

## **Comments on windscreen/A-pillars as headform test area**

**No current technical solution available for fulfilling the requirements of headform test in this area**

**Possible future technical solutions must also be checked against mass production, safety margins, reliability etc.**

**EuroNCAP tests show HIC values far above 1000**

**There are conflicts with existing legal requirements**

**There are conflicts with consumer requirements**

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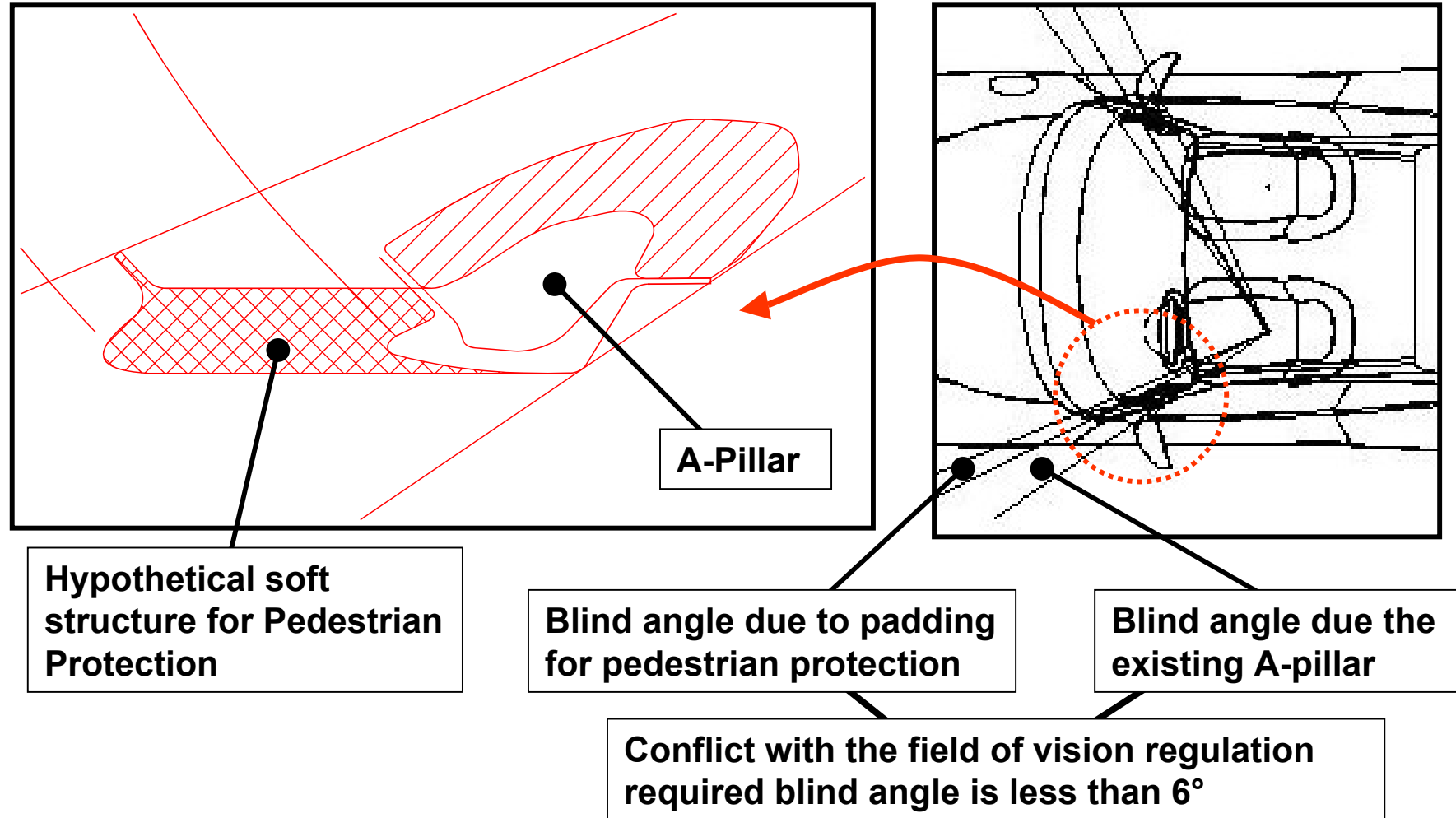
### **Conflicts with existing legal requirements (INF GR/PS/35)**

**To pass the proposed HIC<1000 a displacement of about 80mm is needed**

**Softening the A-pillars/windscreen is not feasible and contradicts strongly the roll over requirements**

**To provide enough displacement „on top“ is in contradiction to the field of vision requirement, European CO<sub>2</sub> agreement**

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### **Windshield retention in crash (FMVSS212)**

The mounting (glue) of the windscreen into the front frame has to be strong enough that more than 50% of the glue line must be kept in function during frontal car crash to guarantee a sufficient support of the airbags (occupant protection). If the stiffness of the glueing has to be minimized to possibly meet headform test requirements near the frame it will clearly not meet this standard.

### **Windshield material, safety glazing (EC92/22, FMVSS205)**

The material of windscreens must provide a minimum resistance against intrusion of objects hitting the windscreen under normal ride conditions. According to current headform tests the material composition of windscreens seems to be too stiff. Softer materials could be in contradiction to this regulation.

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### **Customers' and manufacturers' requirements**

**Too weak windshield could lead to unexpected driving noise due to vibration at high speeds and will not be acceptable for the customers**

**Too weak windscreen glass results in a decrease of the overall torsional resistance of the vehicle body frame and leads to decreased drivability**

**Irreversible hypothetical solutions - as airbags - need high-tech sensors that detect and recognize objects, robustness to failure is a very important issue**

## Comments on windscreen/A-pillars as headform test area

**Windscreen and A-pillars are not included in any draft regulation, e.g the MLIT draft or the draft Envelope Directive**

**It is premature to include the whole windscreen/windscreen frame (especially A-pillars) as a test area for headform tests**