ACEA

8 November 2005

PROPOSAL FOR IMPACT ANGLES FOR HEADFORM TO WINDSCREEN TESTS AND JUSTIFICATION

Proposal (GR PS 143 rev1):

7.3.6. The direction of impact shall be specified as follows:

The direction of impact shall be in the longitudinal vertical plane of the tested vehicle at an angle of 50° to the horizontal when impacting the bonnet top and at an angle of 35° to the horizontal when impacting the windscreen. The tolerance for these directions is ± 2°. The directions of impact of tests to the front structure shall be downward and rearward.

7.4.6. The direction of impact shall be specified as follows:

The direction of impact shall be in the longitudinal vertical plane of the tested vehicle at an angle of 65° to the horizontal when impacting the bonnet top and at an angle of 35° to the horizontal when impacting the windscreen. The tolerance for these directions is ± 2°. The directions of impact of tests to the front structure shall be downward and rearward.

Justification:

In the current Phase 1 of the EU Directive windscreen tests are performed with an impact angle of 35° to the horizontal. This is currently the only legal requirement on windscreen testing and the angle is similar to the findings of IHRA studies of 2002 where an impact angle of 40° was proposed, based on simulations of pedestrian impacts to vehicles with different front shapes.

Industry therefore recommends a 35° angle to the horizontal for both headforms to windscreen tests.