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Industry -- Characterization of Tensile Properties of Epoxy Matrix Composites Reinforced with Figue Fabric Fiber -- Clay Smectite Synthetic: Characterization and Application in Nanocomposites -- Comparison of Performance between Granite Waste Pigments Based Paints and Soils Pigments Based Paints -- Development and Characterization of Recycled-HDPE/EVA Foam Reinforced with Babassu Coconut Epicarp Fiber Residues -- Evaluation of Microcapsules of PBSL/MMT-K and PBSL/OMMT-K Nanocomposites -- Evaluation of the Quality of Concrete with Waste of Construction and Demolition -- Evaluation of Two Different Pulsed Plasma Nitriding Conditions on Steel Properties -- Flexural Mechanical Characterization of Polyester Composites Reinforced with Jute Fabric -- Influence of Coupling Agent on the Modification Effects of Vanadium Tailing as a Polymer Filler -- Influence of Electron-beam Irradiation on the Properties of LDPE/EDPM Blend Foams -- Influence of the Areal Density of Layers in the Ballistic Response of a Multilayered Armor System Using Box-behken Statistical Design -- Influence of the Blocks and Mortar's Compressive Strength on the Flexural Bond Strength of Concrete Masonry -- Influence of Two Solubilization Conditions at 718 Superalloy Hardness and Microstructure -- Irradiation Influence on the Properties of HMS-Polypropylene Clay/AgNPs Nanocomposites -- Limit Speed Analysis and Absorbed Energy in Multilayer Armor with Epoxy Composite Reinforced with Mallow Fibers and Mallow and Jute Hybrid Fabric -- Mechanical, Thermal and Electrical Properties of Polymer (Ethylene Terephthalate - PET) Filled with Carbon Black -- Mineralogical Analysis of A Chrome Ore from South Africa -- Pilot Trial of Detoxification of Chromium Slag in Cyclone Furnace and Preparation of Glass-ceramics with the water-quenched melt -- Preparation of Refractory Material from Ferronickel Slag -- Process Improvement Study on the Gradation Uniformity of Steel Slag Asphalt Concrete Aggregate -- Research on the Interaction of Humic Acid with Iron Minerals -- Study of Different Process Additives Applied to Polypropylene -- Study of the Durability of Mortars with Effluent Sludge from Paper Industry Exposed to Salt Spray -- Study of the Incorporation of Residue of Ornamental Rocks in Ceramic Tiles -- Study of the Incorporation of Smectite in Powder Coating -- Study of the Mineralogical Composition of the Tailings of Coscotitlán, Hidalgo, Mexico -- The Influence of Clay Reinforcement on the Properties of Recycled Polymer Foams -- The Quality of Tiles in Red Ceramic in Northwest of Rio de Janeiro and Southeast of Minas Gerais.

Sommario/riassunto

This collection gives broad and up-to-date results in the research and development of materials characterization and processing. Coverage is well-rounded from minerals, metals, and materials characterization and developments in extraction to the fabrication and performance of materials. In addition, topics as varied as structural steels to electronic materials to plant-based composites are explored. The latest research presented in this wide area make this book both timely and relevant to the materials science field as a whole. The book explores scientific processes to characterize materials using modern technologies, and focuses on the interrelationships and interdependence among processing, structure, properties, and performance of materials. Topics covered include ferrous materials, non-ferrous materials, minerals, ceramics, clays, soft materials, method development, processing, corrosion, welding, solidification, composites, extraction, powders, nanomaterials, advanced materials, and several others.
