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Removing head form testing requirements for windscreens in UN Regulation 43 could imperil occupant safety

Glass for Europe, the trade association representing the EU flat glass sector, took note of the OICA proposal discussed by the Working Party on General Safety Provisions (GRSG) to specify, in UNECE Regulation 43 (R43), that the head form test on windscreens does not need to be conducted "in case of a vehicle which is equipped with a restraint system or which has a geometrical design able to prevent the contact of the head of a belted front occupant with the windscreen"[i].

Beyond the fact that such changes in R43 are expected to increase homologation complexity and subsequent costs, removing a head form test from homologation rules raises concerns about passenger safety. Although there is no doubt that restraint systems play a crucial role in protecting passengers as early as possible in a crash, relying solely on them for windscreen safety is problematic, as certain accidents can occur with limited use of restraint systems.

Glass for Europe, therefore, calls on authorities to conduct a thorough analysis of the current state of play regarding vehicles equipped with R43-homologated safety glazing (e.g., through accidentology research) before making regulatory changes that could compromise public safety.

1. Restraint systems cannot replace windscreen safety

Glass for Europe does not have expertise on the legislation referred to in the proposed test procedure[ii] to exempt windscreens from head form tests and trust authorities to ensure that these can cover all possible scenarios (e.g. including multiple consecutive crashes, involving all front passengers of all physiognomies and conditions, etc.). If this procedure is appropriate to validate the efficacy of the restraint system for stopping contact with windscreens, it should still be stressed that the safety roles of a windscreen is complementary to those of a restraint system.

There are today numerous scenarios where it is technically possible and legal for a passenger not to use a restraint system in a vehicle in motion. More than twenty European countries (including Belgium, France, Germany, the Netherlands, Poland, Spain, UK) have legal exemptions allowing certain individuals to forego seatbelt use[iii]. In these countries, occupants who comply with the law regarding the use of restraint systems would be put at increased risk if exposed to windscreens that lack the necessary head impact safety characteristics.

Furthermore, in all cases where a car is used stationary, the use of restraint systems is limited. Yet the possibility of accidents, e.g. with other vehicles in motion, remains.

In conclusion, **a car homologated with a restraint system does not systematically eliminate the chances of contact with its windscreen. Alongside the crucial safety role of restraint systems, windscreens provide safety in situations where the occupants can still endure head contact with the glass.**

2. Current risks linked to a reduction of safety standards in Regulation 43

To date, Glass for Europe has not seen comprehensive, EU-wide research demonstrating that existing restraining systems in vehicles sufficiently prevent windscreen contact, including in the situations mentioned earlier. The absence of such data thus raises questions and concerns about the adequacy of reducing windscreen safety standards.

In addition to the passenger safety question, there are legal liability uncertainties associated with such a proposal, notably in cases where passengers collide with a windscreen that has not undergone a head form test.

Glass manufacturers are, therefore, at risk of finding themselves in an untenable situation vis-à-vis their clients. On the one hand, it would be clear that without head form testing, windscreens are not homologated to protect passengers, and the subsidiary systems used to compensate for the risks do not ensure that there will never be head impacts with windscreens. On the other hand, the rules will allow vehicle manufacturers to demand a homologation without head form tests, and a refusal to comply, e.g. for safety or legal liability reasons, will put windscreen manufacturers' competitiveness at risk.

Glass for Europe thus considers that the high safety standards currently applicable to windscreens should be viewed as complementary to the high safety characteristics of restraint systems; R43 should not prompt stakeholders to compromise on safety.

3. Administrative burdens to products with reduced safety characteristics

From an administrative standpoint, the proposed change would introduce multiple homologation rules and marking types, depending on the procedure chosen (with or without head form tests).

Manufacturers would thus be required to navigate additional customer demands, set up additional tools and resources, and endure increased administrative burdens and costs just to allow products with reduced safety characteristics to be put on the market.

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The current regulatory framework ensures the safety of glazing products and offers vehicle passengers an extra line of safety regardless of circumstances.

In the absence of alternative evidence, Glass for Europe does not support the homologation of windscreens which do not pass a head form test and calls for prioritizing safety and calls for maintaining the current regulatory framework.

Glass for Europe is the trade association for Europe's flat glass sector. Flat glass is the material that goes into a variety of end products, primarily in windows and facades for buildings, windscreens and windows for automotive and transport as well as solar energy equipment, furniture and appliances. Glass for Europe brings together multinational firms and thousands of SMEs across Europe, to represent the entire flat glass value-chain. It is composed of flat glass manufacturers, AGC Glass Europe, Guardian, NSG-Group, Saint-Gobain, and Şişecam and works in association with national partners gathering glass processors and transformers. European automotive glass producers supply advanced glazing systems to both Original Equipment Manufacturers and the replacement market all over the world.

[i] OICA. *Proposal for the 02 series of amendments to UN Regulation No. 43 (Safety glazing)*. Informal document GRSG-127-23. https://unece.org/sites/default/files/2024-04/GRSG-127-23e.pdf

[ii] The test procedure to ensure that the restraint system prevents head contact of front occupants with the windscreen is proposed to be Annex VII of Regulation 21 (R21) on interior fittings, complemented by a test pulse in accordance with UNECE Regulation 100 (R100), on the approval of battery electric vehicles, for vehicle types M2, N2, M3, or N3. See: OICA. *Proposal on UN Regulation No. 43 - Alternative to the Headform Test*. Informal document GRSG 129-34. https://unece.org/sites/default/files/2025-04/GRSG-129-34e.pdf

[iii] For an overview of seatbelt usage rules in the EU, see: European Union. *Road rules and safety*. https://europa.eu/youreurope/citizens/travel/driving-abroad/road-rules-and-safety/index_en.htm (last consulted on 08/04/2025)

The UK also allows for certain exemptions, see: GOV.UK. *Seat belts: the law*. https://www.gov.uk/seat-belts-law/when-you-dont-need-to-wear-a-seat-belt (last consulted on 08/04/2025)