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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the  
Working Party on the Transport of Dangerous Goods

Bern, 8-11 September 2009 and  
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Item 5 of the provisional agenda

**TANKS**

**Interpretation of paragraph 6.9.2.2 (c) of standard EN 13094:2008**

**Transmitted by the Government of France<sup>1,2</sup>**

**SUMMARY**

**Executive summary:** The document aims to resolve the interpretation issues regarding paragraph 6.9.2.2 (c) of standard EN 13094:2008 on the protection of tanks against damage.

**Action to be taken:** If necessary, propose an amendment to standard EN 13094.

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<sup>1</sup> In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.7 (c)).

<sup>2</sup> Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2009/38.

1. Paragraph 6.9.2.2 (c) of standard EN 13094:2008, which partially reproduces the provisions of 6.8.2.1.20 (b) (4) of ADR concerning the protection of tanks against damage, states that for shells of forms other than circular or elliptical, “the shell is provided all around the mid-point of its vertical height and over at least 30% of its height with additional protection designed in such a way as to offer specific resilience, as determined in accordance with Annex B, at least equal to that of a shell constructed in reference steel of a thickness of 5 mm for a shell diameter not exceeding 1.80 m or 6 mm for a shell diameter exceeding 1.80 m.

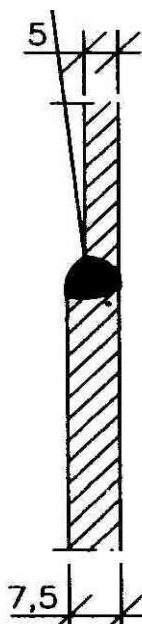
The additional protection shall be applied in a durable manner to the outside of the shell. This requirement shall be deemed to have been met without further proof of the specific resilience when:

- The additional protection involves the welding of a plate of the same material as the shell to the area to be strengthened, such that the shell thickness is not less than the minimum specified in 6.9.1; and
- Flanged ends to the full thickness are used with the additional side protection extending to cover at least one third of the flange length.”

2. The protection intended is termed “additional” and “shall be applied in a durable manner to the outside of the shell”, which we believe to mean added protection placed all round the outside of the shell at its mid-point. We therefore believe that, in accordance with these provisions, an additional side thickness design of a plate angled towards the inside of the shell, as shown in the diagram below, is not currently acceptable under 6.9.2.2 (c) of the standard. Nevertheless, this design is apparently accepted in various countries.

Plate of an additional thickness of 7.5 mm in relation to the original 5 mm thick side.

Inside of the shell



Outside of the shell

3. Thus, to clear up any ambiguity and avoid problems of competition between constructors, we wish to see the interpretation of these provisions discussed by the working group on tanks.

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