

Proposal for amendments to regulation UN Regulation No. 43 (Safety glazing)

The aim of this proposal is to make possible to use thick glass panes for multiple glazed units. This requires omitting the headform test in case of these units.

Proposal

Annex 12, paragraph 3. shall be deleted.

Annex 12, paragraph 4. shall be renumbered

Justifications:

1. The requirement in Annex 12, paragraph 3.4.1 of the Regulation says that all glass panes in the multiple glazed units must break as the result of headform drop. On the other hand, bus and motor caravan manufacturers use in many cases 5 - 6 mm thick tempered glass panes in side and roof windows (because they want to protect the passengers from stones falling onto the roof glazing, from vandalism, from smaller accidents, or want to reduce vibration and noise, or increase strength of the superstructure, or they must fulfil other regulations or standards, etc.). The problem is that thick glass panes do not break easily and such multiple glazed units cannot be approved as safety glazing.
2. The conflicting requirements described above force the manufacturers to adjust the tempering process to the minimum quality level (targeting just a bit more than 40 fragments) because this is the only way to spoil the strength.
3. Headform test is very important in case of windscreens therefore it is required for all kinds of windscreen but has significantly less importance in all other cases, therefore it is not required for different kinds of non-windscreen glazing. However, it is also required for multiple glazed units which are never used as windscreens!
4. An example for demonstrating the problem: a bus has the following 3 versions:
 - a) Side windows made of tempered glass panes
 - b) Side windows made of laminated glass panes
 - c) Side windows made of multiple glazed units

Headform test is not required in cases a) and b) but required in case c). This means that using of up-to-date thermal insulating glass is punished by an additional requirement in the same installation situation.

5. General remark: requirements should be based on the function of the glass in the vehicle (windshield, glazing in the driver's field of vision, emergency exit, other glazing, etc.) and not

on the sort of the glazing (simple, multiple, laminated, etc.) as in the present R 43. An example: the standard ANSI-SAE Z26.1-1996 prescribes penetration test (which can be considered as a simple substitute of headform test) only for those multiple glazed units which can be used as windscreens and not for other sorts of glazing.

6. An actual case: a multiple glazed unit made of a 4 mm thick and a 6 mm thick toughened glass pane with 10 mm gap was tested this year. As a consequence of the headform drop, in 4 specimens both glass panes were broken but in 2 specimens only one of the panes. The requirement is that both panes of all of the 6 specimens shall brake, so the unit does not comply with UN Regulation No. 43, 01 series of amendments.
