

DRAFT REPORT

8th 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: **OICA**
4 rue de Berri
F – 75008 Paris
France

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

Dates: Wednesday, 27 November 2013 - Thursday, 28 November 2013

1. Welcome and Introduction

The Secretary welcomed the participants on behalf of OICA.

2. Approval of the agenda

Document: IGPG-08-01 (Chair)

The agenda was adopted with no change. The document produced by the Secretariat based on a proposal from France on the revision of Annexes 14 and 21 was given the reference IGPG-08-05.

3. Revision and approval of the draft minutes of the 7th meeting

Document: IGPG-07-06 (Chair)

The draft report was adopted with editorial changes.

Note of the Secretariat: the final version is posted on the UNECE website as document IGPG-07-06-Rev.1

4. Outcomes of GRSG-105 (October 2013)

Document: GRSG-105-09 (D)

The Chair recalled that GRSG accepted the outcomes of the informal group. He said that WP29 accepted to prolong the mandate for this group, until October 2014, and that as a consequence, the informal group is due to provide an official document at the GRSG session of October 2014. GRSG also agreed that some amendments for installation be proposed by the informal group (note of the Secretariat: see email dated 21 January 2014). The Chair and the group convened that the decision about initial haze belongs finally, as for all decisions, to GRSG.

5. Proposal for a wiper test

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

Mr. Meyer presented the results of the sub group 1 per the presentation IGPG-08-06, on behalf of Dr. Matthai.

The Chair explained that a machine developed by Mr. Schwahn (Straylizer) is currently under test at VW/Audi, with the aim of presenting results at the next meeting of the informal group. The target is to make the correlation as objective as possible between the current haze measurement procedure and the Straylizer. The Chair informed that it was too early at the time of IGPG-08 to provide preliminary results.

The informal group was informed that the sub-group is also currently performing tests on vehicles equipped with conventional windscreens, for comparison.

The Chair recalled that the 2 sub-groups had had 2 meetings and had good communications.

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

Mr. Terragni informed that the last meeting was unfortunately not held in English, with problem of exchange of information. He added that his company found no benefits in investing 40000€ in purchasing machines for performing a round robin test if there is no perfect transparency in the exchange of data.

Dr. Buckle recalled that in Mannheim a meeting in Wolfsburg was decided, with the 2 sub-groups. 2 instruments were compared, and the Wolfsburg meeting was dedicated to a common protocol for both the instruments. A campaign was conducted with 3 ISO instruments, with 5 testing houses, but there was the need for an additional test house with the other equipment, for performing a robin test. Then the meeting was mainly devoted to the ISO instrument.

Dr. Buckle showed the ISO wiper laboratory test method description.

It was encouraging that the size and nature of the scratches were of the same order as those of the real world tests of sub group 1. The cost of instruments was about 4 to 6000 €. The reference ISO standard was ISO-11998. Momentive, Evonik and Bayer (BMS) so far provided results. The analysis is dated 25 November 2013; hence no conclusion could be drawn at the time of the 8th meeting of the informal group.

The informal group was informed that the sub-group is currently discussing the number of wipe cycles that are needed to make it equivalent to a certain life time in real world. (20000 cycles takes 2 days).

Mr. Meyer found that 20000 cycles are enough. He added that the problem is that the glass sample is still quite good with this figure. Sometimes 5000 cycles is sufficient; it seems this test is more discriminating than the Taber test.

About the need for a Straylizer, Dr Buckle stressed that the problem is more about what is really measured with this instrument. The software may have to be updated (reflective index) to use the Straylizer for plastic, and coating.

For most of the experts haze is still the best criterion for measuring the abrasion. But the Straylizer may better capture fine scratches. A remaining question is how to measure that the nature of the scratches (e.g. depth measured with nano-profilometry) are similar in real car test vs. labo test. Sub-group1 committed to perform such test.

Dr. Buckle committed to produce a written report of the Wolfsburg and Ingolstadt meetings. The sub group 1 also was of the opinion to be in line with the proposed timeline, and that definitive results could be ready for the informal group March 2014 meeting.

