NACE Standard RP0288-2004
Item No. 21039

Standard
Recommended Practice

Inspection of Linings on Steel and Concrete

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Foreword

Inspection is an integral part of the coating process. The purpose of inspection is to verify compliance to the specifications and work procedures, not to question the integrity of the applicator. Many applicators perform their own inspection or hire an independent inspection agency. The NACE International Coating Inspector Training and Certification Program provides exposure to knowledge and skills pertaining to coating inspection.(1)

The intent of this NACE standard recommended practice is to provide appropriate inspection requirements to verify compliance to the specification. It is not intended to address the selection of a coating or to specify surface preparation and application requirements. This standard is intended for use by facilities' owners and their representatives, coating contractors, coating suppliers, and coating inspectors involved with the inspection of linings on steel and concrete.

For further information on coatings for concrete users of this standard should refer to NACE No. 6/SSPC(2)-SP 13[1] and NACE Publication 02203/ICRI(3) Technical Guideline 03741/SSPC-TR 5.[2] For further information about selecting and specifying surface preparation methods for concrete before application of linings, users of this standard should refer to ICRI Technical Guideline 03732.[3] For further information on the design, installation, and inspection of linings users of this standard should refer to NACE No. 10/SSPC-PA 6[4] and NACE No. 11/SSPC-PA 8.[5]

For the purpose of this standard, the terms *linings* and *coatings* are synonymous.

This standard was originally prepared in 1988 by NACE International Task Group T-6-2 on Inspection of Linings on Steel and Concrete. It was revised in 1994 by Task Group T-6-4 on Review of NACE Standard RP0288-88. In 2004 it was reaffirmed by Specific Technology Group (STG) 03 on Protective Coatings and Linings—Immersion/Buried. This standard is issued by NACE International under the auspices of STG 03.

In NACE standards, the terms *shall*, *must*, *should*, and *may* are used in accordance with the definitions of these terms in the *NACE Publications Style Manual*, 4th ed., Paragraph 7.4.1.9. *Shall* and *must* are used to state mandatory requirements. The term *should* is used to state something considered good and is recommended but is not mandatory. The term *may* is used to state something considered optional.

(1) Contact the NACE International Membership Services Department for more information.
(2) SSPC: The Society for Protective Coatings, 40 24th Street, 6th Floor, Pittsburgh, PA 15222-4656.
(3) International Concrete Repair Institute (ICRI), 3166 S. River Road, Suite 132, Des Plaines, IL 60018.

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Section 1: General

1.1 Successful coating application is usually the result of a well-prepared coating specification, properly selected high-quality coating materials, a competent, experienced, knowledgeable coating applicator, and an inspector. Adherence to a well-prepared coating specification that clearly details industry-accepted requirements and procedures for quality coating application usually results in a satisfactory application. The coating inspector relies on a well-prepared coating specification, which should include methods, standards, and acceptance criteria.

1.2 Specifications should be written with the purpose of designating materials and methods that result in high-quality products appropriate for the user. Attention to relevant details in a specification is essential. The specification should refer to industry standards whenever possible to minimize confusion or disputes over methodology and to reflect the latest technology that satisfies engineering and design principles for a particular application and environment.

1.3 Inspectors shall have previously performed the functions outlined in this standard and be proficient in the use of inspection equipment. When required, inspectors shall provide necessary documentation of evidence demonstrating suitable qualifications.

1.4 The coating inspector shall maintain a detailed report that outlines observations and/or measurements of surface preparation, ambient conditions, mixing techniques, application procedures, curing, final inspection, and other information requested at the prejob conference.

1.5 When agreed to by the owner, an inspector shall have the authority to suspend coating work if the work being performed is not in accordance with the specification.

Section 2: Prejob Conference

2.1 A prejob conference shall be arranged by the owner and shall be attended by representatives of the owner, coating contractor, coating supplier, and coating inspector.

2.2 The parties shall review the specification, procedures, manufacturer's latest data sheets, and inspection standards, and shall define details of the coating application, review safety practices, and resolve any ambiguities or conflicts.

2.3 All actions that are taken and agreed upon at the prejob conference shall be documented.

2.4 The following items shall be reviewed at every prejob conference:

2.4.1 Acceptable levels and methods or procedures for determining moisture content, alkalinity, and cure time required for concrete surfaces for the coating being applied;

2.4.2 Acceptable methods for repairing concrete defects such as bug holes, rock pockets, fins, structural cracks, etc., and acceptable methods for treating construction and expansion joints;

2.4.3 Acceptable methods for the removal of curing membranes and release agents;

2.4.4 Degree of surface preparation required for welds, attachments, and surface imperfections, including those illustrated in NACE Standard RP0178[6] (see Section 4);

2.4.5 Degree of surface cleanliness and depth of profile specified, and the agreed-upon standard(s) to be employed for the verification thereof;

2.4.6 Acceptable methods of removing dust and abrasive and the test procedure for verifying degree of cleanliness;

2.4.7 Number of coats to be applied and method of application;

2.4.8 Method of inspection for discontinuities and, if other than a holiday-free coating application is required, the number of allowable holidays or discontinuities and acceptable marking materials for highlighting discontinuities;

2.4.9 Acceptable coating repair procedures as supplied by the coating manufacturer;

2.4.10 The nominal, minimum, and maximum dry-film thickness (DFT) to be obtained for each coat, the final cured coating film thickness, and the agreed-upon instrument to be used to measure the DFT;

2.4.11 Number and frequency of DFT readings to be taken;

2.4.12 Procedure for verifying the degree of cure of the coating;

2.4.13 Requirements for proper ventilation of solvent fumes and drying time between coats;