Ship Building Process

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Design Part

Basic design
- Basic modeling (Speed, loadage etc.)
- Flow analysis

Hull design
- Structure design
- Structure & Fatigue strength analysis

Outfitting design
- Pipe laying & Electrical wiring
- Engine room design
Design Part

- Basic design

1. A basis modeling which taking a carrying capacity and speed
2. A performance assessment to a computer simulation.
3. And computer float analysis
Design Part

△ Hull design

1. The design are firm to the iron board of the at least to the maximum and to develop fast speed.

2. Many simulation about the body of ship structure and computation need.
Design Part

◇ Outfitting design

1. A machinery and tools of the boiler room conduit install task.

2. install the cabin interior, the Electrical wire and pipe.
Steel Cutting

The work that the steel place is automatically cut based upon production design in information.
Steel Cutting

Cutting Progress

1. Marking by NC machine

2. Marked steel
Steel Cutting

Cutting Progress

3. Cutting

4. In order assembly progress
Steel Cutting

Cutting Equipment

Gas based cutter
Major method, by oxygen- acetylene gas
Cutting steel that use high-handed oxygen and groove
Steel Cutting

Cutting Equipment

Plasma cutting
When electric discharge occur, it’s plasma cutting that melt steel and high-handed gas

Laser cutting
Cutting that use molting, evaporation and high-handed gas. It’s method that can cut 5~7mm steel for the present. In order to apply, need to more development than now.
Block Assembly

- Synthesis of Piece Assembly, Sub Assembly, Cutting/Bending and so on work that assemble area of ship hull space.
Image in block assembly factory

Image that set Pin Jig on curved surface of ship hull

Manufacturing Process
Gyeongsang National University
Manufacturing Process

On bottom of a ship department traveling sale frame sticking

Image that is built on Tank Top’s upside. Flat position of welding is proceeded because do turnover after attach traveling sale here
Image that stern tube block is worked

Some innards and block assembly together worked image
Image that move block by Heavy Lift Transporter

Image of block that come by painting shop for painting
Painting

Surface preparation

Surface Inspection

Painting

Dry

Final inspection (Block)

Dry

Touch up

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Block Erection

- The process of building a ship afterwards the welding, after moving the blocks (which was made on the ground) by using the Gantry Crane.
PE : Pre-Erection

- PE is the process of making large before moving blocks to the dock.
Keel Laying & Lord Point

- Keel Laying
  - The standard block in the Erection process

- Lord point
  - The connection point between the wires and the block.
Floating Dock
- Samsung Heavy Industries

SLS : Skid Launching System
- STX Shipbuilding
Land Building
  - Hyundai Heavy Industries

DAM
  - Hanjin Heavy Industries

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Launching

• Major Methods
  1. Slip-way launching
  2. Float-out launching
  3. Lift-on launching
Launching
Outfitting

• Methods

Each mechanic part assembling & pipe laying & electronic equipment installing.
Sea trial & Delivery

Once the construction of the vessel is completed a sea trial is conducted in the presence of the ship’s owner register of shipping.
The test lists of sea trial

- Speed test (속력시험)
- Turning test (선회 시험)
- A rear guard test (후진시험)
- Acceleration test (가속성시험)
- The continuation of a voyage test (속항 시험)
- The amount of fuel consumed test (연료 소비량 시험)
Once the vessel is completed, it is named, and this naming process is called Naming ceremony.