At the end of the meeting, the Chair clarified that the sub group 2 will continue its work, focusing on the adaptation of the ISO instrument, with a further meeting to be scheduled end of January/beginning of February 2014.

6. Review of the Taber test

The Chair requested input from experts participating in the ISO group. Last meeting was in October 2013. ISO 3537 will come in DIS stage, for gathering comments. It will contain no modification of the test method for glass. For ISO 15082 for plastics, the reference value for plastic was defined.

The ISO group discussed the possibility of defining a corrective coefficient, this discussion was not finished, but it was decided to start a request for comment procedure (CD ballot). PSA was of the opinion that the tolerances are too high even for a corrective factor, and proposed to go for 1 sigma. Then only 68% of the participating labs would have acceptable values. The correction formula, used in addition to the 1 sigma, could also be an idea that should be investigated. UTAC, PSA and Renault had very different results. The expert from PSA recommended to further check the test procedure.

Dr Buckle was of the opinion that using mineral abrasive particles in an organic binder could not provide a homogenous particle distribution in the abrasive wheels. In addition, the haze measurement itself could be at the origin of the differences, as well as the cleaning method.

There was an exchange of view on the way to proceed within the ISO group.

The problem of having an inhomogeneous track was raised, but this could be at least partially overcome thanks to the 7mm spot with a mask.

Conclusion: French labs are urged to approach the ISO SC11 Secretary to propose improvements in the ISO group.

The opinion of Mr. Jaenecke (TI - Taber Instrument) about the influence of the haze measurement on the results is that it has an impact with no view of the amount of impact. Mr. Jaenecke committed to find an expert internally to check the impact of measurement. Concerning the correction formula, Mr. Jaenecke was of the opinion that this could be of a valuable impact, and would support this way forward.

PSA questioned the haze measurement, because the “fenster” (window) for measurement is quite narrow, and questioned whether the use of the mask could generate errors in the results.

TI said that a bad calibration of the instrument could lead to the spot being out of the track. Yet a good calibration should avoid these problems.

BMS was surprised that even when performing a calibration with the calibration set provided by TI, some discrepancies on the results appear.

PSA said that if the mask is as large as the track, then one part of the abraded part would be not as abraded as it should be. BMS recalled the 1st Round Robin test which concluded that the hazemeter was not the origin of the problem, neither the hazemeter operator.

Renault questioned whether it is possible to change the TI test method such to arrive to a 5% haze, e.g. by changing the wheels.

TI needed to investigate which wheels could reach these values, the expert was confident this would achieve that, and committed to investigate internally and provide data. Dr. Dümmler doubted that this would help the group. The informal group was of the opinion that e.g. changing the distance between the nozzle and the sample may have influence on the plastic material results,

but not on the glass material's. it was agreed not to continue this way, and that it was no time to re-start this discussion from scratch and changing the Taber test. Dr. Dümmler said that in term of delay (DIS to be finalized per July 2014) this would not be recommended.

Conclusion: ISO glass already on track. For plastic, IGPG to continue its work.

7. Laminated rigid plastic windscreens

Document: IGPG-08-03 (Chair)

The Chair recalled the context of the proposal, last meeting when France requested to investigate this item.

The Chair tried to construct a text as in IGPG-08-03 and presented the results. He clarified that some tests are not necessary when the windscreen is not laminated, while e.g. UV resistance and 2260 g ball penetration would indeed be of some importance. It was explained that some tests are devoted to the glasses fitted with the interlayer, and then this would make sense to add such test.

There was a debate showing that some tests are not relevant for rigid plastic windscreens. Mr. Schmidt challenged to perform both the high temperature (100°) and the temperature change (70°) tests. A debate took place about whether these tests are complementary or not.

The Chair recalled that these questions were already discussed and solved in former meetings of the informal group.

PSA found that the coating thickness may not be the same everywhere on the sample, and suggested that the nominal thickness written down in Annex 1 – App12 should determine where the thickness is measured. It was clarified that not only this is not necessary, but in addition there is no standardized method for measuring the coating thickness. Yet the coating is recognized as very important for some other characteristics (ageing, colour, optical characteristics, abrasion resistance, etc).

