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Nota di contenuto	Membranes for Membrane Reactors: Preparation, Optimization and Selection; Contents; Contributors; Glossary; Introduction - A Review of Membrane Reactors; 1 Introduction; 2 Membranes for Membrane Reactors; 2.1 Polymeric Membranes; 2.2 Inorganic Membranes; 2.2.1 Metal Membranes; 2.2.2 Ceramic Membranes; 2.2.3 Carbon Membranes; 2.2.4 Zeolite Membranes; 2.3 Membrane Housing; 2.4 Membrane Separation Regime; 2.4.1 Porous Membrane; 2.4.2 Dense Metallic Membranes; 3 Salient Features of Membrane Reactors; 3.1 Applications of Membrane Reactors; 3.2 Advantages of the Membrane Reactors 4 Hydrogen Production by Membrane Reactors4.1 Methane Steam Reforming; 4.2 Dry Reforming of Methane; 4.3 Partial Oxidation of Methane; 4.4 Water Gas Shift Reaction Performed in Membrane Reactors; 4.5 Outlines on Reforming Reactions of Renewable Sources in Membrane Reactors; 5 Other Examples of Membrane Reactors; 5.1 Zeolite Membrane Reactors; 5.2 Fluidised Bed Membrane Reactor; 5.3 Perovskite Membrane Reactors; 5.4 Hollow Fibre Membrane Reactors;

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## Sommario/riassunto

A membrane reactor is a device for simultaneously performing a reaction and a membrane-based separation in the same physical device. Therefore, the membrane not only plays the role of a separator, but also takes place in the reaction itself. This text covers, in detail, the preparation and characterisation of all types of membranes used in membranes reactors. Each membrane synthesis process used by membranologists is explained by well known scientists in their specific research field. The book opens with an exhaustive review and introduction to membrane reactors, introducing the recent adv

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