



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

1200 New Jersey Avenue, SE  
Washington, DC 20590

SEP 18 2018

Kenneth B. Dorsey  
Association of American Railroads  
425 Third Street, SW  
Washington, DC 20024

Reference No. 18-0036

Dear Mr. Dorsey:

This letter is in response to your March 13, 2018, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to specifications for DOT-111 and DOT-117 series tank cars.

We have paraphrased and answered your questions as follows:

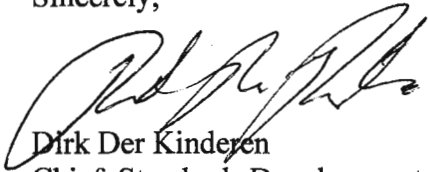
- Q1. You ask whether a DOT-111 tank car manufactured after October 1, 2015, is eligible to be retrofitted to DOT-117R or DOT-117P specification.
- A1. The answer is no. In accordance with § 174.310(a)(4), a newly manufactured tank car used to transport flammable liquids must be built to the new DOT-117 or DOT-117P specifications.
- Q2. Certain jacketed DOT-111 tank cars are equipped with fiberglass insulation, which is not an approved thermal protection system, in accordance with § 179.18(c). You ask whether these tank cars being retrofitted to the DOT-117 specification require documentation of a worst-case thermal analysis for crude oil and ethanol to show that they are capable of achieving the performance standard in § 179.18(a).
- A2. The answer is yes. When converting jacketed DOT-111 tank cars equipped with a thermal protection system not on the verification list, a thermal analysis must be provided that demonstrates the tank car can achieve the performance standard in § 179.18(a). In accordance with § 179.202-12(a), only cars that show they can meet this performance standard will be eligible for conversion to DOT-117P specification and need additional approval from Associate Administrator for Railroad Safety/Chief Safety Officer, Federal Railroad Administration (FRA).

Q3. You ask if the minimum plate thickness requirements for DOT-117R specification can be based on the minimum plate thickness requirement at the time of original construction.

A3. The answer is yes. In accordance with § 179.202-13(c), the minimum plate thickness for all tank cars manufactured to the DOT-117R is 7/16 of an inch. However, DOT-111 tank cars manufactured to the Association of American Railroads CPC-1232 standard have a minimum plate thickness of ½ an inch. Additionally, when calculating minimum allowable tank shell thickness in accordance with § 180.509(f), the original plate thickness at time of construction must be used for these calculations.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,



Dirk Der Kinderen  
Chief, Standards Development Branch  
Standards and Rulemaking Division

Ciccalone  
Tank cars  
18-0036

**January, Ikeya CTR (PHMSA)**

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**From:** Kelley, Shane (PHMSA)  
**Sent:** Tuesday, March 13, 2018 4:03 PM  
**To:** January, Ikeya CTR (PHMSA); Dodd, Alice (PHMSA)  
**Cc:** DerKinderen, Dirk (PHMSA); Nickels, Matthew (PHMSA); Foster, Glenn (PHMSA)  
**Subject:** FW: Request for Interpretation 49 CFR part 179.202  
**Attachments:** 179.202 Request.pdf

Colleagues

Please log this for processing as an interp.

Thanks

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**From:** Dorsey, Ken <kdorsey@aar.org>  
**Sent:** Tuesday, March 13, 2018 3:39:51 PM  
**To:** Kelley, Shane (PHMSA)  
**Subject:** Request for Interpretation 49 CFR part 179.202

Mr. Kelley

Please find the attached request for interpretation of 49 CFR part 179.202. The AAR is currently fielding requests on various aspects concerning DOT 117 class tank cars and is requesting the DOT interpretation of the regulations so that we can proceed.