As the target is to present an informal document to the May GRSG session, the group was ready to keep the document IGPG-08-03 within the group, and to eventually send an updated document to GRSG for its May session, together with the rest of the amendments to the regulation.

Conclusion: all members to have a look at the proposal for the next meeting of the informal group.

The updated text will include all amendments adopted so far, except those related to installation (Annexes 14 and 21 – see item 9 below).

8. Further discussion of the draft regulatory text

Document: IGPG-08-02 (Secretary)

Dr. Dümmler pointed out that the table of p19 is not the latest version, and that the table of the report should be brought in the working document.

The group reviewed the document from the beginning. One line was added for high temperature in the table of page 4.

In paragraph 6.1.1.3. of Annex 17, a debate took place on the initial haze and the necessity to have the same criteria whatever the material.

Concerning the initial haze, Dr. Dümmler was of the opinion that some technologies like the electro-chromatic interlayer or coated glass may start with a haze > 1, i.e. some initial haze measurement would be beneficial.

The Secretariat was of the opinion that the manufacturers would not find interest in that, and that there was no safety concern currently with no initial haze assessment. Yet this could be of some interest in the case of new technologies.

Mr. Terragni presented a scheme asking the reason for a 1% haze.

Only dr. Dümmler was keen to start with an initial haze.

The Technical Services present said that they always measure the initial haze and the final haze and check for a delta haze $\leq 2\%$ (at least MPA NRW and UTAC do so).

Switchable sidelight and so on may have an initial haze $> 1\%$, and for that purpose some test, equal for all materials, should be proposed.

A debate took place on the value to be given to the initial haze.

It was recalled that this is not in the Terms of Reference of the informal group, i.e. plastic windscreen. There was a general agreement that there is a need to address both the initial haze and the final haze values.

The group so far agreed to have different parameters according to the material because of their reactions, except for the optical characteristics because they are considered relevant for all materials (copy/paste from glass).

Conclusion about initial haze: item not to be discussed at this informal group, but Chair to flag up the concern at GRSG at his report, for future work.

There was an additional debate about whether the partition should include the windows behind the driver, and whether this should be a 2% haze requirements (busses in the US).

9. Revision of Annexes 14 and 21

Documents: IGPG-07-02 (France)
IGPG-08-04 (Dr. Dümmler – MPA-NRW)

France presented the new document taking into account the comments received so far.

Revision of the document

The experts convened on the need to check that the use of words panes, windows, glazing are consistent throughout the regulation. The Chair volunteered to perform this job in his winter holidays.

Conclusion:

- Document for step 1 (restricted to annex 21) to be presented by the informal group, subject to the comments received by mid-January 2014.
- Mr. Pichon volunteered to be the hub for this item. Comments to be sent to Mr. Pichon before the 15th of January 2014.
- To be presented jointly by France and D at the next GRSG meeting if not by the informal group.

10. List of action items for next meeting

- Annex 21: Comments to Mr. Pichon before 15 January 2014 on step1
- Annexes 14 and 16: to be mentioned in the report to GRSG
- Prepare a new informal document for GRSG-106 (May 2014) consolidating all changes to UN R43, including the outcomes of IGPG-08 & 09 (25-26 March 2014)
- Sub group 2 to provide
 - Reports of past meetings (Ingolstadt and Wolfsburg)

- Final outcomes of data analysis presented at IGPG-08
- Info on further joint meeting (Jan-Feb 2014)

11. Schedule for further IG meetings

Document: GRSG-104-42 (D)

IGPG-09:	VDA (Berlin)	25-26 March 2014
Joint sub group 1/2	TBD	Jan/Feb 2014
GRSG-106	Geneva	5-9 May 2014
IGPG-10	Wolfsburg (Autostadt)	17-18 June 2014
GRSG-107	Geneva	30 Sept – 3 Oct 2014

12. Any other business

Nothing
