



NACE Standard RP0692-2003
Item No. 21058

Standard Recommended Practice

Application of a Coating System to Exterior Surfaces of Steel Rail Cars

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 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 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 assumes no responsibility for the interpretation or use of this standard by other parties and accepts responsibility for only those official NACE interpretations issued by NACE in accordance with its governing procedures and policies which preclude the issuance of interpretations by individual volunteers.

Users of this NACE 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 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 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CAUTIONARY NOTICE: NACE standards are subject to periodic review, and may be revised or withdrawn at any time without prior notice. NACE requires that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of initial publication. The user is cautioned to obtain the latest edition. Purchasers of NACE standards may receive current information on all standards and other NACE publications by contacting the NACE Membership Services Department, 1440 South Creek Drive, Houston, Texas 77084-4906 (telephone +1 [281] 228-6200).

Reaffirmed 2003-03-17
Reaffirmed 1997-09-09
Approved April 1992
NACE International
1440 South Creek Drive
Houston, Texas 77084-4906
+1 (281) 228-6200

ISBN 1-57590-052-1
©2003, NACE International

Foreword

This standard recommended practice encompasses the requirements for expert application of a quality coating system to exterior surfaces of steel rail cars that have been prepared in accordance with a specified, recognized standard. It is intended to complement NACE Standards RP0386¹ and RP0295.² Qualified inspection of the completed coating system and testing by the use of adequate, readily available instruments are also covered in this standard. Coating manufacturers, coating applicators, and those who have contracting authority for rail car coating installation should be able to use this standard to determine the facilities, equipment, and personnel needed to satisfy the requirements for rail car exterior coating systems.

This NACE standard was originally prepared in 1992 by Task Group T-14C-2, a component of Unit Committee T-14C on Rail Equipment Corrosion. It was reaffirmed in 1997 by Unit Committee T-14C, and again in 2003 by Specific Technology Group (STG) 43 on land Transportation. This standard is issued by NACE under the auspices of STG 43.

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 good and is recommended but is not mandatory. The term *may* is used to state something considered optional.

RP0692-2003

**NACE International
Standard
Recommended Practice**

**Application of a Coating System to
Exterior Surfaces of Steel Rail Cars**

Contents

1. General.....	1
2. Definitions.....	1
3. Areas of Responsibility.....	1
4. Surface Preparation	2
5. Coating System Materials	3
6. Coating Application	4
7. Coating of Particular Parts and Attachments	4
8. Curing of the Coating	4
9. Completed Coating System	5
10. Stenciling.....	5
11. Inspection	5
12. Safety	6
References.....	6
Appendix A: Essential Facilities and Equipment for Application of a Coating System to the Exterior of Steel Rail Cars.....	6

Section 1: General

1.1 This standard describes procedures for the application of a coating system to the exterior surfaces of steel rail cars. The procedures cover all rail cars in general; however, some sections apply to a particular type (e.g., hopper, tank car).

1.2 The requirements for surface preparation, coating application, inspection, and quality tests necessary for externally coating a rail car are covered in this standard.

1.3 This standard calls attention to basic safety precautions regarding the handling and use of coating materials and solvents. Chapter 1 of NACE Publication TPC 2³ contains more detailed information. Material safety data sheets (MSDS) supplied by the coating manufacturer provide specific safety information.

1.4 Appendix A describes essential facilities and equipment for the application of a coating system to the exterior of rail cars.

Section 2: Definitions

Catalyzed Coating: A coating consisting of two or more components, which, after combining and mixing the components, has a limited pot life. One of the components is commonly called a catalyst, converter, or accelerator.

Coat: One layer of a coating applied to a surface in a single continuous application to form a uniform film when dry.

Coating Applicator: Firm that is executing the specified work.

Coating System: The complete number and types of coats applied to a substrate in a predetermined order. (When used in a broader sense, surface preparation, pretreatments, dry film thickness, and manner of application are included.)

Contracting Authority: Person(s) responsible for the approval of a completed rail car coating system.

DFT: Dry-film thickness.

DFT Measurement: An average of three DFT readings.⁴

DFT Reading: A single DFT gauge determination.

Pot Life: The elapsed time within which a coating can be effectively applied after all components of the coating system have been thoroughly mixed.

Quality Assurance: Comprises all those planned and systematic actions necessary to provide specified documentation and adequate confidence that the rail car coating system will perform satisfactorily in service.

Quality Control: Comprises those quality assurance actions related to the physical characteristics of the entire coating system's application as a means of providing compliance with specified requirements.

Shelf Life: As defined by the coating manufacturer, maximum length of time before application that a coating can be stored in an unopened manufacturer-sealed container at a temperature range specified by the coating manufacturer.

Section 3: Areas of Responsibility

3.1 Contracting Authority

3.1.1 The applicator's coating facilities and equipment shall be inspected. Such inspection should be conducted before the coating project is sent out for bids.

3.1.2 A prejob conference may be scheduled prior to the beginning of the coating work. The conference shall include representatives of the contracting authority, inspection agency, coating manufacturer, and coating applicator. The applicator shall include in this conference his/her quality control supervisor and respon-

sible shop personnel directly involved in the coating application.

3.1.3 This standard shall be reviewed along with any other related specifications at the prejob conference. Any points of misunderstanding regarding pertinent standards shall be clarified.

3.1.4 Inspection forms shall be approved by the contracting authority.

3.1.5 Quality assurance shall be the responsibility of the contracting authority.