Galvanic Cathodic Protection of Reinforcing Steel in Atmospherically Exposed Concrete Structures

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2016-03-31: Developed by NACE International Task Group (TG) 047, Reinforced Concrete: Sacrificial Cathodic Protection of Reinforced Concrete Elements

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Foreword

This AMPP standard practice presents guidelines for galvanic cathodic protection (GCP) of reinforcing steel in atmospherically exposed concrete elements or structures. This standard targets owners, engineers, architects, contractors, and those concerned with mitigation of reinforced concrete corrosion through the application of GCP systems.

The information in this standard, as it relates to GCP systems, is intended for atmospherically exposed concrete structures and is not applicable to concrete with nonferrous reinforcement, galvanized, or other types of coated reinforcement. GCP has been successfully applied to buried and submerged reinforced concrete structures; however, these applications are not addressed in this standard.

For more information on the various GCP systems that are commercially available, refer to NACE TR01105.

Scope

This standard is limited to GCP on atmospherically exposed concrete structures. This standard applies to both conventionally reinforced concrete and prestressed concrete.

Rationale

This standard is being revised to comply with AMPP's five-year review cycle. Revisions include updated nomenclature for GCP systems and updated references to achieve alignment with the latest AMPP standards.

Referenced Standards and Other Consensus Documents

The latest edition, revision, or amendment of the referenced documents in effect shall govern unless otherwise dated.

AMPP/NACE/SSPC, www.ampp.org:	
NACE TR01105	Sacrificial Cathodic Protection of Reinforced Concrete Elements—A State-of-the-Art Report
NACE SP0308	Inspection Methods for Corrosion Evaluation of Conventionally Reinforced Concrete Structures
NACE SP0390	Maintenance and Rehabilitation Considerations for Corrosion Control of Atmospherically Exposed Existing Steel-Reinforced Concrete Structures
NACE Publication 11100	Reference Electrodes for Atmospherically Exposed Reinforced Concrete Structures
AMPP SP21520	Acceptance Criteria for Cathodic Protection of Steel in Concrete Structures
American Concrete Institute (ACI), www.aci.org:	
ACI 201.1R	Guide for Conducting a Visual Inspection of Concrete in Service
ACI 562	Requirements for Evaluation, Repair and Rehabilitation of Concrete Buildings
American Society for Quality (ASQ), www.asq.org:	
ANSI/ASQ Z1.4	Sampling Procedures and Tables for Inspection by Attributes
ASTM International, www.astm.org:	
ASTM C876	Standard Test Method for Corrosion Potentials of Uncoated Reinforcing Steel in Concrete
ASTM E105	Standard Practice for Probability Sampling of Materials