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**COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS**

**Sub-Committee of Experts on the
Transport of Dangerous Goods
(Sixteenth session,
Geneva, 5-16 July l999,
agenda item 5 (d))**

MISCELLANEOUS DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Packagings

Amendment to marginal 6.1.4.1.1

Transmitted by the Expert from Spain

The experience gained during the tests performed by authorised laboratories on metal drums and light metal packages, shows that there is a serious problem in relation to the deformation suffered by these types of packagings as a result of internal pressure. In fact, these deformations can be such that stack stability or the capacity for resisting drop testing may be affected.

On the other hand, during recent years, a gradual reduction in the wall thickness of approved drums has been noted, not only in Spain, but also in other countries, as a result of increased commercial competition. All the steel drums which successfully pass the initial tests are designed just to pass the approval testing, but do not guarantee either their reuse, or their ability to withstand unfavourable or very unfavourable transport conditions by sea or air.

Other factors which have to be taken into consideration are: the large number of products for which the drums are approved, without considering an increase in wall thickness to allow for corrosion, and the actual conditions of plate perforation owing to extremely thin wall thickness while rolling the drums during transport. Two years ago IATA presented a document which referred, among other problems, to small and medium-sized drums and their deficiencies during air transport.

Taking into account all these circumstances, we consider it necessary to establish some type of limit in relation to a minimum wall thickness for these packagings in order to guarantee the safety of transport of dangerous goods using this type of packaging.

Consequently, we propose to amend the existing paragraph 6.1.4.1.1, adding a new paragraph with the following wording:

"Nevertheless, at least the following nominal thicknesses shall be applied:

Capacity of the drums (litres) (l)	≤20	>20≤40	>40≤100	>100≤250	>250≤350	>350≤450
Nominal thicknesses (mm)	≥0.5	≥0.7	≥0.8	≥1	≥1.2	≥1.5
Absolute minimum thickness according to ISO 3574 (tolerance)	0.45	0.63	0.73	0.92	1.09	1.38
Absolute minimum thickness according to EN 10131 (tolerance)	0.45	0.64	0.73	0.92	1.10	1.39

Concerning stainless steel drums, the nominal minimum values of thickness are given by the formula of equivalence:

$$e_1 = \frac{21.4 \times e_o}{\sqrt[3]{Rm_1 \times A_1}}$$

For stainless steel drums, the tolerances to apply are ISO standard 3574 or EN 10.131 in regard to absolute minimum values.

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