

**Report of the 3rd Meeting of the
Informal Working Group on Panoramic Sunroof Glazing**

Location: CLEPA, Boulevard Brand Whitlock 87, 1200 Brussels, Belgium
Date: 10:00 to 15:00, 24th February 2016
Chair: Mr. Eom Sungbok (Republic of Korea), Mr. Richard Damm (Germany)
Secretary: Mr. Dr. Stephan Müller von Kralik (Germany / CLEPA)

1. Welcome and Introductions

Mr. Eom Sungbok, from KATRI (Korea Automobile Testing & Research Institute), Chair of the informal working group welcomed the participants.
21 people attended at the meeting (hereof 7 via Webex).

2. Review draft minutes of 2nd IWG PSG meeting

The agenda was presented and confirmed.
The minutes of meeting on 2nd meeting were presented and confirmed.

3. GTR 6 amendment

- 3.1. The proposal of a draft corrigendum to GTR6 by CLEPA / OICA was presented.
- 3.2. The proposal of 3.1. was discussed in combination with the presentation of Korea. Korea supports the proposal of 3.1. on the change of scope, but would like to include CPA requirements.
- 3.3. Short review and agreement that the data is comparable to data of Korea.
- 3.4. The attending members of IWG PSG agreed to confirm the CLEPA / OICA proposal and the Chairman announced the proposed changes to the scope of GTR 6 as agreed and thanked all team members for their support.

4. GTR 6 amendment – technical requirements CPA

- 4.1. Presentation of KOREA reviewed.
- 4.2. Discussion to 4.1. included comparison statements from MPA/Germany that the “mechanical strength” according to standard testing according ISO12540 (4-point test) is a bending stress and a lot of data is already existing.
Glass in buildings (toughened, solarline-silicon type) is quite similar to toughened automotive glass, but the bending stress is different from the stress from impact action according to stone impact or drop ball test.
Typical values are:
 - Toughened glass 120N/mm²
 - Black printed glass 75N/mm²
 - Float glass (annealed) 45N/mm²

The Chairman summarized the basic idea of Korea to minimize the CPA area and if the CPA area is smaller than limitation (to be proposed), then no test of CPA shall be conducted. On the other hand, if CPA area is larger than limitation then the CPA area shall be tested, too

5. Glass breakage

The presentation of Korea and America were reviewed and information of Germany and OICA were presented and discussed with following agreed key findings:

- There is a risk in glass breakage, if a PSG is being part of the vehicle, but the risk of damage through glass breakage is rather small compared to delivered volumes of sunroofs.
- The global investigation of the complaint data until now showed a low number of minor injuries (like scratches/ cuts).
- The risk of glass breakage is increased, if the CPA area is hit instead of the clear glass area.
- To reduce the risk of glass breakage due to impact in CPA area, the CPA area should be reviewed for limiting conditions and additional testing requirements should be reviewed, too.
- If regulations hereto shall be changed a review should clarify which areas in the regulations shall be changed.

6. Scope of work

Presentation of Korea on CPA testing was reviewed and discussed.

The Chairman stated that he agrees to the proposal of OICA to close step 1 (incident data and reason for glass breakage research) for IWG PSG due to low number of incidents and only minor injuries and concentrate on step 2 (limit the CPA area).

Key findings:

- There is a lot of information on glass behaviour and testing existing with standard testing procedures.
New testing procedures might not be necessary as existing 227g ball drop test has already **validated enough to impact energy through Japan test during GTR 6 development.**
- Not enough data on CPA areas and limitation ideas is existing.

It was agreed by IWG PSG that no further data research for glass breakage is necessary.

Activities asked for by Chairman:

- Based on the review by the working group in the 3rd meeting an official request by IWG PSG to the industry and the non-governmental organizations is herewith given to prepare their best ideas and proposals on limitation of CPA area in advance of next meeting on 25th April.
- CLEPA/GFE has taken the task to gather typical CPA related data from sunroofs
- OICA has taken the task to complement the CLEPA data with information on installation conditions (design glass outline / 25mm boundary)
- In meeting 25th April the task to IWG PSG shall be to find a joint scope of conclusion for CPA limitation.
- Final work-out of joint proposal shall take place until following meeting on 27th June.
- Final agreement and cosmetic work on 27th June.
- Joint release on final meeting on 10th October 2016.

7. Proposed Agenda / Topics for next PSG IWG meeting

- Review typical CPA related data on sunroofs and installation conditions
- Review and discuss best ideas and proposals on limitation of CPA area
- The task to IWG PSG shall be to find a joint scope of conclusion for CPA limitation.
- Define activities for work-out of joint proposal on limitation of CPA area and related activities until next meeting in June

8. Any other Business

nothing

9. Closing remarks and next meeting schedule

The Chairman thanked the attending members in Brussels and especially the international colleagues in the WEBEX due to time delta for their very good and forward looking support to IWG PSG as well as for the conclusions and decisions already made.

Minutes of meeting 2nd meeting IWG PSG and all presentations of 3rd meeting are uploaded on the Share-point.

Next IWG PSG meeting will be held in Geneva on 25th April 2016.

Following IWG PSG meeting shall be held in Stockdorf / Munich on 27th June 2016

Final meeting (1/2 day in the morning) on 10th October 2016 in Geneva
