NX Ship Structure

Developing ship structure from design through manufacturing

Benefits
- NX Ship Structure operates in accordance with the step-by-step workflow familiar to "real world" ship builders
- Hull surface data can be easily imported from third-party hull fairing programs
- The standard parts framework within NX Ship Structure provides a powerful, customizable, parametric and topologically driven functionality for placing structural details
- NX Ship Structure is completely integrated with NX routing systems applications enabling true concurrent design
- NX Ship Structure provides an integrated gateway to the PLM capabilities of Teamcenter, which is crucial for managing the millions of parts that comprise a ship

Summary
NX™ Ship Structure software provides a focused environment for modeling and manufacturing the structure of a ship. NX Ship Structure enables the user to conceptualize and model the surfaces and landing curves of the hull, decks, transverse and longitudinal bulkheads. It provides the user with tools to easily create and detail the plates and profiles that make up the structure. It also enables development of the production planning and generation of the structural manufacturing data. NX Ship Structure comprises two products: NX Ship Structure Detail Design and NX Ship Structure Manufacturing.

Modern product development technology and methods can have a huge impact on ship lifecycle today. That's where Siemens PLM Software comes in. NX Ship Structure is a performance-proven application that provides a disciplined yet familiar step-by-step design process for developing ships. And, because the application is integrated with NX, it provides a gateway to the entire product development process.

More than a suite of integrated CAD, CAM and CAE applications, NX goes beyond individual and departmental productivity to improve efficiency in the overall process and at each step in the lifecycle. A comprehensive solution, NX is built on an open foundation and advanced technologies that directly support initiatives to transform business processes. NX is fully integrated with Teamcenter® sofware, the world's leading PLM system, which ensures that all data on every part and component is fully documented and managed. What's more, NX is seamlessly integrated with Tecnomatix® manufacturing systems to ensure optimal manufacturing and assembly.

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Features

Parametric structural details including:

- Cutouts
- Endcuts
- Profile cutouts
- Clips and collars
- Tripping brackets
- Ventilation holes
- Weld cuts
- Flanged plates
- Plate chamfers
- Steel insulation

Automated and rule-driven weld joint and edge prep creation

Ship structure workflow

NX Ship Structure was developed to support the normal ship structure workflow.

A ship structural designer:

- Brings in the hull surface and defines the outer shape of the superstructure
- Creates a reference model including:
  - Define the ship envelope in 3D space
  - Construct datum planes along the X,Y and Z axes
  - Define the decks (planar or non-planar) based on the Z datums
  - Define transverse bulkheads based on the X datums
  - Define the longitudinal bulkheads (planar or nonplanar) based on the Y datums
  - Construct longitudinal seam and stiffener landing curves
- Define the major sections or blocks of the ship
- Create and detail the plates, stiffeners, pillars and edge reinforcements within each section
- Create structural drawings
- Generate structural manufacturing data including:
  - Plate bending templates
  - Profile inverse bending curves
  - Added material and shrinkage
  - Marking lines
  - Roll lines
  - Unfolding
  - XML export