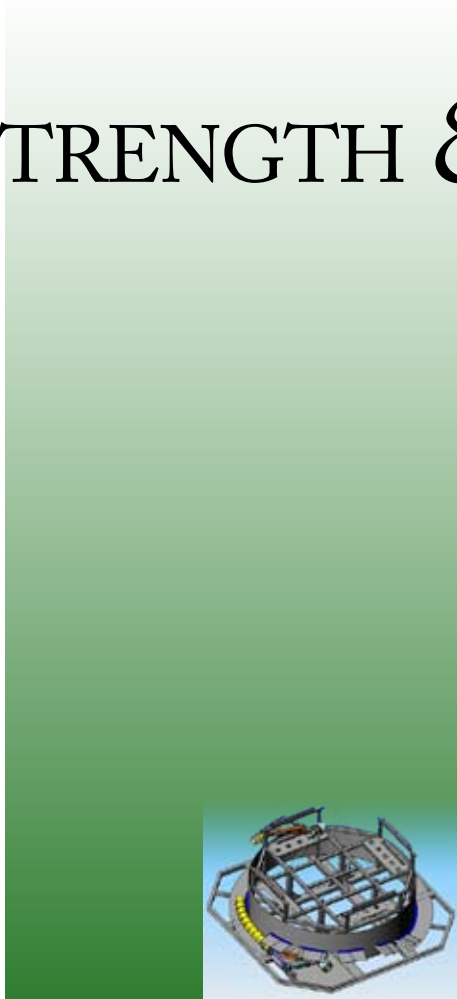
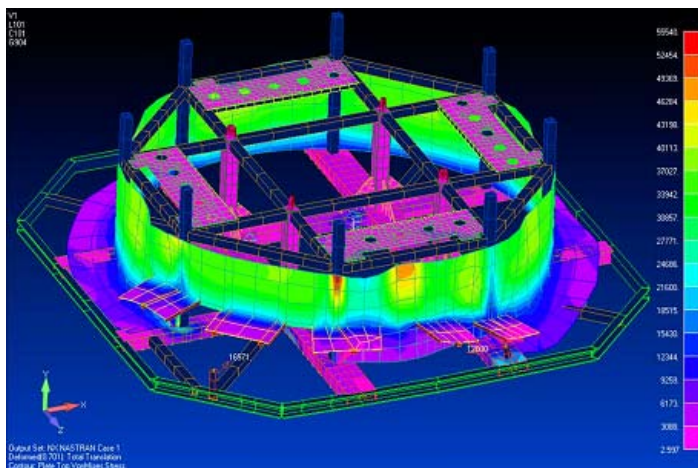


# STRENGTH & BUCKLING ASSESSMENT LEAD PALETTES



**B**astion has been contracted to perform structural analysis on Flying Lead Installation Pallets used to hold subsea umbilicals for transportation and storage. The umbilical is spooled off of the structure from the deck of a ship to the subsea installations. The fully wound weight of the structure is approximately 20,000 lbs. with 3.5" diameter umbilical lengths of approximately 1,300 ft. Bastion performs shell and structural strength assessment analysis as well as providing buckling due to lifting, transportation, and storage requirements. All required analysis reports adhere to the following codes and standards:

- DNV Rules for Planning and Execution of Marine Operations
- DNV Rules for Certification of Lifting Appliances
- DNV Standards for Certification, Offshore Containers
- AISC Manual for Steel Construction



NX NASTRAN / FEMAP Model with Applied Winding Load Case