

1. Record Nr.	UNINA9910815122703321
Titolo	Industrial application of natural fibres : structure, properties, and technical applications // edited by Jorg Mussig
Pubbl/distr/stampa	Chichester, West Sussex, U.K. ; ; Hoboken, NJ, : Wiley, 2010
ISBN	1-282-68660-7 9786612686603 0-470-66032-5 0-470-66034-1
Descrizione fisica	1 online resource (564 p.)
Collana	Wiley series in renewable resources
Altri autori (Persone)	MussigJorg
Disciplina	677
Soggetti	Plant fibers - Industrial applications Animal fibers - Industrial applications
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Industrial Applications of Natural Fibres; Contents; Series Preface; Preface; Foreword; List of Contributors; List of Illustrators; PART I BACKGROUND; 1 Historic Usage and Preservation of Cultural Heritage; 2 What Are Natural Fibres?; 2.1 Chemistry of Plant Fibres; 2.2 Natural Fibres - Function in Nature; 2.3 Types of Fibre; 3 Economic Aspects; 3.1 Grades and Standards; 3.2 Technical Applications of Natural Fibres: An Overview; 3.3 Natural Fibres in Technical Applications: Market and Trends; PART II VEGETABLE FIBRES; 4 Flax - Structure, Chemistry, Retting and Processing 5 Hemp - Cultivation, Extraction and Processing 6 Jute - A Versatile Natural Fibre. Cultivation, Extraction and Processing; 7 Abac - Cultivation, Extraction and Processing; 8 Sisal - Cultivation, Processing and Products; 9 Coir - Coconut Cultivation, Extraction and Processing of Coir; 10 Cotton Production and Processing; PART III ANIMAL FIBRES; 11 Mulberry Silk, Spider Dragline and Recombinant Silks; 12 Wool - Structure, Mechanical Properties and Technical Products based on Animal Fibres; PART IV TESTING AND QUALITY MANAGEMENT 13 Testing Methods for Measuring Physical and Mechanical Fibre Properties (Plant and Animal Fibres) 14 SEM Catalogue for Animal and

Plant Fibres; 15 Combined (In Situ) Methods; 16 DNA-Analytical Identification of Species and Genetic Modifications in Natural Fibres; 17 Cotton/Worldwide Harmonisation; 18 Flax - ASTM Standardisation and Harmonisation; PART V APPLICATIONS: CURRENT AND POTENTIAL; 19 Composites; 19.1 Historical, Contemporary and Future Applications; 19.2 Design, Material Properties and Databases; 19.3 Natural Fibre Composite Processing: A Technical Overview
19.4 Natural Fibre-Reinforced Polymers in Automotive Interior Applications
19.5 Composites Based on Natural Resources; 19.6 Cellulose Nanocomposites; 20 Insulation Materials Based on Natural Fibres; 21 Natural Fibres in Geotextiles for Soil Protection and Erosion Control; Index

Sommario/riassunto

Natural fibres are becoming increasingly popular for use in industrial applications, providing sustainable solutions to support technical innovation. These versatile, natural based materials have applications in a wide range of industries, from textiles and consumer products to the automotive and construction industries. Industrial Applications of Natural Fibres examines the different steps of processing, from natural generation, fibre separation and fibre processing, to the manufacturing of the final product. Each step is linked to fibre properties and characterization, highlighting
