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**Economic Commission for Europe****Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on General Safety Provisions****103<sup>rd</sup> session**

Geneva, 2-5 October 2012

Item 3 of the provisional agenda

**Regulation No. 43 (Safety glazing)****Proposal for amendments to the 01 series of amendment to  
Regulation No. 43 (Safety glazing)****Submitted by the expert from Germany\***

The text reproduced below was prepared by the expert from Germany to allow type approval for multiple-glazed units as an assembly of more than two panes. The modifications to the current text of the Regulation are marked in bold for new or strikethrough for deleted characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106 and ECE/TRANS/2010/8, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

## I. Proposal

Through the whole text of the Regulation, replace the words "double glazing" by "multiple glazing".

Through the whole text of the Regulation, replace the words "double-glazed unit" by "multiple-glazed unit".

Paragraphs 2.8. to 2.8.2., amend to read:

"2.8. ~~"Double-glazed Multiple-glazed unit"~~ means an assembly of **at least** two **parallel** panes permanently assembled in manufacture and separated by **a one or more uniform** gap(s).

2.8.1. ~~"Symmetrical double-glazed multiple-glazed unit"~~ means a ~~double-glazed multiple-glazed~~ unit where ~~the two~~ **all** component panes are identical (e.g. ~~both~~ all toughened glass).

2.8.2. ~~"Asymmetrical double-glazed multiple-glazed unit"~~ means a ~~double-glazed multiple-glazed~~ unit where **at least** ~~the~~ two component panes are not identical (e.g. ~~one~~ is toughened glass ~~and the other~~ is laminated glass)."

Annex 1, Appendix 7, amend to read:

### "~~DOUBLE~~ MULTIPLE GLAZED UNITS

...

Principal characteristics:

Composition of ~~double~~ **multiple**-glazed units (symmetrical/asymmetrical): .....

Nominal thickness of the gap(s): .....

...

Documents attached:

One form for ~~the two~~ **all** panes of a symmetrical ~~double~~ **multiple**-glazed unit in accordance with the annex under which the panes have been tested or approved.

One form for each **different** pane of an asymmetrical ~~double~~ **multiple**-glazed unit in accordance with the annexes under which these panes have been tested or approved.

..."

Annex 12, the title, amend to read:

### "~~DOUBLE~~ MULTIPLE-GLAZED UNIT"

Insert a new paragraph 1.1.2., to read:

"1.1.2. **The number of component panes.**"

Paragraphs 1.1.2 and, 1.1.3. (former), renumber as paragraphs 1.1.3. and 1.1.4.

Paragraph 1.1.4. (former), renumber as paragraph 1.1.5. and amend to read:

"1.1.5. The nominal width(s) of the gap(s) between the ~~two~~ glass panes,"

Paragraph 1.1.5. (former), renumber as paragraph 1.1.6.

Paragraph 2.2., amend to read:

"2.2. Tests carried out on ~~double-glazed units~~ **a multiple-glazed unit** having **one or more gap(s) with the** a nominal width of gap 'e<sub>1</sub>' (... 'e<sub>n</sub>') shall be considered to be applicable to all ~~double-glazed~~ **multiple-glazed** units having the same characteristics and a nominal width of **the gap(s) 'e<sub>1</sub>± 3 mm' (... 'e<sub>n</sub> ± 3 mm')**. However, the applicant for approval may submit for approval tests the sample having the smallest gap(s) and the sample having the largest gap(s)."

Paragraphs 3.4.1. to 3.4.2.1., amend to read:

"3.4.1. ~~Double~~ **Multiple** glazing consisting of ~~two~~ uniformly-toughened glass panes **only**:

The test shall be considered to have given a satisfactory result if ~~both~~ **all** components break;

3.4.2. Double glazing .....

3.4.2.1. The ~~two~~ components of the test piece yield and break, displaying numerous circular cracks centred approximately on the point of impact;

Paragraphs 3.4.3. to 3.4.3.2., amend to read:

3.4.3. ~~Double~~ **Multiple** glazing consisting of ~~a~~ **at least one** uniformly-toughened glass pane and of ~~a~~ **at least one** laminated glass pane or glass-plastics pane other than windscreens:

3.4.3.1. The toughened-glass pane(s) break(s);

3.4.3.2. The laminated glass pane(s) or glass-plastics pane(s) yield(s) and break(s), displaying numerous circular cracks centred approximately on the point of impact;"

Annex 16, the title, amend to read:

"RIGID PLASTIC ~~DOUBLE~~ **MULTIPLE** GLAZED UNITS

Paragraph 1., amend to read:

"1. DEFINITION OF TYPE

**(Annex 16 is only valid for multiple-glazed units assembled of two panes)**

~~Double-glazed~~ **Multiple-glazed** units shall be considered to belong to different types if they differ in at least one of the following principal or secondary characteristics."

## II. Justification

1. Multiple-glazed units as an assembly of more than two panes cannot be approved within the range of the current provisions of UN Regulation No. 43.

2. Trailer caravans and motor-caravans, in particular, with excessive thermal insulation for use in harsh climate have a demand for multiple-glazed units as an assembly of more than two panes.

3. These units will offer the same advantages as insulation of similar units in the building sector.

4. Furthermore, it is recommended to modify "double glazing" in "multiple glazing" and "double-glazed unit" in "multiple-glazed unit" to clarify the meaning and to be in line with international standards. Replacement shall be in the whole existing Regulation. If the replacement is the only modification in a paragraph, that paragraph is not stated in this proposal.

5. According to Annex 16, rigid plastic double glazed units should not be type approved as multiple-glazed units of more than two panes. This is emphasized by a note in paragraph 1. of Annex 16 regarding the definition of type.

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