1. Record Nr. UNINA9910720882603321

Autore	Poliskie Michelle
Titolo	Solar module packaging : polymeric requirements and selection / / Michelle Poliskie
Pubbl/distr/stampa	Boca Raton : , : Taylor and Francis Group, , [2011] ©2011
Descrizione fisica	1 online resource (xi, 232 pages)
Disciplina	621.31244
Soggetti	Photovoltaic cells - Design and construction Polymers - Optical properties Solar cells - Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Contents; Preface; Acknowledgments; Chapter 1: Introduction -- to Polymers; Chapter 2: Certification and Characterization of -- Photovoltaic Packaging; Chapter 3: Polymer Specifications for -- Photovoltaic (PV) Packaging and Balance of System (BOS) Components; -- Chapter 4: Polymer Processing Techniques Used in Photovoltaic Packaging -- and Balance of Systems (BOS) Component Fabrication; Chapter 5: -- Economic Theory and Photovoltaic Packaging; Chapter 6: Other Polymeric -- Applications in Photovoltaic Modules; Appendix A: Conversion Factors -- and Common Units of Measurement; Appendix B: Glossary.
Sommario/riassunto	While global demand for photovoltaic (PV) modules has increased approximately 45 percent per year over the past decade, PV modules must be durable and inexpensive to compete with traditional energy resources. Often overlooked as a means to improve solar technology, polymer packaging is not only the key to protecting fragile solar cells from environmental factors, but is also the critical path for increasing the power performance of a PV module. Solar Module Packaging: Polymeric Requirements and Selection explores current and future opportunities in PV polymeric packaging, emphasizing how it can simultaneously reduce cost, increase weatherability, and improve a PV

module's power. The book offers an insider's perspective on the manufacturing processes and needs of the solar industry and reveals opportunities for future material development and processing. A broad survey of the polymeric packaging of solar cells, the text covers various classifications of polymers, their material properties, and optimal processing conditions. Taking a practical approach to material selection, it emphasizes industrial requirements for material development, such as cost reduction, increased material durability, improved module performance, and ease of processing. Addressing cost and profitability, the author examines the economics behind polymeric packaging and how it influences the selection process used by solar companies. Suitable for nonspecialists in polymer science, the book provides a basic understanding of polymeric concepts, fundamental properties, and processing techniques commonly used in solar module packaging. It presents guidelines for using polymers in commercial PV modules as well as the tests required to establish confidence in the selection process.