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Nota di contenuto	Handbook of Engineering and Specialty Thermoplastics; Contents; List of Contributors; 1. Engineering and Specialty Thermoplastics: Nylons; 1.1 Polyamide-imides; 1.2 Polyetherimide (PEI); 1.3 Poly(Ether-Block-Amide); 1.4 Aromatic Polyamides;; 1.5 Polyaniline; 1.6 Polyimides; 1.7 New Challenges and Opportunities; References; 2. Polyamide Imide; 2.1 Introduction and History; 2.2 Polymerization; 2.3 Properties; 2.3.1 Solubility; 2.3.2 Crystallinity; 2.3.3 Thermal; 2.3.4 Mechanical; 2.3.5 Opto-electronic; 2.3.6 Hydrogen bonding; 2.4 Processing; 2.5 Applications; 2.5.1 Membrane Material 2.5.2 Coatings2.5.3 Electronic; 2.5.4 Optical; 2.6 Recent Developments on Blends and Composites; 2.6.1 Blends; 2.6.2 Composites; 2.7 Conclusions; References; 3. Polyphthalamides; 3.1 Introduction and History; 3.2 Polymerization and Fabrication; 3.3 Properties; 3.4 Chemical Stability; 3.5 Processing; 3.6 Applications; 3.7 Developments in Polyphthalamide Based Blends and Composites and their Applications; References; 4. Polyetherimide; 4.1 Introduction and

History; 4.2 Polymerization; 4.2.1 Two Step Polymerization Reaction; 4.2.2 One Step Processes 4.2.3 Synthesis Via Nucleophilic Substitution Reaction 4.2.4 Synthesis Via Exchange Reactions; 4.3 Properties; 4.3.1 Thermal Properties; 4.3.2 Electrical Properties; 4.3.3 Mechanical Properties; 4.4 Stability; 4.4.1 Hydrolytic Stability; 4.4.2 Thermal Stability; 4.4.3 Thermo and Photo Oxidative Stability; 4.5 Special Additives; 4.6 Processing; 4.7 Applications; 4.8 Environmental Impact and Recycling; 4.9 Recent Developments In Polyetherimides Based Blends and Composites; References; 5. Poly(ether-block-amide) Copolymers Synthesis, Properties and Applications; 5.1 Introduction 5.2 Synthesis and Micro-phase Separated Morphology 5.3 Nomenclature, Properties and Relevant Area Applications; 5.4 Compounding and Special Additives; 5.5 Environmental Impact and Recycling; 5.6 Poly ether-block-amides Membrane in Separation Processes; 5.6.1 Treatment of Gaseous Streams; 5.6.2 Water Permeable Poly(ether-block-amide) Membranes; 5.6.3 Separation of Organic Compounds from Organic and Aqueous Streams; 5.7 Poly(ether-block-amide) Membranes in Food; 5.8 Concluding Remarks; References; 6. Aromatic Polyamides (Aramids); 6.1 Introduction and History; 6.2 Polymerization and Fabrication 6.2.1 Polymerization 6.2.2 Fabrication; 6.3 Properties; 6.4 Chemical Stability; 6.5 Special Additives; 6.6 Processing; 6.6.1 Processing PMPI and ODA/PPPT; 6.6.2 Processing of PPPT; 6.7 Applications; 6.8 Environmental Impact and Recycling; 6.9 Recent Developments in Aromatic Polyamides and their Applications; 6.9.1 Forthcoming and Future Application of Aramids; 6.9.2 Polyamides with Improved Solubility; Acknowledgments; References; 7. Polyaniline; 7.1 Introduction and History; 7.2 Polymerization and Fabrication; 7.3 Properties; 7.3.1 Electrical Properties of Polyaniline 7.3.2 Chemical Properties of Polyaniline

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### Sommario/riassunto

"The book summarizes many of the recent technical research accomplishments in the area of engineering polymers, such as oxygen containing main chain polymers (Nylons). The book emphasizes the various aspects of preparation, structure, processing, morphology, properties and applications of engineering polymers. Recent advances in the development and characterization of multi component polymer blends and composites (macro, micro and nano) based on engineering polymers is discussed in detail. The content of the book is unique as there are no books which deal with the recent advances synthesis, morphology, structure, properties and applications of engineering polymers and their blends and composites including nanocomposites. It covers an up-to-date record on the major findings and observations in the field"--

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