

MAR007 - DRY-DOCKING AND UNDER WATER REPAIRS

MAR007

COURSE DESCRIPTION

Dry dock is a structured area wherein construction, repairs and maintenance of merchant vessels and boats are carried out. The unique construction allows the water to be filled up in that area, also known as lock, so that vessels can be maneuvered in and out of the area. Once the vessel enters the dry dock, the gates are closed, and the seawater is drained out so that hull and other areas of the ship which have been exposed to sea water for a long time are available for carrying out maintenance and repair works. This course covers the topics related to dry-dock and Under Water Inspection as an alternative to dry-docking inspection surveys.

COURSE GOAL

To enhance the participants' knowledge, skills, and attitudes necessary to deal with all issues related to drydocking and its alternative Under Water Inspection.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Understand the related definitions and symbols
- Be familiar with ship stability
- Prepare for the drydock
- Be ready to drydock
- Understand personnel, gear and services matters
- Work safely in dry docking environment.
- Evaluate docking process
- Determine lay period of ship in dock
- Understand drydock inspection and maintenance program
- Be familiar with underwater survey program
- Deal with special drydocking situations
- Prepare reports about docking incidents/accidents
- Understand under water repairs procedures

WHO SHOULD ATTEND

All those who are interested in the subject

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Definitions and Symbols

2. Math Review and Ship Stability

3. Preparing the Drydock

- Determine Docking Position of the Vessel
- Determine Physical Location of Basin Blocking
- Keel Block Locations
- Trapezoidal Loading & Draft of Instability
- Multiple Calculations
- Metric to Standard Calculation Sheet
- Pumping Plan
- Quick Reference Sheet
- Seismic / Hurricane Considerations
- Blocking Preparations and Construction
- Soft Caps

4. Readiness to Drydock

- Establishing Dock / Vessel Communication
- Physical Inspection of the Vessel
- Listed Vessels & Trimmed Vessels
- A Docking Checklist

5. Readiness of Personnel, Gear and Services

- Systems in Support of the Docking / Undocking Operation
- Ship Support Systems
- Work Force Support Systems
- Emergency Systems
- Readiness of Gear, Readiness of Services & Readiness of Personnel
- Commands to Line Handlers

6. Working Safely in Dry Docking Environment.

- Fire Hoses Connected to Shore Hydrants are Laid on Deck and Pressurized.
- Precautions are Taken to Avoid Tools or Other Materials from Falling from the Sides of the Ship .

- Safety Helmets Are A Must.
- Cables or Hoses Do Not Obstruct Excess to Passageways.
- Fire Extinguishers are Made Available Near Welding Sites.
- For Long Stay or Cold Climates, Water in Engines or Pipes Has to Be Drained Away to Prevent Freezing.

7. The Docking Evolution

- Preparation for Docking
- The Deflection Plane
- Critical Stages in The Docking Process
- Summarized Actions to Be Taken

8. Lay Period of Ship in Dock

- Assigned Responsibilities
- Areas of Great Concern
- Check List for The Preparation of Undocking

9. Drydock Inspection Items & Maintenance

- External Structural Integrity.
- Internal Structural Examination.
- Cargo Tank Internal Examination
- Watertight Integrity. Rudders, Propellers, And Tail Shafts
- Valves and Through-Hull Fittings
- Ground Tackle
- Applications of Maintenance Program

10. Underwater Survey

- Underwater Survey Program
- Review of Application for Underwater Survey
- Special Criteria for Passenger Vessels

11. The Undocking Evolution

- Weight Control Accounting
- Pre-Undocking Checks
- Final Check of The Dock Basin
- Final Preparation for Undocking
- Ballasting and Lift Off of The Ship

- Flood to Depth for Exit
- The Ship Is Hauled Out of The Dock
- De-Ballast and Inspect Dock
- Dock List Control During Undocking

12. Special Drydocking Situations

- Unique Situations
- Specially Designed Ships
- Unique Work in Dry-Dock
- Multiple Ship Dockings
- Hauling a Ship in Off-Center
- Cold Weather Precautions
- Extreme Overhangs
- Self-Docking Dry-Dock Section

13. Docking Incidents/Accidents

- Background
- Reporting Requirements
- Analysis and Trends

14. Under Water Repairs

- Under Water Welding
- Under Water Mechanical Repairs
- Others

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