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Handbook of Practical Cathodic Corrosion Protection

- **First Handbook of this kind**
- **Presents many case studies for practical applications**
- **Includes every aspect around cathodic protection methods**

This handbook discusses and reviews the most recent trends in cathodic protection of metallic structures such as pipelines and buried tanks, widely used in many strategic industries such as petroleum, petrochemical, chemical applications. It contains very important practical points about designing, calculations, installation, performance, maintenance and troubleshooting of the cathodic protection systems. In sections 1 and 2, metals corrosion and processes and corrosion electrochemical theories and cathodic protection of the materials are discussed. Section 3 examines cathodic protection criteria, unpleasant consequences of cathodic protection under and above allowable levels. In section 4, field measurements and evaluations of cathodic protection as well as cathodic protection design are explored. Section 5 addresses necessary precautionary actions in cathodic protection with special emphasis on the interfering cases and their controlling techniques. In section 6, after study of cathodic protection through applying electricity (impressed) current, designing principles, calculations, installation and properties of all materials utilized in the technique are assessed. Section 7 discusses cathodic protection through sacrificial anodes, designing principles, calculations, installation, performance, and properties of all consumed materials. Section 8 introduces illustrated practical samples for cathodic protection of the structures. Section 9 addresses some challenges and problems associated with the design of cathodic protection systems and the possible approaches for solving and then analyzing them. Section 10 focuses on the practical techniques for installation and execution of cathodic protection systems. Section 11 contains very important recommendations and advices about inspections and precise adjustment of cathodic protection systems.

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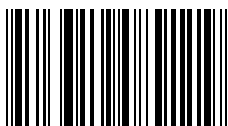
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