Research of Belt Guide Device

JASIC
Background

- A test was conducted to check the performance of a belt guide device, which had been supposedly prohibited by UN R44 but somehow has been certified under the same UNR and put on the market.
- The test was conducted by the method prescribed in UN R129.
Dummy Behavior
Belt Penetration
Annex 8 – Appendix 3

Description of the 18 months manikin

5.3. Indication of abdominal penetration
5.3.1. The occurrence or absence of abdominal penetration shall be assessed using high speed photography.
Comparison of Other CRS A
Comparison of Belt Penetration
Comparison of Belt Penetration
Comparison of Other CRS B
Comparison of Belt Penetration
Comparison of Other CRS B
Comparison of Belt Penetration
Injury Measures

<table>
<thead>
<tr>
<th></th>
<th>Belt guide device</th>
<th>UN R129 Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest max. Acc. (3ms) (G)</td>
<td>35</td>
<td>55</td>
</tr>
<tr>
<td>Chest Def. (mm)</td>
<td>23</td>
<td>–</td>
</tr>
<tr>
<td>Abdominal Press. R (kPa)</td>
<td>0.63</td>
<td>1.0</td>
</tr>
<tr>
<td>Abdominal Press. L (kPa)</td>
<td>0.70</td>
<td>1.0</td>
</tr>
<tr>
<td>Neck Upr Force (N)</td>
<td>1658</td>
<td>Monitoring only</td>
</tr>
<tr>
<td>Neck Upr Moment (Nm)</td>
<td>43</td>
<td>Monitoring only</td>
</tr>
</tbody>
</table>

✓ The abdominal pressure was found rather high, but satisfied the requirements of the regulation.