

## **COURSE: BASIC SAFETY COURSE ON CARGO HANDLING AND PERSONNEL TRANSPORTATION / RIGGING AND SLINGING**

### **SCOPE AND APPLICABILITY:**

This course is designed to develop and certify the employees involved in cargo handling operations, enabling them to analyze the risks inherent in the operation and execute the activities with safety for themselves, all the employees involved, the environment and physical facilities.

### **REGULATIONS AND STANDARDS**

- **NR 11** - Transport, Handling, Storage and Material Handling;
- **NR 18** - Conditions and Environment Working in the Construction Industry;
- **NR 34 - Annex I – Item 2** - Conditions and Environment of Work in the Construction, Repair and Shipbuilding Industry;
- **NR37** - Basic Safety Course On Cargo Handling And Personnel Transportation;
- **API Rp 2d 7th Edition** - Operation And Maintenance Of Offshore Cranes;
- **ABNT NBR 13541** - Steel Cable Slings - Use and Inspection;
- **ABNT NBR 15637** - Textile Straps for Lifting of Cargo;
- **PUWER 1998** - Provision and Use of Work Equipment Regulations;
- **LOLER 1998** Lifting Operations and Lifting Equipment Regulations;
- **NORSOK Standard R-003**. Safe Use Of Lifting Equipment. Rev. 2, July 2004.

### **COURSE CONTENT:**

#### **Participants will be instructed about:**

#### **a) Basic concepts related to cargo and people transportation / generalities;**

- Introduction to cargo handling safety;
- Terms and Definitions.

#### **b) Types of Hoisting Equipment (operations);**

- Lattice Cranes;
- "Kingposts";
- Gantry Cranes;
- Articulated;
- Line releases;
- Abandonment and Retraction Winches;
- Marine and Salvage Winches.

#### **c) Components and accessories used in cargo handling and their respective applications;**

- Shackles;
- Slings;
- Hooks;
- Maneuvering Sticks;
- Safety Involving Steel cables;
- Guide cables;
- Use of corner breakers;
- Loading rings; Eyebolts;
- Container Ovator;
- Spreader (rocker) and Equalizer bar;
- Steering wheel for drum movement;
- Load lifting jaws (tongs);
- Lifting nets;
- Personnel Transfer Equipment.

#### **d) Visual inspection of cargo handling equipment and its accessories;**

- Verification of steel cables;
- Choice of correct shackles.

**e) Equipment load capacity table, its accessories and lifting angles;**

- Gravity center of different types of loads;
- Lifting angles;
- Load carrying capacity of wire ropes;
- Straps and chains;
- Gauges and capacities;
- Choice of wire rope types and slings;

**f) Critical cargo handling (Operation);**

- Principles of safety in the use of equipment;
- Cargo lashings;
- Small and Large pieces;
- Tubes;
- Profiles;
- Plates;
- Axes;
- Parallel loads;
- Blind lifting;
- Basic concepts of planning;
- Packaging symbology;
- Hazardous cargoes;
- Hazardous Materials and MSDS;

**g) Communication and Signs during the movement of people and cargo:**

- Signaler;
- Signaling Operations;
- Radio communication.

**h) Incidents and accidents during cargo movement;**

- Accidents at work and prevention methods;

**i) Safety Procedures to transport people and cargoes;**

- Description of risks related to equipment;
- Disposal criteria for wire ropes, straps and chains;
- Safety devices in accordance with NR-12 and applicable technical standards (NR-5, NR-6, NR-17, NR-18 and others);
- Description of protection accessories against sharp corners;
- Safety in cargo handling and personnel movement;
- Preliminary risk analysis;
- Rigger Responsibilities.

**j) Protection Equipment and Safety Systems;**

- Collective Protection Equipment;
- Personal Protective Equipment.

**k) Practical exercises of cargo handling operations on board the platform;**

**l) Final Assessment.**

**WORKLOAD:**

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Theoretical - 12 hours

Practice - 8 hours

**TOTAL:** 20 Hours

**PREREQUISITE(S):**

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None.

**MINIMUM / MAXIMUM NUMBER OF PARTICIPANTS**

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This course requires a minimum of 1, and a maximum number of 12 trainees.

To offshore trainings, the course number of attendees will comply with the vessels/rig necessity.

## **MAIN SAFETY ISSUES:**

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- Do not put your hand on the load;
- Do not pass under load
- Do not place body parts between suspended loads;
- Know and use standardized manual signs as the main means of communication;
- Hold pre-shift meetings;
- Escape routes;
- Conduct risk analysis;
- Night work;
- Inadequate atmospheric conditions;
- Communication between team and operator;
- Knowledge of company policies on cargo handling safety;
- Inspection of equipment.

## **NECESSARY EQUIPMENT:**

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- Slings (Straps and Steel cables);
- Maneuver rods;
- Guide cables;
- 4-part shackles;
- Hook;
- Load rings;
- Pulleys;
- Crane;
- People Transfer Equipment;
- Company's cargo handling procedures.

## **PROCEDURES FOR PRACTICAL EXERCISES:**

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- Strengthen the safety procedures adopted by the company with the students;
- The instructor is allowed to use real situations to reinforce the training concepts if the person in charge of the area and the safety officer approve. In this case, the instructor will reinforce safe behaviors and positioning, predominantly;
- Demonstrate how to plan lifting operations;
- Demonstrate knowledge about Use Factors and SWL
- Perform general inspections on cargo handling and mooring equipment;
- Inspect and select the slings for tasks related to moving loads;
- Safe positioning;
- Demonstrate communication protocols correctly (Manual and Radio);
- Conduct hazard and risk analysis according to company procedures.

**CERTIFICATION:**

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Training Certificate

**PERIOD OF VALIDITY OF THE CERTIFICATE:**

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Recommended: 3 years.