

1. Record Nr.	UNINA9910887817903321
Autore	Bairagi Satyaranjan
Titolo	Nanotechnology in Textile Finishing : Advancements and Applications / / edited by Satyaranjan Bairagi, Shakeel Ahmed, S. Wazed Ali
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	981-9726-96-4
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (549 pages)
Collana	Materials Horizons: From Nature to Nanomaterials, , 2524-5392
Altri autori (Persone)	AhmedShakeel AliWazed
Disciplina	677
Soggetti	Nanotechnology Building materials Materials Wood, fabric, and textiles Materials Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to Nanotechnology in Textile Finishing -- Properties and Behavior of Nanoparticles -- Types of Nanomaterials used in Textile Finishing -- Synthesis and Characterization of Nanoparticles for Textile Finishing -- Nanotechnology in Dyeing and Printing -- Nanotechnology in Coating and Finishing -- UV Protection and Antimicrobial Properties of Textiles -- Water Repellent and Oil Repellent properties of Textile using Nanotechnology -- Nanotechnology in Smart Textile -- Nanotechnology in Flame retardancy of Textile.
Sommario/riassunto	This book is focused on the latest developments and practical applications of nanotechnology in textile finishing. It covers the fundamentals of nanotechnology, including the properties and behavior of nanoparticles, and how they can be used to enhance the performance of textiles. The book also explores the various types of nanomaterials that are used in textile finishing, such as nanoparticles, nanocomposites, and nano-coatings, and their properties, advantages, and limitations. The book covers the different types of textile finishing techniques, including dyeing, printing, and coating, and how nanotechnology is used to improve their performance. It also covers

the environmental, health, and safety aspects of using nanotechnology in textile finishing, and the challenges and opportunities that lie ahead. The book is targeted at textile scientists, engineers, and researchers working in the textile industry, as well as students and academics in textile science and engineering. It is also useful for those in related fields, such as materials science, chemistry, and chemical engineering. .
