

Implementation of ALD in Product Development: Study of ROPS to Improve Energy Absorption Performance Using Absorption Part

Authors : Zefry Darmawan, Shigeyuki Haruyama, Ken Kaminishi

Abstract : Product development is a big issue in the industrial competition and takes a serious part in development of technology. Product development process could adapt high changes of market needs and transform into engineering concept in order to produce high-quality product. One of the latest methods in product development is Analysis-Led-Design (ALD). It utilizes digital engineering design tools with finite analysis to perform product robust analysis and valuable for product reliability assurance. Heavy machinery which operates under severe condition should maintain safety to the customer when faced with potential hazard. Cab frame should able to absorb the energy while collision. Through ALD, a series of improvement of cab frame to increase energy absorption was made and analyzed. Improvement was made by modifying shapes of frame and/or install absorption device in certain areas. Simulation result showed that install absorption device could increase absorption energy than modifying shape.

Keywords : ALD, ROPS, energy absorption, cab frame

Conference Title : ICOMS 2017 : International Conference on Operations Management and Strategy

Conference Location : Osaka, Japan

Conference Dates : October 09-10, 2017