U.S. Department
of Transportation

**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

MAY 5 1998

Mr. Donald W. Vierimaa
Vice President-Engineering
Truck Trailer Manufacturers Association
1020 Princess Street
Alexandria, VA 22314

Dear Mr. Vierimaa:

This is in response to your letter requesting clarification of your understanding that when calculating the static stresses of non-American Society of Mechanical Engineers (ASME) Code stamped DOT 400 series cargo tanks in accordance with § 178.345-3(b), the requirement specified in § 178.345-3(a) (2) is applicable.

Your understanding of §§ 178.345-3(a) and (b) is correct. In cases where actual physical property tests of materials are certified showing an actual ultimate tensile strength greater than that shown in the ASME Code or the American Society for Testing and Materials (ASTM) standard, the ultimate tensile strength of the material used in the design may not exceed 120% of the minimum ultimate strength specified in the ASME Code or the ASTM standard. Section 178.345-3(a)(2) is applicable for the calculation of the static stresses of non-ASME DOT 400 series cargo tanks in accordance with §§ 178.345-3(b) and (c).

I apologize for the delay in preparing this response and hope that it has not caused you any inconvenience. If you need further assistance, please contact us.

Sincerely,

Thomas G. Allan

Thomas G. Allan
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards

Truck Trailer Manufacturers Association

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HM Rulings
File: 178.345
SC: 333.310

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June 15, 1995

Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
Research & Special Programs Administration
U.S. Department of Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590

Subject: Request for an Interpretation of 178.345-3(a)(2), 120% of Specified Ultimate Tensile Strength, as it Applies to 178.345-3(b), Static Stress Calculations

Dear Mr. Mazzullo:

178.345-3(a) states that the calculated design stress may not exceed the allowable stress prescribed in the ASME Code or 25 percent of the tensile strength of the material used. 178.345-3(a)(2) states that if 25 percent of the actual tensile strength of the material used is greater than that prescribed in the ASME Code or ASTM standard, then either 25 percent of the actual tensile strength or 120 percent of the allowable tensile strength in the ASME Code or ASTM standard may be used, whichever is less. The actual tensile strength shall be determined by physical property tests of the material used.

Please confirm that in the calculation of the static stresses of a non-ASME DOT 406, DOT 407, or DOT 412 cargo tank in accordance with 178.345-3(b), that 178.345-3(a)(2) is applicable. This would mean that in some cases an allowable tensile strength up to 120 percent of that specified in either the ASME Code or the ASTM standard may be used in the static design and construction of a cargo tank in accordance with Section VIII, Division 1 of the ASME Code.

Sincerely,

Donald W. Vierimaa

Donald W. Vierimaa
Vice President-Engineering

DWV/mm

cc: Tank Conference Engineering Committee