

Transmitted by the expert from Germany

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agenda item 7)

Proposal for draft amendments to Regulation No. 43

Note: This document amends document ECE/TRANS/WP.29/GRSG/2009/8.

JUSTIFICATION

Document ECE/TRANS/WP.29/GRSG/2009/8 proposes amendments to Regulation No. 43 with regard to plastic glazing for windscreens and to laminated glazing.

During the 96<sup>th</sup> GRSG session document GRSG/2009/8 was discussed and some issues were raised by several contracting parties which are addressed by this justification.

The items raised with regard to plastic glazing were:

- Resistance to weatherability
- UV stability
- CO2 emissions
- Durability
- Pedestrian safety
- Defrosting
- Recyclability

A long experience of more than 10 years for tailor – made products on passenger cars has given the knowledge for testing typical characteristics of plastics like haze, resistance to weatherability.

Since 1988 it is possible to get an approval for plastic windscreens in Germany for vehicles which by construction cannot exceed 40 km/h. Basis for this approval are the tests covered by the current document GRSG/2009/8.

A study by the institute of Corporation for Comprehensive Analyses in Vienna on Resource Efficiency has given the result that 1 kg Polycarbonate (PC) saves about 14 – 22 kg CO2 emissions along a total life cycle compared to glass. This is due to the fact that the density of plastic is 50% of the density of glass. The mass reduction for a windscreen is approximately 5 kg.

The taber abraser test is at the moment the only test standardized to describe and measure haze after abrasion. The values mentioned in the document could only be reached by glasslike coatings on plastic glazing. The limit of 2% transmission for this test shall be the same for glass and plastic. Current vehicles of different manufacturers having plastic side windows or plastic sun roofs installed showed no problem with abrasion during the usage.

According to the proposal GRSG/2009/8 concerning the mechanical resistance, the plastic windscreens are not allowed to break, and the HIC – value has not to pass 1000 for these places

with high contact possibility. The height of drop is the same as in annex 14 of ECE R43 for partitions. When the panes are not allowed to break than there will be no chance of lazation by splinters.

With regard to pedestrian safety at the moment no results are available for the head impact on plastic glazing.

For the defrosting of plastic windscreens the same requirements as for glass have to be fulfilled.

The recyclability of plastic material is no problem. 100% of the material can be recycled.

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