



**NACE SP0288-2011**  
**(formerly RP0288)**  
**Item No. 21039**

## **Standard Practice**

# **Inspection of Lining Application in Steel and Concrete Equipment**

This NACE International standard represents a consensus of those individual members who have reviewed this document, its scope, and provisions. Its acceptance does not in any respect preclude anyone, whether he or she has adopted the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not in conformance with this standard. Nothing contained in this NACE International standard is to be construed as granting any right, by implication or otherwise, to manufacture, sell, or use in connection with any method, apparatus, or product covered by Letters Patent, or as indemnifying or protecting anyone against liability for infringement of Letters Patent. This standard represents minimum requirements and should in no way be interpreted as a restriction on the use of better procedures or materials. Neither is this standard intended to apply in all cases relating to the subject. Unpredictable circumstances may negate the usefulness of this standard in specific instances. NACE International assumes no responsibility for the interpretation or use of this standard by other parties and accepts responsibility for only those official NACE International interpretations issued by NACE International in accordance with its governing procedures and policies which preclude the issuance of interpretations by individual volunteers.

Users of this NACE International standard are responsible for reviewing appropriate health, safety, environmental, and regulatory documents and for determining their applicability in relation to this standard prior to its use. This NACE International standard may not necessarily address all potential health and safety problems or environmental hazards associated with the use of materials, equipment, and/or operations detailed or referred to within this standard. Users of this NACE International standard are also responsible for establishing appropriate health, safety, and environmental protection practices, in consultation with appropriate regulatory authorities if necessary, to achieve compliance with any existing applicable regulatory requirements prior to the use of this standard.

**CAUTIONARY NOTICE:** NACE International standards are subject to periodic review, and may be revised or withdrawn at any time in accordance with NACE technical committee procedures. NACE International requires that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of initial publication and subsequently from the date of each reaffirmation or revision. The user is cautioned to obtain the latest edition. Purchasers of NACE International standards may receive current information on all standards and other NACE International publications by contacting the NACE International *FirstService* Department, 1440 South Creek Dr., Houston, Texas 77084-4906 (telephone +1 281-228-6200).

Revised 2011-28-10  
Reaffirmed 2004-03-31  
Revised October 1994  
Approved November 1998  
NACE International  
1440 South Creek Dr.  
Houston, TX 77084-4906  
+1 281-228-6200  
ISBN 1-57590-180-3  
© 2011, NACE International

This is a preview of "NACE SP0288-2011". [Click here to purchase the full version from the ANSI store.](#)

---

## Foreword

Inspection is an integral part of the lining application process. The purpose of inspection is to verify compliance to the lining application specifications and work procedures, not to question the integrity of the lining applicator. Many lining 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 inspection of lining application.

The intent of this NACE standard is to provide appropriate inspection requirements to verify compliance to a lining application specification. It is not intended to address the selection of the lining material(s) or to specify surface preparation and lining application requirements. This standard is intended for use by facility owners and their representatives, lining applicators, lining material suppliers, and inspectors involved with the inspection of lining application in steel and concrete equipment such as tanks, vessels, sumps, and basins.

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

This standard was originally prepared in 1988 by NACE International Task Group (TG) T-6-2, "Inspection of Linings on Steel and Concrete." It was revised in 1994 by TG T-6-4, "Review of NACE Standard RP0288-88." It was reaffirmed in 2004 by Specific Technology Group (STG) 03, "Coatings and Linings, Protective—Immersion and Buried Service," and revised in 2011 by TG 448, "Review and Revise as Necessary NACE Standard RP0288-2004." 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*. The terms *shall* and *must* are used to state a requirement, and are considered mandatory. The term *should* is used to state something good and is recommended, but is not considered mandatory. The term *may* is used to state something considered optional.

---

<sup>(1)</sup> The Society for Protective Coatings (SSPC), 40 24th Street, 6th Floor, Pittsburgh, PA 15222-4656.

<sup>(2)</sup> International Concrete Repair Institute (ICRI), 10600 West Higgins Road, Suite 607, Rosemont, IL 60018.

SP0288-2011

---

**NACE International  
Standard Practice**

**Inspection of Lining in Steel and Concrete Equipment**

**Contents**

1. General.....	1
2. Prejob Conference .....	1
3. Inspection Equipment.....	2
4. Inspection Requirements.....	3
References.....	4
Bibliography .....	5

---

---

## Section 1: General

1.1 This standard practice provides inspection requirements to verify compliance to a specification for application of a lining in steel or concrete equipment such as tanks, vessels, sumps, and basins.

1.1.1 This standard is applicable to the application of a new or replacement lining, but is not applicable to the routine inspection of an existing lining.

1.1.2 This standard does not address the selection of the lining material(s) or specify surface preparation and lining application requirements.

1.1.3 This standard does not apply to inspection of exterior coatings on steel or concrete such as atmospheric coatings or external coatings on pipelines or other buried or submerged structures.

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

1.3 Specifications should be written with the purpose of designating materials and methods that result in high-quality linings appropriate for the user. Attention must be given to relevant details in a lining application specification. 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. The specifications should include the acceptance criteria for the owner/user.

1.4 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 and evidence demonstrating suitable qualifications.

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

1.6 When agreed to by the owner, an inspector shall have the authority to suspend lining application work if the work being performed is not in accordance with the lining application specification. Inspector responsibility and authority shall be agreed on by the owner and the contractor.

---

## Section 2: Prejob Conference

2.1 A prejob conference shall be arranged by the owner and shall be attended by representatives of the owner, lining applicator, and the inspector.

2.2 The parties shall review the specification, procedures, latest lining material manufacturer's data sheets, and inspection standards, and shall define details of the lining 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 the 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 lining being applied;