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Nota di contenuto	Cover; Contents; List of Contributors; Chapter 1 Overview of Chemically Vapor Deposited (CVD) Polymers; 1.1 Motivation and Characteristics; 1.1.1 Quality; 1.1.2 Conformality; 1.1.3 Durability; 1.1.4 Composition; 1.2 Fundamentals and Mechanisms; 1.2.1 Gas Phase and Surface Reactions; 1.2.2 The Monomer Saturation Ratio; 1.2.3 Process Simplification and Substrate Independence; 1.3 Scale-Up and Commercialization; 1.4 Process and Materials Chemistry; 1.4.1 Initiated CVD (iCVD) and Its Variants; 1.4.2 Plasma Enhanced CVD (PECVD); 1.4.3 Poly(p-xylylene) (PPX) and Its Derivatives (""Parylenes"") 1.4.4 Oxidative CVD (oCVD)1.4.5 Vapor Deposition Polymerization (VDP) and Molecular Layer Deposition (MLD); 1.4.6 Additional Methods; 1.5 Summary; Acknowledgments; References; Part I: Fundamentals; Chapter 2 Growth Mechanism, Kinetics, and Molecular Weight; 2.1 Introduction; 2.2 iCVD Process; 2.3 Kinetics and Growth Mechanism; 2.3.1 Fluorocarbon Polymers; 2.3.2 Organosilicon Polymers; 2.3.3 Acrylate and Methacrylate Polymers; 2.3.4 Styrene and Other Vinyl Polymers; 2.3.5 Ring Opening Polymers; 2.4 Summary; References; Chapter 3 Copolymerization and Crosslinking; 3.1 Introduction

Sommario/riassunto

The scope of the book are CVD (chemical vapor deposition) polymerization processes which directly translate the chemical mechanisms of traditional polymer synthesis and organic synthesis in homogeneous liquids into heterogeneous processes for the modification of solid surfaces. The book is structured into four parts, complemented by an introductory overview of the diverse process strategies for CVD of polymeric materials. The first part on the fundamentals of CVD polymers is followed by a detailed coverage of the materials chemistry of CVD polymers, including the main synthesis mechanisms and