Linings of Aboveground Petroleum Storage Tank Bottoms

API RECOMMENDED PRACTICE 652
THIRD EDITION, OCTOBER 2005

API
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Downstream Segment

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Linings of Aboveground Storage Tank Bottoms

1 Scope

This recommended practice provides guidance on achieving effective corrosion control in aboveground storage tanks by application of tank bottom linings. It contains information pertinent to the selection of lining materials, surface preparation, lining application, cure, and inspection of tank bottom linings for existing and new storage tanks. In many cases, tank bottom linings have proven to be an effective method of preventing internal corrosion of steel tank bottoms.

The intent of this recommended practice is to provide information and guidance specific to aboveground steel storage tanks in hydrocarbon service. Certain practices recommended herein may also be applicable to tanks in other services. This recommended practice is intended to serve only as a guide. Detailed tank bottom lining specifications are not included.

This recommended practice does not designate specific tank bottom linings for every situation because of the wide variety of service environments.

NACE No.10/SSPC-PA 6 and NACE No. 11/SSPC-PA 8 are industry consensus standards for installation of linings on tank floors and vessels. They are written in compulsory language and contain specific criteria intended for use by persons who provide written specifications for tank and vessel linings. These documents should be given consideration when designing and installing a lining system for steel bottom tanks.

2 References

2.1 CODES, STANDARDS, AND SPECIFICATIONS

Unless otherwise specified, the most recent edition or revision of the following standards, codes, or specifications shall, to the extent specified herein, form a part of this recommended practice.

API

RP 575	*Inspection of Atmospheric and Low-Pressure Storage Tanks*
Std 620	*Design and Construction of Large, Welded, Low-Pressure Storage Tanks*
Std 650	*Welded Steel Tanks for Oil Storage*
RP 651	*Cathodic Protection of Aboveground Petroleum Storage Tanks*
Std 653	*Tank Inspection, Repair, Alteration, and Reconstruction*
Std 2015	*Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks*
RP 2016	*Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks*

ASTM[1]

D 2583	*Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor*
D 4414	*Standard Practice for Measurement of Wet Film Thickness by Notch Gauges*
D 4417	*Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel*
D 4940	*Standard Test Method for Conductimetric Analysis of Water Soluble Ionic Contaminants of Blasting Abrasives*
D 5402	*Standard Practice for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs*
E 96	*Standard Test Methods for Water Vapor Transmission of Materials*
G 9	*Standard Test Method for Water Penetration into Pipeline Coating*

DSTAN[2]

Defense Standard

80-97	*Paint System, Medium Build for the Interior of Bulk Fuel Tanks and Fittings*

Military Standards[3]

MIL-PRF

4556	*Coating Kit, Epoxy for Inter or Steel Fuel Tanks*
23236	*Coating Systems for Ship Structures*

NACE[4]

37519	*Corrosion Data Survey*—Metals Section
TM0174	*Laboratory Methods for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service*
RP0188	*Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates*

[1]ASTM International, 100 Bar Harbor Drive, West Colshohocken, Pennsylvania, 19428-2959. www.astm.org.
[2]UK Defence Standardization, Room 1138, Kentigern House, 65 Brown Street, Glasgow, G2 8EX. www.dstan.mod.uk.
[3]Department of Defense Single Stock Point, 700 Robbins Avenue, Building 4/Section D, Philadelphia, Pennsylvania, 19111-5098. www.dodssp.daps.dla.mil.
[4]NACE International, 1440 South Creek Drive, P.O. Box 218340, Houston, Texas 77218-8340. www.nace.org.