definitive Memory Exercises Guide! (memory exercises, memory, brain training) Healing: Reclaim Your Health: Self Healing Techniques: Fasting, Meditation, Prayer, Healing Medicine, and Energy Work (Channeling, Shamanism, Chakra Healing, ... Qigong Healing, Ayahuasca Book 1) Crystals and Gemstones: Healing The Body Naturally (Chakra Healing, Crystal Healing, Self Healing, Reiki Healing) Self-Discipline: Achieve Unbreakable Self-Discipline: How To Build Confidence, Willpower, Motivation, Self-Belief And Master Your Life!: Self control, ... Self-Confidence, Self-esteem, Organizing) Self-Love: The 21-Day Self-Love Challenge - Learn how to love yourself unconditionally, cultivate self-worth, self-compassion and self-confidence (self ... happiness) (21-Day Challenges Book 6) Self Help: How To Live In The Present Moment (Self help, Self help books, Self help books for women, Anxiety self help, Self help relationships, Present Moment, Be Happy Book 1) Self Hypnosis for Beginners: The Ultimate Guide With Systematic Steps To Master Self Hypnosis (Self Hypnosis, Self hypnosis as you read, Self hypnosis diet) Self Hypnosis: The Ultimate Beginners Guide To Mastering Self Hypnosis In 7 Days (self hypnosis, self hypnosis diet, self hypnosis for dummies) Get In Shape With Exercise Ball Training: The 30 Best Exercise Ball Workouts For Sexy Abs And A Slim Body At Home (Get In Shape Workout Routines and Exercises Book 2) Bio-based Plant Oil Polymers and Composites (Plastics Design Library) BRAIN: 51 Powerful Ways to Improve Brain Power, Enhance Memory, Intelligence and Concentration NATURALLY! (MEMORY, Memory Improvement, Learning, Brain Training) Quantum Memory: Learn to Improve Your Memory with The World Memory Champion! REIKI: From Beginner to Expert - Energy Healing Double Book Bundle (+Bonus!) - Ultimate Guide to Reiki Healing & Chakra Healing (Energy Healing, Chakras ... Beginners, Reiki Symbols, Chakra Balancing) Reiki: The Healing Energy of Reiki - Beginner's Guide for Reiki Energy and Spiritual Healing: Reiki: Easy and Simple Energy Healing Techniques Using the ... Energy Healing for Beginners Book 1) WICCA: Wicca Reiki Magic - A Beginners Guide To Wicca Spells and Reiki Healing (Wicca, Chakras, Witchcraft, Self Healing, Magic, and Crystal Healing) NAVY SEAL: Self Discipline: How to Become the Toughest Warrior: Self Confidence, Self Awareness, Self Control, Mental Toughness HYPNOSIS FOR WEIGHT LOSS: SELF HYPNOSIS as you read (FREE Life Mastery Bonus Toolkit Included!) (Self Hypnosis As You Read, Self Hypnosis for Beginners, ... Weight Loss, Self Hypnosis

Audio Book 3) Experiencing CBT from the Inside Out: A Self-Practice/Self-Reflection Workbook for Therapists (Self-Practice/Self-Reflection Guides for Psychotherapists) The Encyclopedia of Polymer Clay Techniques: A Comprehensive Directory of Polymer Clay Techniques Covering a Panoramic Range of Exciting Applications

[Dmca](#)