

# Application of a Coating System to Interior Surfaces of New and Used Rail Tank Cars

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## Foreword

This standard practice has been prepared for the rail tank car industry to address the need for high-quality application of coatings to the interior surfaces of rail tank cars carrying a variety of chemicals at various temperatures. Qualified inspection of the completed coating system and testing with the use of adequate, readily available instruments also are covered.

## Scope

Coating manufacturers, coating applicators, and those who have contracting authority for rail tank car interior coating installation should be able to use this standard to ascertain the procedures, facilities, equipment, and personnel needed to satisfy the requirements for coating systems for rail tank cars in chemical service.

## Rationale

This standard emphasizes that corrosion and product contamination are major factors that must be considered in the preparation of rail tank cars transporting liquid commodities. In addition to adhering to the conditions set forth in this standard, these rail tank cars must comply with U.S. Code of Federal Regulations<sup>(1)</sup> (CFR), Title 49, Part 179;<sup>1</sup> Transport Canada (TC)<sup>(2)</sup> (Transportation of Dangerous Goods [TDG]) CAN/CGSB<sup>(3)</sup> TP14877-2 and Association of American Railroads (AAR)<sup>(4)</sup> Standard M1002.<sup>3</sup> This standard is not meant to provide a full treatise on corrosion of steel by chemicals, which is an extensive subject in its own right.

Although most interior coatings are applied to prevent the shipped product from being contaminated by a corroding rail tank car, the issue of how much corrosion is allowable in rail tank cars is also a prime consideration. One factor to consider when adding a corrosion allowance is the required life of the rail tank car. Adding sacrificial wall thickness to a rail tank car that is expected to be in service for 40 to 50 years can add substantially to the rail tank car's weight and result in a severe reduction of carrying capacity. In rail tank cars that are carrying corrosive liquids, adding a corrosion allowance without any other form of corrosion protection is clearly not a practical solution for long-term operation.

This standard was reviewed by AMPP Standards Committee (SC) 17 and deemed to have continuing relevance for the rail industry, hence it is being revised.

In AMPP standards, the terms *shall* and *must* are used to state requirements and are considered mandatory. The term *should* is used to state something that is recommended, but is not considered mandatory. The term *may* is used to state something considered optional.

<sup>(1)</sup> U.S. Code of Federal Regulations (CFR), U.S. Government Printing Office, [www.govinfo.gov/app/collection/cfr](http://www.govinfo.gov/app/collection/cfr).

<sup>(2)</sup> Transport Canada (TC), [tc.canada.ca/en](http://tc.canada.ca/en).

<sup>(3)</sup> Canadian General Standards Board (CGSB), [www.tpsgc-pwgsc.gc.ca/](http://www.tpsgc-pwgsc.gc.ca/)

<sup>(4)</sup> Association of American Railroads (AAR), [www.aar.org/](http://www.aar.org/)