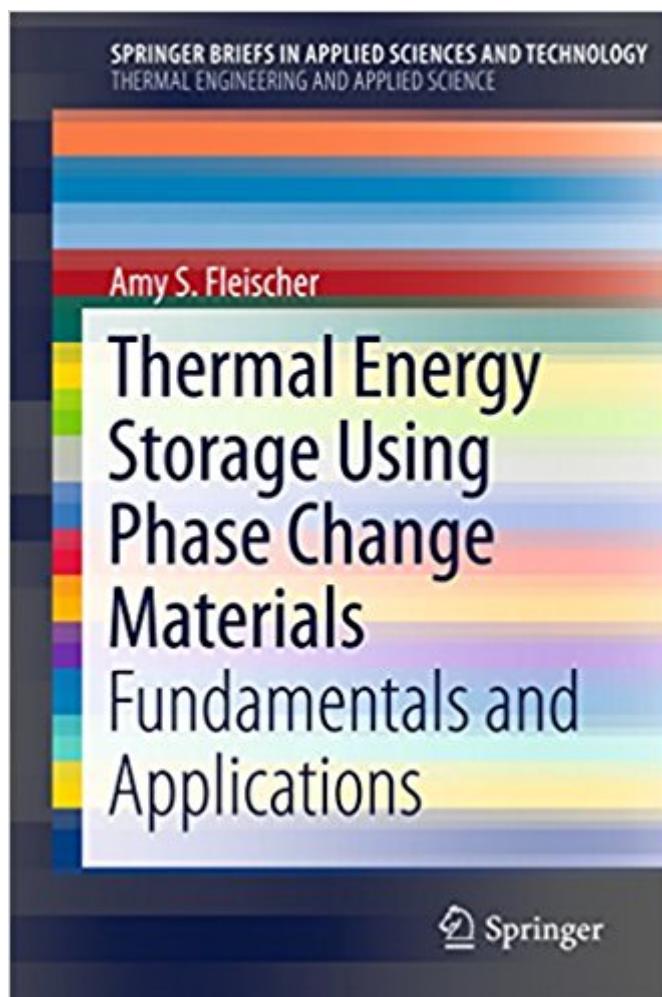


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# Thermal Energy Storage Using Phase Change Materials: Fundamentals And Applications (SpringerBriefs In Applied Sciences And Technology)



## **Synopsis**

This book presents a comprehensive introduction to the use of solid-liquid phase change materials to store significant amounts of energy in the latent heat of fusion. The proper selection of materials for different applications is covered in detail, as is the use of high conductivity additives to enhance thermal diffusivity. Dr. Fleischer explores how applications of PCMs have expanded over the past 10 years to include the development of high efficiency building materials to reduce heating and cooling needs, smart material design for clothing, portable electronic systems thermal management, solar thermal power plant design and many others. Additional future research directions and challenges are also discussed.

## **Book Information**

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## **Customer Reviews**

The book "Thermal Energy Storage Using Phase Change Materials: Fundamentals and Applications" by Amy S. Fleischer is very clearly and concisely written, and covers the most important aspects of the issue. Personally, I appreciated the way how the author managed to describe quite complicated ideas in the simplest way imaginable. At the same time the book is full of

technical terminology, notions and fundamental concepts. The book gives you a good idea about the present situation with the phase change materials (PCM), their current application, and future prospectives. The literature review of the recent publications was thoroughly made. Among others, energy storage applications of phase chance materials in various systems are shown. Besides, different types of PCM and their design issues are discussed. Finally, consideration of the fundamental thermal analysis makes readers to understand the mathematics behind. I highly recommend the book for both professionals and people who just started to be interested in thermal energy storage and thermal management. Eric Menumorov, PhD Candidate, Temple University

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