Linings of Aboveground Storage Tanks

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Linings of Aboveground Storage Tanks

1 Scope

This recommended practice (RP) provides guidance on achieving effective corrosion control in aboveground storage tanks by applying tank bottom linings and internal surfaces, where applicable. 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 RP is to provide information and guidance specific to aboveground steel storage tanks in liquid service, including petroleum, fuel-grade ethanol, liquid fertilizers, biofuels, biofuel feedstocks, and non-potable water. Certain practices recommended herein may also be applicable to tanks in other services. This RP is intended to serve only as a guide. Detailed tank bottom lining and internal specifications are not included.

Because of the wide variety of service environments, this RP does not designate specific tank bottom linings or internal linings for every situation.

NACE No.10/SSPC-PA 6 and NACE No. 11/SSPC-PA 8 are industry consensus standards for installation of linings on tank bottoms 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 considered when designing and installing a lining system for steel-bottom tanks.

2 Normative References

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any addenda) applies.

API Bulletin 939-E, *Identification, Repair, and Mitigation of Cracking of Steel Equipment in Petroleum Refineries and Petrochemical Plants*

API Recommended Practice 651, *Cathodic Protection of Aboveground Petroleum Storage Tanks*

API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*

API Standard 2015, *Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks*

ASTM D4285,[1] *Standard Test Method for Indicating Oil or Water in Compressed Air*

ASTM D4414, *Standard Practice for Measurement of Wet Film Thickness by Notch Gages*

ASTM D4940, *Standard Test Method for Conductimetric Analysis of Water-Soluble Ionic Contamination of Blasting Abrasives*

ASTM E96, *Standard Test Methods for Water Vapor Transmission of Materials*

ASTM G9, *Standard Test Method of Water Penetration into Pipeline Coatings*

[1] ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, Pennsylvania 19428-2959, www.astm.org.