

1. Record Nr.	UNINA9910271027003321
Autore	Burkinshaw Stephen M.
Titolo	Physico-chemical aspects of textile coloration / / Stephen M. Burkinshaw
Pubbl/distr/stampa	West Sussex, England : , : Wiley, , 2016 ©2016
ISBN	1-118-72563-8
Descrizione fisica	1 online resource (645 p.)
Collana	SDC-Society of Dyers and Colourists
Disciplina	667/.2
Soggetti	Dyes and dyeing - Textile fibers Color in the textile industries - Standards Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Published in association with the Society of Dyers and Colorists Series Editor: Andrew Filarowski"--Cover.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Title Page; Copyright Page; Contents; Society of Dyers and Colourists; Preface; Chapter 1 Fundamental Aspects of Textile Fibres; 1.1 Textiles; 1.1.1 Yarn; 1.1.2 Fabric (e.g. [31-39]); 1.1.3 Textile Markets; 1.2 Textile Fibres; 1.2.1 Textile Fibre Classification; 1.2.2 Textile Usage; 1.2.3 The History and Development of Textile Fibres; 1.2.4 Textile Polymers; 1.2.5 Textile Fibre Morphology and Fine Structure; 1.3 General Physical and Mechanical Characteristics of Textile Fibres; 1.3.1 Length; 1.3.2 Fineness; 1.3.3 Twist; 1.3.4 Fibre Specific Surface Area, Sm or Sv; 1.3.5 Cross-Sectional Shape 1.4 Properties of Textile Fibres1.4.1 Mechanical Properties; 1.4.2 Thermal Properties; 1.4.3 Optical Properties; References; Chapter 2 Dyes; Introduction; 2.1 Dyes; 2.1.1 Historical Aspects; 2.1.2 Classification of Colorants; 2.1.3 Colour and Constitution; 2.1.4 Commercial Dye Forms; 2.1.5 Commercial Dye Names; 2.1.6 Global Dye Consumption; References; Chapter 3 The Role of Water in Aqueous Dyeing; Introduction; 3.1 Water Structure; 3.2 Water Availability and Global Consumption; 3.2.1 Water Footprint; 3.3 Water Use in Dyeing; 3.3.1 Water Used in Cotton Production 3.3.2 Water Used in Fibre Processing3.3.3 Water Used in Dyeing; 3.4 Water and Textile Fibres; 3.4.1 Hydrophilicity and Hydrophobicity; 3.4.2

Moisture Sorption; 3.4.3 The Porous Nature of Fibres; 3.4.4 Wetting and Wicking; 3.4.5 Swelling; 3.4.6 Water Plasticisation; 3.5 Water and Dyes; 3.5.1 Solvation; 3.5.2 Dye Solubility; 3.5.3 Dye Aggregation in Solution; 3.5.4 Dye Aggregation in the Fibre; 3.5.5 Aqueous Dye Dispersions; 3.6 pH and pK; 3.6.1 Water Ionisation (Ionic Product of Water); 3.6.2 The pH Scale; 3.6.3 pKa and pKb; 3.6.4 Buffer Systems and the Henderson-Hasselbalch Equation

ReferencesChapter 4 Fundamentals of Dyeing; Introduction; 4.1 Dye-Fibre Systems; 4.2 Fundamental Principles of Dyeing; 4.2.1 Dye-Fibre Substantivity; 4.2.2 Driving Force for Dyeing; 4.2.3 Dye Exhaustion; 4.2.4 Rate of Dyeing; 4.2.5 Depth of Shade; 4.2.6 Liquor Ratio; 4.2.7 Dye Fixation; 4.2.8 Wash-Off; 4.2.9 Fastness; 4.2.10 Dyeing Auxiliaries; References; Chapter 5 Dye-Fibre Interactions; Introduction; 5.1 Intermolecular Interactions (or Forces) between Atoms and Molecules; 5.1.1 Covalent Bonds; 5.1.2 Ion-Ion Interactions (aka Charge-Charge, Coulomb, Electrostatic Interactions) 5.1.3 Ion-Dipole Interactions (aka Charge-Dipole, Monopole-Dipole) 5.1.4 Van der Waals Interactions (aka van der Waals Forces); 5.1.5 Hydrogen Bonds; 5.1.6 Hydrophobic Effect and Hydrophobic Interactions; 5.1.7 Total (Attractive and Repulsive) Intermolecular Potentials; 5.1.8 Aromatic Interactions (aka π -Interactions, π -Effects); 5.2 Intermolecular Interactions (or Forces) between Macromolecules and Surfaces; 5.2.1 Dispersion Interactions; 5.2.2 Electrostatic Forces; 5.3 Intermolecular Forces in the Context of Textile Fibres and Dyes; 5.3.1 Intermolecular Forces in Textile Polymers 5.3.2 Intermolecular Forces between Dyes and Fibres
