

**TITLE:- DESIGN & STRUCTURAL ANALYSIS OF FSU NAUTICA MUAR
HELIDECK AND OTHER STRUCTURAL MODULES.**

Muhammad Khairuzaim,
MTC Engineering Sdn Bhd

ABSTRACT

Helideck is one of the module installed on FSU Nautica Muar as part of the requirement for Humming Bird Offshore Solution proposed by MTCE for personnel transfer and emergency which require medivac. The FSU NM Helideck are design to cater the Sikorsky S-92 helicopter which is the heaviest type (maximum take-off weight) of helicopter landing with 12.6 tonnes. Hence, structural analysis for its support structure and foundation is very important and crucial for the 20 years old ship deck condition and at very limited aft space.

Structural analysis refers to stress and strength assessment of the structure. Analysis requires information on loads and needs an initial structural scantling design. Output of the structural analysis is the structural response defined in terms of stresses, deflection, strength, and reaction load. Then, the estimated response is compared to the design criteria. Results of this comparison as well as the objective functions (weight, cost, etc.) will show if updated (improved) scantlings are required.

The purpose of this paper is to present the fundamentals of structural analysis and how to perform such analysis using designated software. Such analysis allows a rationally based design that is practical and efficient that has already been implemented in a previous project, tested and proven. The organization and framework of this paper are based on previous design & analysis, construction and installation of FSU NM Helideck. Additional structural modules such as Riser Balcony, Flare Tower Structural, EWT & Metering Skid Structural also will be discuss as subject and example for structural analysis by using SACS Software and Solidworks.