

DRAFT REPORT

6th meeting of the GRSG informal group on the introduction of plastic glazing for windscreens and laminated plastic panes other than windscreens in UN Regulation N°43

Venue: **European Commission**
DG enterprises & Industry
Brussels

Chairman: Dr. Klaus Preußner (D) (dr.klaus.preusser@schwerte.de)
Secretariat: Mr. Olivier Fontaine (OICA) (ofontaine@oica.net)

Tuesday, 22 January 2013, until Wednesday, 23 January 2013

1. Welcome and Introduction

The delegate from the European Commission welcomed the participants to the meeting.

2. Approval of the agenda

Document: IGPG-06-01 (Chair)

The agenda was adopted with the addition of the presentation from FGMAJ as document IGPG-06-02 under item 6 of the agenda.

3. Revision and approval of the draft minutes of the 5th meeting

Document: IGPG-05-09 (Secretariat)

As the minutes of the 5th meeting were posted quite late, on the 10th of January, 2013, it was agreed that they were temporarily adopted, but that comments could still be communicated to the Secretary after the 6th meeting, until end of January 2013.

4. Outcomes of GRSG-103 (October 2012)

The Chair informed that debates at GRSG were relatively short stressing in particular that the F delegation was keen to keep the Taber test in the regulation. The Chair in addition referred to the document GRSG-103-17 and the official report of the 103rd session of GRSG, per document ECE/TRANS/WP29/GRSG/82.

5. Proposal for a wiper test

5.1. Outcome of the Subgroup 1 - On-Road-Testing of wiped plastic glazing (real-life-data)

Document: IGPG-06-07 (VDA)

A status report was provided by Dr. Buckel on behalf of VDA. Dr Buckel informed that seven brands currently take part to the test campaign decided by the sub-group 1 of the Task-Force on Wiper-test.

Three vehicles started their on road testing:

BMW 3 Series:

- was on the road during 2 months
- one windscreen under on-road test
- Laboratory cycles on a 2nd windscreen (complete).
- investigation of deterioration in progress

VW GOLF 6:

- 3 months on the road, then investigation in laboratory.

- Intention to test one further vehicle.

Porsche Cayman:

- On road since May 2012
- Backlight is tested
- Road test on-going

The vehicles are driven in common conditions (safeguarding cars).

There is currently no information about the coating of the windscreens, but it is expected that all necessary information will be given. KRD with coating from Momentive was the supplier of one windscreen.

Evaluation of a different measuring technique based on light diffraction by the windscreen scratches

Conclusion:

- Investigation is on-going
- no change in the timeline.

5.2. Outcome of the Subgroup 2 - lab test equipment to test wiper resistance on small samples

Document: IGPG-06-05 (SABIC)

Mr. Terragni gave a presentation of the outcomes of TF wiper-SG-2 per document IGPG-06-05.

- Five participating companies
- Work on-going based on the outcomes of the questionnaire produced by the Chair of the sub-group
- No change in timeline.

6. Review of the Taber test

Documents: IGPG-06-02 (FGMAJ)

Mr. Hara presented document IGPG-06-02 on behalf of FGMAJ and recalled that the intention is the improvement of the Daiwa wheels for reaching the Taber test performance requirements. The two 1st trials were not successful, but this 3rd trial was a success: it was possible to reach the 2% Haze difference with the new Daiwa wheels.

Some wheels reached a 2% haze difference on plastic shields, but had almost 0% on glass (Trial F).

Mr. Hara concluded that there is still a need for further improvements for being able to use the same wheels for glass and plastics.

The delegate from France stated that there is a need that Plastic provides the same performance as the glass, while the FGMAJ presentation seems that it is an attempt to change the tool for ensuring that Plastic can be used. The delegate from France questioned the utility of developing new wheels.

Mr. Dümmler found it unusual to develop wheels which provide a haze of 2% on Plastics.

Dr. Buckel recalled that Taber changed the wheels without providing any information on the change, and that the today situation comes from the fact that there is no description of the wheels and their “abrasiveness”. All kinds of abrasions must be taken into account for the abrasion test, and the plastic materials do not react the same way as the glass panes. F repeated the need to maintain the Taber test, and agreed on the development of a new test simulating the real conditions. The delegate from France was reluctant, as representative of a Technical Service, to be obliged to replace the Taber machines currently in use.

6.1. Outcomes of the ISO group

The outcome of the round robin was that the Taber test is reasonable. Hence the Conclusion is to recommend keeping the Taber test in the standard. The basic problem of the RR is that the wheels were pre-selected, as they were all taken from the same lot. Hence the final idea of the ISO group was that there is no possibility to escape from the definition of the reference material, i.e. set of wheels. 0.2 – 1.2 is the reasonable range.

Conclusion: next step for ISO is to find a reference plastic material.

Dr. Buckel stressed that all depends on the coating. It was pointed out that in absence of any reference and definitions of the wheels, the wheel supplier has the obligation to sustain the production of the wheels. Mr Benyaya summarized that this GRSG group should try to find a robust reference monolithic plastic material.

At ISO the equation is as follows: the wheel manufacturers must provide the description of the wheels, or ISO has to find out a reference material for Plastics. If the group does not reach success in this, then ISO has to drop the Taber test for plastic material.

F supported the approach of ISO as described above.

