

3rd Progress Report of the Informal Group on Plastic Glazing

1. The Informal Group on Plastic Glazing has had two other meetings since the 101st GRSG. One took place on 21/22 November 2011 at BAYER Material Science AG in Leverkusen/Germany with the opportunity to see some production and test equipment for rigid plastic glazing and the other meeting was on 06/07 March 2012 at the Federal Ministry of Transport, Building and Urban Development Division in Bonn/Germany.
 2. One of the main items of those meetings was the discussion about abrasion tests. The results of the Taber abrasion round robin test were analysed. Because of the unsatisfactory reproducibility of the Taber test results the reasons for this have been found in the tools (wheels) and test equipment (nozzle). Furthermore calibration measurements have been performed with Taber Industries. The decision of the group for considering the Taber abrasion test any longer was postponed to the next meeting of ISO TC 22/SC11 in June 2012, for that committee is studying the influence of the quality of the abrasion wheels and will then have results by round robin tests. In the meantime also round robin sand drop (UN Regulation No. 22) and car wash (Amtec Kistler, ISO 20 566) tests have been performed and analysed. The results of these tests show sufficient reproducibility. They are suitable for plastic windscreens and they have the advantage also with respect to conformity of production to test real parts.
In the last meeting of IGPG the necessity of an additional wiper test has been discussed. A task force was installed to build up a concept of a test method with a reasonable work plan and time schedule for the next meeting.
 3. For examining plastic windscreens combinations of tests have been discussed and it was decided to keep combinations of weathering/cross-cut, humidity/ball drop and cross-cut/chemical resistance.
 4. The regulatory text for plastic windscreens was continued on the basis of document ECE/TRANS/WP.29/GRSG/2009/8. The 227g ball test has to be performed at a drop height of 8.5 m independent of material thickness. The proposed chemicals in the chemical resistance test shall be kept. The pass-rate for fulfilling that test was fixed to three samples out of four. The optical tests shall be kept as they are described. The discussion of Annex 18 on laminated rigid plastic glazing was started. The flexibility test remains unchanged. The pass-rate for the headform test is changed to 100%. The drop height for the 227g ball drop test has to be provided for the next meeting.
 5. Meanwhile the Federal Highway Research Institute had presented the results of their study of comparative tests with laminated safety glass panes and polycarbonate panes for headform impact and the finalized report will be available soon. The HIC values in vehicle impact tests with polycarbonate glazing at three (out of four) impact locations are significant higher than in tests with laminated glass. There was no visible damage of the polycarbonate panes. HIC depends on the location of impact, impact angle, clamping and gluing, thickness of the pane.
 6. The next meetings of the Informal Group will be on 05/06 September 2012 at OICA/Paris and presumably in January 2013 at the European Commission.
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