**Design And Analysis Of A Free Standing I Beam Jib Crane**

**ABSRACT**

Current material handling systems exhibit anisotropic behaviour. That is, their degrees of freedom require different amounts of force input from the operator. Movement of these devices is correspondingly difficult. One of the three most prevalent material handling devices, the jib crane, is selected for research into creating isotropic motion. There are different types of jib crane, but we analysis of floor mounted jib crane. Deflection occurs of I- section as a span of Jib crane which is mention in this project, to optimization of deflection to increase modulus of elasticity. Analysis showed that a I-section (IS:2062) will withstand large transverse deflection without in-plane ply deform, we use the Catia v5 for modelling and get results for using Ansys 14.5v. Results showed that increasing the fillet radius reduced peak stresses without affecting the displacement and increasing the flange thickness reduced peak stress and deflection; weight is much more sensitive to flange thickness than to fillet radius. Finally analysis of I-section beam using experimentally, analytically and software base to get results. Ansys base analysis, it has been carried out a throughout analysis of I- section beam by using comparative results with the practical conditions.