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Working Party on the Transport of Dangerous Goods  
(Geneva, 13-17 October 2003)

**MINIMUM THICKNESS OF TANK WALLS**

**Transmitted by the International Union of Private Wagons (UIP)\***

The secretariat has received from the Central Office for International Carriage by Rail (OCTI) the proposal reproduced below.

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\* Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/2003/67.

## **Introduction**

Paragraph 4.3.2.3.1 of RID/ADR stipulates the following: “The thickness of the walls of the shell shall not, throughout its use, fall below the minimum figure prescribed in 6.8.2.1.17 to 6.8.2.1.20.”

Although the design is in accordance with the regulations and numerous measures have been taken in the construction and operation of tanks, localized wear and tear occurs (e.g. the formation of spots of corrosion on the tank bottom and the mechanical damage caused by the spraying appliance during cleaning of the tank) which results in a reduction in minimum wall thickness. The repair of these spots of corrosion by welding does not lead to any increase in safety (given the constraints inherent in welding), and scrapping these tanks because of these negligible disparities which are limited in terms of minimum wall thickness is not an economically acceptable solution. UIP presented this topic to the working group on tanks at the March Joint Meeting in order to furnish the experts with a legal security mechanism and an aid to assessment during checks, and was asked to prepare a draft text.

## **Proposed solution**

**4.3.2.3.1:** Add the following text:

“The thickness of the walls of the shell shall not, as a matter of principle, fall below the minimum figure prescribed in 6.8.2.1.17 and 6.8.2.1.18/6.8.2.1.17 to 6.8.2.1.20, throughout the period of its use.

This requirement is still considered to have been met if the wall thickness is reduced locally and to a limited extent, e.g. by damage or corrosion during use, if all the following conditions are complied with:

- minimum wall thickness shall not be reduced locally by more than 10%;
- the surface area over which the minimum wall thickness is reduced shall not exceed 1,000 cm<sup>2</sup>;
- the sum of all the surface areas over which the minimum wall thickness is reduced shall be less than 5% of the total surface area of the tank;
- the minimum permitted distance between two neighbouring areas over which the minimum wall thickness is reduced shall be not less than 300 mm; and
- in the case of pressurized tanks, the stress resulting from the design pressure shall be safely absorbed bearing in mind operating conditions.”

## **Evaluation**

The level of appreciation of experts in Europe will be standardized by the adoption of this definition. In addition, a legal security mechanism will be created for relevant and extended assessment. The safety standard for tanks will not be modified if this regulation is adopted.