

An investigation of the quality and safety of windscreen replacements in the Republic of Ireland

In the course of carrying out windscreen replacements, anecdotal evidence from Autoglass® technicians in the Republic of Ireland suggested that a relatively significant proportion of previously replaced windscreens were of poor quality, in some cases to such an extent that the previous replacement might potentially constitute a risk to safety. Autoglass® were concerned about this apparent feature of their market and asked TRL to design and implement a research study in the Republic of Ireland which aimed to quantify the percentage of previously replaced windscreens that have quality or safety deficiencies.

Between 9th January 2012 and 15th April 2012, TRL designed and ran an independent data collection study that collected information on windscreen replacements in the Republic of Ireland. Information from 558 previously replaced windscreens was collected by Autoglass® technicians using a methodology developed by TRL and a data collection form designed by TRL. Three visits were made to Autoglass® branches in the Dublin area by TRL to oversee study implementation and data collection processes. The data was coded into a database by TRL and, using the objective information collected at the point of replacement, the quality and safety of the replacement was assessed. This process used criteria developed by TRL in conjunction with Belron® Technical in order to allocate features of the replacement to different categories within the quality and safety spectrum.

In summary, the results of the study showed that:

- Over 35% (35.1%, 95% confidence interval: 31.2% to 39.1%) of windscreens that had been previously replaced were judged to exhibit some type of quality or safety issue.
- Over 14% (14.3%, 95% confidence interval: 11.4% to 17.2%) of windscreens that had been previously replaced were judged to exhibit safety issues rated as having 'high' or 'medium' risks.
- More than 36,000 windscreen replacements per year in the Republic of Ireland are estimated to have quality or safety issues, and between 11,803 and 17,809 per year are estimated to have a windscreen replacement which may compromise the level of safety offered. Therefore, over a five year period, approximately 180,000 windscreen replacements may be introduced into the fleet which have quality or safety deficiencies and between 59,000 and 89,000 of these may have more significant safety issues.
- These results suggest that mechanisms to improve the quality and safety in the market would be an important step to ensuring the safety and longevity of windscreen replacements in the Republic of Ireland.
- The magnitude of the effect on safety of a poorly replaced windscreen has not been quantified, but objective criteria were developed against FMVSS 212: the only standard in the world that assesses windscreen retention in an impact. Further work might consider quantifying, through testing, the effect on occupant injury levels for windscreens replaced using high quality standards and processes with windscreens replaced in ways similar to some of the poorer examples highlighted in this study.