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Railroad Welding Specification—Cars and Locomotives



American Welding Society



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Railroad Welding Specification—Cars and Locomotives

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Abstract

This specification establishes minimum standards for the manufacture and maintenance of railroad equipment. Part I covers the general requirements for welding in the railroad industry. Part II covers specific requirements for the welding of base metals thinner than 1/8 in. (3.2 mm).



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Railroad Welding Specification— Cars and Locomotives

Part I Requirements for All Welding

Section A *General Requirements*

1. Scope

1.1 This specification covers the minimum welding requirements applicable to welded structures used in the railroad industry. It is not intended to apply to tank car tanks, or to the welding of rails. Recommended practices for welding railroad rails and related components are included in D15.2, *Recommended Practice for the Welding of Rails and Related Rail Components for Use by Rail Vehicles*.

1.2 Part I gives the general requirements for welded construction for metal components 1/8 in. (3.2 mm), or greater, in thickness. Unless otherwise stated these requirements apply to all freight cars, locomotives, and passenger train vehicles. Part II covers specific requirements for the welding of base metals less than 1/8 in. (3.2 mm) in thickness.

1.3 Companies shall be responsible for the quality of the welding done by their organization and shall perform whatever tests are necessary beyond the requirements of this specification to assure that the welds are satisfactory for the intended application.

The term “company” as used in this specification includes all facilities under common ownership that utilize the same program of welding standards and documentation.

1.4 Requirements contained herein constitute acceptable industrial practices. They are not intended as a substitute for engineering judgment with respect to the suitability of application of listed joints to a welded structure, nor are they intended to nullify or void any rules or require-

ments contained in the U.S. Department of Transportation Locomotive Inspection Act (45 USC-22), and the Federal Railway Administration’s *Railroad Locomotive Safety Standards and Locomotive Inspection* (49 CFR Part 229).

1.5 Requirements contained herein are not intended to nullify or void the requirements of any law or governmental agency regulation nor any specification of the Association of American Railroads.

1.6 All references to the need for approval shall be interpreted to mean approval by the Engineer. The *Engineer* is the agency or representative designated by the owner, purchaser, or operating railroad, as applicable, acting on the owner’s behalf on all matters within the scope of this specification.

1.7 Specific areas of application to locomotives and passenger train vehicles include, but are not limited to the following:

(1) Structural components including primary and secondary load-bearing members of the locomotive underframe, center plate bearings, truck bolsters, draft gear pockets, equipment bases and supports, collision posts, main generators (alternator), traction motor frames, and car body structures.

(2) Air reservoirs not covered by the provisions of the *ASME Boiler and Pressure Vessel Code*.

(3) Fuel tank manufacture and repair

(4) Air compressor and air system piping

(5) Electrical components including eddy current clutches, reverser contacts, and motor commutator terminations.

1.8 Engines and engine components may require specialized processes and procedures unique to the original equipment manufacturer. Repair or rework of the engine

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