ACEA

8 November 2005

PROPOSAL FOR HIC LIMITS FOR HEADFORM TO WINDSCREEN TESTS AND JUSTIFICATION

Proposal:

5.2.3. Headform to windscreen:
The HIC shall not exceed 1000 over 2/3 of the windscreen test area as defined in paragraph 3.36 and 1700 for the remaining 1/3 of this test area, irrespective of which of the headforms is used.

Justification:

It is very important to adjust the performance criteria to the conflicting functional needs that could affect the HIC in this area, most of them linked to primary safety.

In the lower windscreen area the required deformation space for the head impact is restricted by the instrument panel. Some legal requirements, such as defrost/demist, etc., make it impossible to lower the dashboard significantly. In addition, the structural components of the dashboard are important load paths in case of front or side crashes.

In addition, most manufacturers are currently developing systems aimed at accident avoidance or injury risk mitigation. Such devices mainly support the driver in the driving task (windscreen rain sensors, head up displays, night vision systems, etc.). Some of these features need to be located on or directly behind the windscreen. This can significantly influence the HIC in this area by reducing the available deformation space or by increasing the effective mass. Considering that such systems have and will have a high effectiveness in protecting pedestrians, it is necessary to maintain the possibility to install them.

Finally, the breaking behaviour of the windscreen is still under investigation (e.g. EU funded research project APROSYS). First results show a high scatter in HIC values during windscreen tests which still needs to be explained.

The above proposal reflects the current situation and takes all these aspects into account.