

OTIF



**ORGANISATION INTERGOUVERNEMENTALE POUR
LES TRANSPORTS INTERNATIONAUX FERROVIAIRES**

**ZWISCHENSTAATLICHE ORGANISATION FÜR DEN
INTERNATIONALEN EISENBahnVERKEHR**

**INTERGOVERNMENTAL ORGANISATION FOR INTER-
NATIONAL CARRIAGE BY RAIL**

INF. 22

4 September 2007

Original: German

RID/ADR

Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods
(Geneva, 11 - 21 September 2007)

Section 1.2.1: Definition of "mild steel"

Transmitted by the International Union of Private Wagons (UIP)

Proposal

The proposal is to amend the definition of mild steel in section 1.2.1 of RID/ADR to reflect the range of strength for mild steels now stipulated in standard EN 10025 (360 N/mm² to 470 N/mm²).

Justification

According to paragraph 6.8.2.1.18 of RID/ADR, equivalent wall thickness must be determined for materials other than reference steel. When calculations were made in line with the requirements of RID/ADR until the 2001 version using the cube root formula for mild steel S355J2G3 (1.0570) according to EN 10025 with a yield strength of 355 N/mm², which is used for tank wagons in many parts of Europe, no differences in values arose compared with the reference thickness (6.0 mm S355 is equivalent to 6 mm reference mild steel).

After the cube root formula for equivalent wall thickness in 6.8.2.1.18 was changed after the 2001 version of RID/ADR, calculations for the same material resulted in an equivalent wall thickness of 6.08 mm compared with reference steel. As the deviation was so slight this was often not realised and e = 6 mm has continued to form the basis for construction and licensing.

For reasons of cost, only a limited number of copies of this document have been made. Delegates are asked to bring their own copies of documents to meetings. OTIF only has a small number of copies available.

When standard EN 10025 was amended for this steel in 2007 and tensile strength was reduced from 490 N/mm² to 470 N/mm², the wall thickness requirements increased by approximately 0.1 mm to approximately 6.18 mm for the same tank of the same time-tested mild steel.

None of the above-mentioned amendments were intended to have this effect (increasing minimum wall thickness from 6 mm to 6.2 mm for the most commonly used mild steel on the railways). The proposed amendment of the definition of "mild steel" to reflect a current European standard for mild steels would rectify this unintended side effect.

The amendment is not detrimental to the provisions in Chapter 6.7, as the cube root formula has remained unchanged there and the definition in the footnote refers specifically to this formula.

This discussion has no implications for pressure parameters. There are no implications for the required minimum wall thickness of 6 mm mild steel. Consequently no safety deficits will arise.
