

Feasibility and Protection Potential of Solutions for Vehicle Sided Pedestrian Protection

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crash.tech 2003

13./14.05.2003, Nürnberg

Pedestrian protection plays a more and more important role at the improvement of the passive safety of modern cars. The European Commission recently decided a European directive, which contains the inspection of the pedestrian safety of new vehicles with impactor tests, using subsystems for the head, pelvis and leg, which should simulate the pedestrian impact. The requirements of the testing procedure should be implemented in two steps that will get actual in the years 2005 and 2010.

In this lecture the historical development of the European legislative in the field of pedestrian safety is described. The feasibility and the protection potential of current solutions for the accomplishments of the requirements in the current proposed European legislation are discussed. Thinkable solutions are shown and evaluated for the impact areas head, pelvis and leg. It is investigated by computer simulations and testing, to which degree a layout of vehicles according to the European directive is possible, if all other requirements regarding vehicle engineering are also considered. An analysis of real accident scenarios as well as of the impactor tests should allow to evaluate the potential of the impactor tests.