

# Characteristics of Car Crash Test Using Finite Element Analysis – A Review.

- **Author(s):** Sungho Kim ,HaengMuk Cho
- **Abstract:** Cars are an important means of transportation; however, there are many cases wherein car accidents cause physical or material danger and damage. Although cars provide advantages such as convenience and quickness, car occupants are exposed to dangers, and unexpected accidents can occur because of the lack of cognition of the driver or the fault of another vehicle. A car-to-car accident is categorized into frontal, rear, and side crashes. Frontal, rear, and side crash tests are conducted as defined by the regulations of each country. In South Korea, a crash test is conducted, and the results are released under the KNCAP regulations; Europe, United States, and China also perform crash tests and assessments according to their regulations. If the crash test and assessment are conducted using an actual car, a considerable amount of time, space, and costs are required. Therefore, it is preferred to conduct the test and assessment using finite element analysis, which yields similar results to the actual car test while saving time, cost, and space. To this end, the characteristics and assessment of the car crash test were investigated using finite element analysis in this study.
- **Keywords:** Accident history, Body damage, Body Repair, Deformation, Depreciation, Re-accident, Roof crush resistance, Welding