1.	Record Nr.	UNINA9910818641803321
	Titolo	Thermoset nanocomposites / / edited by Vikas Mittal
	Pubbl/distr/stampa	Weinheim, Germany, : Wiley-VCH Verlag, 2013
	ISBN	9783527659647 3527659641 9783527659678 3527659676 9783527659661 3527659668
	Edizione	[1st ed.]
	Descrizione fisica	1 online resource (264 p.)
	Collana	Polymer nano-micro- and macrocomposites, , 2191-0421
	Altri autori (Persone)	MittalVikas
	Disciplina	620.115 620.5
	Soggetti	Thermosetting composites Nanotubes Nanocomposites (Materials)
	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	Cover; Title page; Copyright page; Contents; Preface; List of Contributors; 1: Epoxy-Vermiculite Nanocomposites; 1.1 Introduction; 1.2 Experimental; 1.2.1 Materials; 1.2.2 H2O2 Treatment; 1.2.3 Milling and De-agglomeration; 1.2.4 Delamination; 1.2.5 Cation Exchange Capacity; 1.2.6 Ion Exchange and Nanocomposite Preparation; 1.2.7 Characterization of the Fillers and Composite Films; 1.3 Results and Discussion; 1.4 Conclusions; Acknowledgment; References; 2: Polymer Nanocomposites with UV-Cured Epoxies; 2.1 Introduction; 2.2 Photopolymerization of Epoxides 2.3 Limits in Curing Epoxy Composites by UV Irradiation 2.4 Top-Down UV-Cured Epoxy Nanocomposites; 2.5 Bottom-Up UV-Cured Epoxy Nanocomposites; 2.6 Conclusions; References; 3: Influence of Organic Modification and Polyurethane Structure on Clay Dispersion in Polyurethane-Clay Nanocomposites; 3.1 Polymer Nanocomposites: An Introduction; 3.2 Polyurethane-Clay Nanocomposites; 3.2.1

Sommario/riassunto

The book discusses proven and promising methods to achieve a compatibilization between the organic and inorganic phases in thermoset polymers such as polyurethanes, phenolic resins, polyesters and epoxies. Of particular importance to the polymer engineer are the chapters dealing with compatibilization agents such as maleic anhydride elastomers, hydroxyl or carboxylic acid functionalized copolymers or metallocenes that catalyze the reactive processing. This title is essential reading for materials scientists, polymer chemists, chemical industry, and chemical engineers.