

عنوان مقاله:

Finite Element Simulation and Experimental Study of Rear Seat Belt Strength According to ECE R14 Using LS-Dyna

محل انتشار:

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خلاصه مقاله:

ECE R14 Standard applies to automotive seats and seat belt anchorage assemblies. It guarantees the proper function of the seat belt system and ensures sufficient strength of all anchorage points. According to this standard, loads are applied slowly and are sustained over a long period of time, so one can assume a quasi-static test. In these tests high forces are applied to the seat belts over loading devices. Seat and belt anchorages have to resist these loads without any damages. On the other hand, the correct modeling and simulation of this system is also essential for seat development process. Therefore, quasi-static simulation using LS-Dyna is chosen to simulate the requirement and validate the ECE R14 test. In this paper, the problems encountered and the approach used is presented and comparison between experimental tests and analysis is given.

کلمات کلیدی:

Strength analysis; nonlinear structural mechanics; finite element modeling; rear seat belt strength; LS-Dyna

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