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Applications 12.1 Nitrites; 12.2 Trivalent Chromium Compounds; 12.3 Oxyanions Analogous to Chromate; 12.4 Synergistic Use of Oxyanions Analogues of Chromate; 13. Sol-Gels (Ormosils) as Chromate Inhibitor Replacements: Properties and Uses; 13.1 Types of Sol-Gels; 13.2 Corrosion Inhibition Mechanism of Sol-Gel Coatings; 13.3 Synthesis of Sol-Gels; 13.4 Incorporation of Corrosion Inhibitive Pigments to Sol-Gel Coatings; 14. Corrosion in Engineering Materials; 14.1 Introduction; 14.2 Steel Structures; 14.3 Concrete Structures; 14.4 Protection against Corrosion in Construction; 14.5 Corrosion of Unbonded Prestressing Tendons; 14.6 Cathodic Protection; 14.7 Corrosion in Industrial Projects; References; Index

Sommario/riassunto

Corrosion Chemistry details the scientific background of the corrosion process and contemporary applications for dealing with corrosion for engineers and scientists, covering the most recent breakthroughs and trends. Corrosion is in essence a chemical process, and it is crucial to understand the dynamics from a chemical perspective before proceeding with analyses, designs and solutions from an engineering aspect. This book can be used both as a textbook and a reference book both by academics and engineers and scientists in the field. As a reference for the engineer in the
