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Electrochemical Realkalization and Chloride Extraction for Reinforced Concrete

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Document History
2021-11-08: Revised by AMPP Standards Committee (SC) 12, Concrete Infrastructure
2017-02-14: Revised by NACE TG 054, Reinforced Concrete: Electrochemical Chloride Removal and Realkalization
2007-03-10: Developed by NACE TG 054, Reinforced Concrete: Electrochemical Chloride Removal and Realkalization

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Foreword

Scope

This AMPP standard practice presents the requirements for electrochemical chloride extraction and electrochemical realkalization of reinforcing steel in atmospherically exposed concrete structures. The standard provides the design engineer and contractor with the requirements for control of corrosion of conventional reinforcing steel in Portland cement concrete structures through the application of chloride extraction or realkalization. This standard is intended for use by owners, engineers, architects, contractors, and all those concerned with rehabilitation of corrosion-damaged reinforced concrete structures.

Rationale

The standard is being revised to comply with AMPP's five-year review requirement. This revision deletes the requirement for users to review data made available after this standard's publication to determine whether more effective criteria have been established. It also adds two new references and one new bibliographic entry.

These electrochemical techniques are related to the use of impressed current cathodic protection of steel in concrete as described in NACE SP0290.[1] State-of-the-art reports NACE Publications 01101 "Electrochemical Chloride Extraction form from Steel Reinforced Concrete—A State-of-the-Art Report" and 01104 "Electrochemical Realkalization of Steel Reinforced Concrete—A State-of-the-Art Report"[3] on the techniques were previously published by NACE and are available from AMPP. For more information on design, maintenance, and rehabilitation of reinforcing steel in concrete, refer to NACE SP0187,[4] NACE SP0390,[5] and ACI[(1)] 222R.[6]

To provide the necessary expertise on all aspects of the subject and to provide input from all interested parties, AMPP Standards Committee (SC) 12 is composed of corrosion consultants, consulting engineers, architect engineers, cathodic protection engineers, researchers, structure owners, and representatives from both industry and government.

The provisions of this standard should be applied under the direction of a registered Professional Engineer or a person certified by AMPP as a Corrosion Specialist or Cathodic Protection Specialist. His or her professional experience should include suitable experience in corrosion control of reinforced concrete structures.

In AMPP standards, the terms *shall* and *must* are used to state requirements and are considered mandatory. The term *should* is used to state something that is recommended, but is not considered mandatory. The term *may* is used to state something considered optional.

[(1)] American Concrete Institute (ACI), 38800 Country Club Dr., Farmington Hills, MI 48331-3439, www.concrete.org.