

Proposal for Supplement 3 to the 08 series of amendments to Regulation No. 17 (Strength of seat)

The text reproduced below was prepared by the expert from CLEPA aimed to improve the reproducibility of the luggage impact test described in annex 9 of UN Regulation No.17. The modifications to the text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

Modify paragraph 1. of annex 9:

1. Test blocks

Rigid blocks, with the centre of inertia in the geometric centre.

Type 1

Dimensions: 300 mm x 300 mm x 300 mm
all edges and corners rounded to 20 mm

Mass:18 kg

Moment of inertia $0.3 \pm 0.05 \text{ kgm}^2$ (around all 3 principal axis of inertia of the luggage blocks)

Type 2

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II. Justification

UN Regulation No. 17 defines a luggage impact test which uses 2 luggage blocks of 18kg each. The luggage cubes are defined in geometry and weight with the inertia centre in the geometric mid of the cubes. Regulation has omitted to define the moment of inertia of the luggage cubes resulting in a variability of the trajectory and behaviour of the luggage cubes before and after impact.

The problem is particular present for the lower luggage cubes because they are placed at a distance of 200mm from the seat back and have therefore enough freedom to adopt a trajectory in relation with their moment of inertia.

The values of the admissible moments of inertia proposed range from a perfect homogeneous material (moment of inertia = 0.267 kgm^2) up to 0.35 kgm^2 which represents the major parts of luggage cubes used in industry : rather homogeneous distribution of different light weights materials where the inner geometry of the cubes is adapted to meet the 18 kg mass request of regulation.
