

Weight Optimization of Lift Platform by Using Composite Shape Structures

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Abstract: In this Optimization study, design and analyses of Sandwich structures are investigated for industrial lift platform. Primary goal is to develop a best cross section of structure material model that is a good substitute for the actual Section core. By replacing the actual Section base structure with the other three cross section model in CATIA, during the FEA in ANSYS, we get a advantages can be obtained with 3D modeling and model modification, solution time and hardware resources. To find out the best equivalent or better model among the approximate analytical models that can be found in the literature, a comparison is made. Three models are analyzed under the same loading and the boundary conditions. In finite element analyses, ANSYS finite element program is used. Also we manufacture all models as per sample and test it on UTM. The results are compared to find out the best cross section model. After selection of best model we apply this to lift platform and compared this to original lift platform

Keywords: CATIA, ANSYS, Optimization, Sandwich Panel

