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Rubber/ Blends -- Chapter 10. Optimization of Accelerators on the Properties of Natural Rubber/Recycled Ethylene Propylene Diene Rubber Blends -- Chapter 11. Compatibilization of Natural Rubber/Recycled Ethylene Propylene Diene Rubber Blends -- Chapter 12. Effect of Metal Oxide Content on the Mechanical and Thermal Properties of Natural Rubber/Recycled Chloroprene Rubber Blends -- Chapter 13. Chloroprene Rubber Waste as Blend Component with Natural Rubber, Epoxidized Natural Rubber and Styrene Butadiene Rubber -- Chapter 14. Recycled cellulose and cellulose based materials by gamma rays and its use as reinforcement in composites -- Chapter 15. Tensile, Thermal Properties and Biodegradability Test of Paddy Straw Powder-filled Polyhydroxybutyrate-3-Valerate (PHBV) Biocomposites: Acrylation Pretreatment -- Chapter 16. Comparison between Natural Rubber, Liquid Natural Rubber and Recycled Natural Rubber as Secondary Matrix in Epoxy/Natural Rubber/Graphene NanoPlatelets System -- Chapter 17. Recycling of commonly used waste plastics to fabricate membranes for filtration applications -- Chapter 18. Recycled Polymer Bio-Based Composites: A Review of Compatibility and Performance Issues -- Chapter 19. Productionand Recycling of Biocomposites: Present Trends and Future Perspectives -- Chapter 20. Recycled Polyethylene Blends and Composites: Current Trend, Technology and Challenges -- Chapter 21. Recycled Polyethylene Terephthalate Blends and Composites: Impact of PET waste, Engineering Design and their Applications.

Sommario/riassunto

This book presents an authoritative account of the potential of recycled polymer blends and composites such as recycled rubber, Polypropylene, Poly(Vinylidene Fluoride) (PVDF), polyhydroxybutyrate-3-valerate (PHBV), Polyethylene, and similar compounds, in polymer recycling industries. It highlights the latest research on fundamentals of recycled polymer blends and composites such as physical, chemical, mechanical and thermal properties and morphological studies. The book also provides a comprehensive state of the art review of recycling of polymer blends and composites for sustainability. Polymeric substances recycled from excess sludge in wastewater treatment plants, reinsertion of Poly(Vinylidene Fluoride) (PVDF), polyolefin and Polypropylene post-Industrial waste by primary recycling, as well as the recent development of biomass and COVID-19 plastic waste derived char filled natural starch biocomposite briquettes are also covered. Features commentary from leading industrial and academic experts as well as case studies on processing and properties; Discusses existing commercial recycled polymer blends and composite materials and those currently in development; Provides an analytical overview of the different types of characterization techniques and technologies.