
70th GRSP Session
6 – 10 December 2021

CHAIR: MARTA ANGLÈS, SPAIN
SECRETARY: FARID BENDJELLAL, CLEPA
Informal Working Group

1st IWG-STCBC meeting
Date: 9th July 2019
Location: Ministerio de Industria, Comercio y Turismo, Madrid, Spain

2nd IWG-STCBC meeting
Date: 30th October 2019
Location: Applus IDIADA, Tarragona, Spain

3rd IWG-STCBC meeting
Date: 16th-17th January 2020
Location: Clepa Offices, Brussels

4th IWG-STCBC meeting
Date: 29th October 2020
Location: Online meeting

5th IWG-STCBC meeting
Date: 28th January 2021
Location: Online meeting

6th IWG-STCBC meeting
Date: 22nd April 2021
Location: Online meeting

7th IWG-STCBC meeting
Date: 7th September 2021
Location: Online meeting

8th IWG-STCBC meeting
Date: 10th November 2021
Location: Online meeting
Timeline

Plan and Schedule

- **WP.29**: WP.29
  - 2019: 66
  - 2020: 180, 181
  - 2021: 182, 183, 184
  - 2022: 185
  - 2023: 186

- **GRSP**: 67
  - 2019: 67
  - 2020: 68, 69
  - 2021: 70

- **IWG**: 3
  - 2019: 3
  - 2020: 4, 5, 6
  - 2021: 7, 8
  - 2022: 9, 10, 11

- **Formal Doc.**: 4
- **Informal Doc.**: 71

**IWG creation approved**

2022:
- IWG submission of new regulation

2023:
- 188
- 189
- 190
Key elements

- Test configurations: Frontal impact and rollover
- Retention system: 2-point belt and 3-point belts
- Consideration of the CRS (if needed): R-129 approved CRS
- Test method, R80 pulse
- Compatibility of R-16 fixtures
- Built in systems are inside the scope of this Regulation
On going tasks

- Market overview of seat belt installation
  - To clarify where a CRS will be installed and in which conditions.
  - Understand the occupation scenario of children in buses and coaches

- Market overview on children using Bus/Coach

- Market overview in built in systems

- Possibility to install CRS in the Bus/Coach

- Testing phase
ISO Envelopes compatibility

- CAD study was performed by OICA using the UN R-16 envelopes
  The study showed some incompatibilities which may lead in loosing some seating positions.

- Physical installation of different size of CRS to be performed in a Bus/Coach to verify the compatibility/incompatibility
CRS compatibility in M3 vehicle
Conclusions for the vehicle tested (not valid for all vehicles in the market)

- Gangway: interaction of all CRSs with lower part, but no interaction if CRSs are lifted.

- Belt length: was short for the infant carrier but was acceptable with an iSize infant carrier in installation behind driver or passenger seats.

- Space between rows -mid: impossible to install any of the tested seats except the i-Size booster where the installation of a Q10 seems to be good.

- Small interaction between the i-Size booster's wing with the window.
Test pulse

- It has been agreed inside the IWG to keep the UN R80 test pulse
## Tests and tests results

<table>
<thead>
<tr>
<th>Dummy</th>
<th>3 pts &amp; CRS</th>
<th>3 pts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1,5</td>
<td>Infant carrier</td>
<td>X</td>
</tr>
<tr>
<td>Q3</td>
<td>Toddler</td>
<td>X</td>
</tr>
<tr>
<td>Q6</td>
<td>Booster cushion</td>
<td>X</td>
</tr>
<tr>
<td>Q10</td>
<td>Booster cushion</td>
<td>X</td>
</tr>
</tbody>
</table>

- **CRSs:** Infant carrier, toddler, booster cushion
- **Dummies:** Q1.5, Q3, Q6 and Q10
- **Test configuration:**
  - 3pts vs. 3pts + CRS,
  - 2 rows of seats
  - Distance between seat R80
- **R80 test pulse**

![Diagram of test configuration](image.png)
Q1.5 with and without CRS
Q1.5 with and without CRS
Q1.5 with and without CRS
Q3 with and without CRS
Q3 with and without CRS
Q3 with and without CRS
Q6 with and without CRS
Q6 with and without CRS
Q10 with and without CRS
Q10 with and without CRS
Discussion

**Smaller children**

Q1.5 – Q3

Belt routing in general for shoulder belt and lap belt no favourable when they are not using CRS

**Bigger children**

Q6 - Q10

Better results using booster cushion than without
Next Steps

- Drafting the UN Regulation
  - Defining requirements
  - Developing tests procedures
  - Developing of the test bench
- ISO envelope compatibility
- Physical installation of CRS in Bus/Coach environment
- Meeting with the buses and coaches operators, to check compatibility with CRS and vehicles.
Thank you for your attention!