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Nota di contenuto	SECTION I. CLAYS FOR NANOCOMPOSITES. -- 1. Clays and clay minerals. -- 1.1 What's in a name. -- 1.2 Multiscale organization of clay minerals. -- 1.3 Intimate organization of the layer. -- 1.4 Most relevant physic-chemical properties of clay minerals. -- 1.5 Availability of natural clays and synthetic clay minerals. -- 1.6 Clays and (modified) clay minerals as fillers. -- 1.7 References. -- 2. Organophilic Clay Minerals. -- 2.1 Organophilicity-Lipophilicity and the Hydrophilic Balance (HLB). -- 2.2 From clays to organoclays in polymer technology. -- 2.3 Methods of organoclays synthesis. -- 2.4 Other types of clay modifications (for clay-based nanomaterials). -- 2.5 Fine-tuning of organoclays structure properties. -- 2.6 Some introductory reflections on organo-clay polymer nanocomposites. -- 2.7 References. -- 3. Industrial treatments and modification of clay minerals. -- 3.1 Bentonite: from mine to plant -- 3.2 Processing of bentonite. -- 3.3 Purification of clay. -- 3.4 Reaction

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#### Sommario/riassunto

"This book comprehensively reviews rubber-clay nanocomposites in a handbook format for R&D professionals. Along with valuable details on synthesis, processing, and mechanics, the book includes applications of rubber-clay nanocomposites in automotive tires and as polymer fillers. In addition, it helps scientists understand processing methods for nanocomposites preparation and nanostructure characterization. This book helps promote common knowledge and interpretation of the important aspects of rubber-clay nanocomposites, clarifying the main results achieved in the field of rubbers and crosslinked rubbers - not covered by the more general books on polymer-clay nanocomposites"

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