

Arpith Supatakulrat 2007: An Application of Computer Aided Design and Engineering on the Light Truck. Master of Engineering (Mechanical Engineering), Major Field: Mechanical Engineering, Department of Mechanical Engineering. Thesis Advisor: Mr. Supasit Rodkwon, Ph.D. 87 pages.

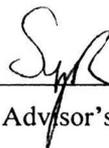
Since there is no regulation stipulating the standard strength of car bumpers, studying and testing their strength among light trucks was initiated. Two types of bumpers, different in materials and thickness varying from 2, 4 and 6 millimeters accordingly are selected in this experiment. Moreover, National Standard of Safety of the United States of America is referred to.

Finite Element is used to analyze the strength of bumpers to investigate the stress variable, deform and impact force.

It was concluded that there was no damage during the experiment in model A. In contrast, in model B, damage could occur while being tested in the longitude impact. In addition, thicker bumpers created more impact and reaction forces. When analyzing the results, it was found that using computers in analysis facilitated designing process and prevented possibility of damage before real production.



Student's signature



Thesis Advisor's signature

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