Kenneth Dorsey  
Executive Director of Tank Car Safety  
Association of American Railroads  
202-639-2262



ASSOCIATION OF  
AMERICAN RAILROADS

**Safety and Operations**

Kenneth B. Dorsey  
Executive Director Tank Car Safety

Mr. Shane R. Kelley  
Director, Office of Standards and Rulemaking  
Office of Hazardous Materials Safety  
Pipeline and Hazardous Materials Safety Administration  
United States Department of Transportation  
1200 New Jersey Avenue SE  
East Building, PHH-10  
Washington, DC 20590-0001

Subject: Request for Interpretation

Dear Mr. Kelley:

AAR is seeking clarification of three issues related to the 49 CFR Part 179, Subpart D specifications for DOT-111 and DOT-117 tank cars. We respectfully request that you expedite your response to the extent practicable.

The first question relates to time limitations for conversions of DOT-111 tank cars into DOT-117R tank cars. AAR has received approval requests for conversion of DOT-111 tank cars constructed after October 1, 2015 to DOT-117R cars. It seems apparent that such requests circumvent DOT's regulatory intent in establishing a new, safer standard Title 49 CFR 174.310(a)(4) provides that:

“[a]fter October 1, 2015, tank cars manufactured for use in a HHFT must meet: (i) DOT Specification 117, or 117P performance standard in part 179, subpart D of this subchapter; or (ii) An authorized tank specification as specified in part 173, subpart F of this subchapter.

To allow manufacturers to build new DOT-111 cars and convert them to DOT-117Rs would provide a disincentive to the adoption and manufacture of the DOT-117 standard cars, which provide superior safety benefits.

- 1. AAR requests an interpretation on whether DOT-111 cars built after October 1, 2015, are ineligible to be retrofitted to DOT-117R or P class. We expect that the answer is yes, which would also provide regulatory consistency with Canadian standards.<sup>2</sup>**

<sup>1</sup> See TP-14877 2015, 8.3.25.2eii (available at  
)

Next, AAR is also seeking guidance regarding documentation to approve as DOT-117R tank cars built as jacketed DOT-111 cars and equipped with only fiberglass insulation. Under 49 CFR 179.4(a), AAR's Executive Director of Tank Car Safety is charged with granting approval for the alteration of DOT specification tank cars. The thermal protection requirements for DOT-117R are set forth in 49 CFR 179.202-13(e), which requires that tank cars employ a thermal protection system that complies with 49 CFR § 179.18. The 179.18 section establishes a requirement that thermal protection systems not included on a list referenced in 179.18(c) must provide documentation of a thermal analysis to show that they are capable of achieving a performance standard. In the case of DOT-117R conversions for jacketed cars equipped with fiberglass insulation, they met the standards when they were built to the DOT-111 specification, but the thermal protection system is not on the 49 CFR 179.18(c) approved list.

Additionally, Transport Canada (TC) guidance for previously jacketed DOT-111 class cars equipped with only fiberglass insulation indicates that only cars meeting the requirements of CPC-1232 will be considered for a temporary certificate. AAR requests that DOT harmonize the domestic requirements with those of TC in-order to avoid disrupting international commerce.

- 2. Accordingly, for conversions of jacketed DOT-111 tank cars equipped with only fiberglass insulation to DOT-117 specification cars, are applicants required to provide documentation of a worst case thermal analysis for crude oil and ethanol to show that they are capable of achieving the 49 CFR 179.18(a) performance standard?**

Finally, AAR is requesting an interpretation on how to determine the allowable tank plate thickness standard for a DOT-117 class car. AAR is seeking clarification that DOT considers the plate thickness allowed by the specification to be based on the minimum plate thickness for the type of car at the time of original construction. For example, a DOT 117R converted from non-jacketed CPC-1232 car would have a required base thickness of ½ inch rather than 7/16 inch, which is the published DOT-117R minimum shell thickness in general (179.202-13c).

- 3. For tank car conversions to a DOT-117R, does DOT consider the plate thickness allowed by the specification to be based on the minimum plate thickness for the type of car at the time of original construction?**

Thank you very much for your prompt attention to these matters. Please do not hesitate to contact me with any questions at 202-639-2262.

Sincerely,

Kenneth B. Dorsey  
Executive Director of Tank Car Safety