Criteria Introduction To Avoid Possible Side Effect Of The R94 Amendment

Experts from France

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AGENDA

⇒ Aim

⇒ Methodology / Definition

⇒ Conclusion
Proposed criteria:

- to avoid unexpected very stiff front end design
- to compensate for the lack of full width test.
- To fix a minimum R94 test severity

Introduce in the regulation a criteria based on barrier deformation to control the energy absorbed in the vehicle
SELF PROTECTION ASSESSMENT: Methodology

**INPUT**

- Vehicle mass
- Test speed
- Barrier digitization

**OUTPUT**

- Deformed volume
- Energy absorbed
- EES (SPAD)

SPAD = Self Protection Assessment from Deformation

\[ SPAD = f(\text{Kinetic energy, barrier energy, mass}) \]
PDB software is ready for calculating the SPAD
Limit could be fixed at 44 km/h, corresponding to current situation for a 1000 kg car.
<table>
<thead>
<tr>
<th>Tool</th>
<th>Criteria</th>
<th>Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle</td>
<td>➢ Compartment intrusion</td>
<td>Already done</td>
</tr>
<tr>
<td></td>
<td>➢ Dummy criteria</td>
<td></td>
</tr>
<tr>
<td>Barrier</td>
<td>➢ EES</td>
<td>Short term</td>
</tr>
</tbody>
</table>

This criteria would be a solution until the introduction of the full width test in the R94 regulation.
- SPAD criteria can be introduced to avoid possible use of the barrier side effect.

- PDBSoftware is able to calculate SPAD.

- SPAD criteria can be a possibility before introducing full width test in Europe.

- SPAD limit is defined to avoid unexpected design, not to add a supplementary constraint in vehicle design.