ABSTRACT

A gantry crane is a structure used to straddle an object or workspace. Gantry cranes mostly used in marine and its applications are imposing multi-storey structures prominent at most container terminals. It is used to load intermodal containers. They are also called as portal cranes. The overhead trolley of gantry crane is fixed directions in the plane. The trolley is attempting to control the motion of suspended rigid-body, distributed mass load supported by hook, modeled as a lumped mass, in turn connected to the trolley by a light flexible cable. Gantry crane can be used as auxiliary heist rotate product and aid in the handling of awkward sized loads. Customized dimension makes gantry crane travel lift an overhead crane inside the building and outside of the yard. Gantry crane travel lift can pick and carry its rated capacity throughout the entire facility. It is used to lift extremely heavy material.

The finite element method (FEM) is a numerical method for solving problems of engineering and mathematical physics. To solve the problem, it subdivides large problems into smaller, simpler parts that are called finite elements. In this analysis we are analyzing gantry crane by using 1d element for deflections and stresses

Keywords: gantry crane, light flexible cable, finite element analysis, ANSYS, 1D element.