The Secretary proposed to copy/paste the solution of the tyre Industry, where one tyre manufacturer produces a reference tyre for all the Industry.

Dr. Dümmler summarized the situation for ISO as follows:

- 1st step: qualifying the Taber test
- 2nd step: addressing the 2% haze.

The Chair pointed out the problem that the Contracting Parties at GRSG will probably be reluctant to agree to raise the limit, while Plastic won't reach the 2%.

The Chair reminded that the sand drop test on glass accepts a value of 5% delta haze, and that this value came from the UN R22, with the wish that the amount of sand (3kg) is kept. The value of 2% comes from history with good confidence that this value is representative of what happens in road traffic during the lifetime of a vehicle.

Dr. Dümmler recalled that we must also define the initial haze value. Suggestion: 1.0%

Conclusion:

- ISO revised Standard ISP-3537 having glass as reference material
- Need to define a reference plastic material
- Taber and Daiwa wheels have different behaviour because of their different constitutive materials
- Need to define a limit value for the initial haze. Suggestion: 1.0 %.
- IGPG to wait for wiper test outcomes.

The ISO members tried to find a reference material in the margins of the IGPG-06 meeting.

7. Further discussion of the draft regulatory text

Documents: IGPG-05-02-Rev.2 (Secretariat)
 GRSG-103-20 (IGPG)
 IGPG-06-04 (Evonik)
 IGPG-06-06 (Bayer)
 IGPG-06-08 (Chair)

The experts started the revision of the regulatory text.

Annex 17

The Chair proposed some improvement in the wording, per document IGPG-06-08 (revised during the meeting). The group agreed to further improve this proposal per some references to UN R22. The question of the curvature of the sample was raised in the case of the sand drop test because the angle of sand drop should not vary to more than a certain extent. The experts also discussed the fact that glass shows less abrasion resistance than plastic in the case of sand drop test. Plastic material has an elastic bounce effect, while glass has a "plastic" bounce effect.

The experts agreed to take the opportunity of this revision for requiring an initial haze value of 1%.

A debate took place about the relevancy of using delta haze as a parameter for measuring the resistance to abrasion.

Concerning the car wash test, the experts agreed that the value of 10 cycles is sufficient, and even quite demanding. The car wash test can be very difficult to fulfil for some coatings, and on the other hand, it is possible to adjust the coating to the kind of abrasion test to be performed. The experts were also reluctant to start a new round robin for this test.

Annex 18:

Presentation from Evonik IGPG-06-04 for side windows.

3 tests, interlayer thickness of 0.6 mm

F challenged that the plastic glazings have a drop height different to that of glass. The delegate from F found not logical that the test parameters are defined for making the current products fulfilling the performance requirements.

The experts recalled that toughened glasses have a drop height of 2m, and that this discussion was already held at TAAM where KBA is willing to grant approvals to glazing of category M for backlights and sidelights. The interpretation is that when there are exterior rear-view mirrors, the view through the backlights is not compulsory and there is no need for a light transmission of more than 70%. A similar reasoning is deemed valid for the resistance to abrasion of the backlight. Hence Annex 21 should be corrected accordingly.

The delegate from France took the example of motorhomes, where he noted that tests on glasses in the passenger part of the vehicle according to Annex 21 is sometimes not performed on all vehicles (while they all conform to Annex 14); he proposed to clarify the wording of Annex 21 with this regard. He deplored that the proposed performance requirements of the IGPG does not provoke any progress in the plastic glazing compared to the current situation. The quality of the front side windows should be very high as it is necessary to look through these glasses when looking into the exterior rear-view mirrors.

The experts agreed about the need for an in-depth revision of Annex 21 as a result of the implementation of plastic glazing as windscreens in the regulation.

Paragraph 6 of Annex 18: the delegates faced the debate of copy/pasting for the side windows the alternative discussed for the windscreens, i.e. Taber test vs. set of 3 tests. However the two types of windows experience different situations.

Conclusion: Mr. Pichon (F) volunteered to draft a text for the next meeting, with the help of the Secretary. Work to be done for both annexes 17 and 18

The experts reviewed the proposal from Dr. Buckel about the description of the car-wash test and its equipment (IGPG-06-06). A debate took place about the possibility of making a simple reference to the ISO standard. The group agreed to introduce the provisions into the text of the regulation as the standard is currently revised.

A debate started on the possibility of performing a round robin test on the car-wash test method. However only one company (Bayer) among the participants did own their car wash test equipment. Bayer was reluctant to undertake such round robin campaign because in addition to the number of existing equipment, the frequency of utilization by the Technical Services is of some importance as well. In addition, a reference material was also lacking.

As a conclusion, no round robin test was considered possible.

It was agreed to introduce the car wash test into Annex 3

8. List of action items for next meeting

- Annex 21 to be re-written by Mr. Pichon (F), with support from the informal group Secretary
- High temperature test still awaited from Mr. Esser
- IGPG-05-02-Rev.3 to be produced in time for tabling at GRSG-104.
- Car-wash test to be introduced into Annex 3, under Dr. Buckel's supervision.
- Final results of the French RR on Taber test (reproducibility and repeatability) to be communicated to the group when available.

9. Schedule for further IG meetings

Document: GRSG-99-25 (D)

IGPG-07: JohnDeere (Mannheim – Germany) – 18-19 June 2013

IGPG-08: OICA (Paris) - 27-28 November 2013

10. Any other business