



Rigging Safety – 8 Hour
(API RP 2D 7th Edition)
Course Outline



Prerequisites: This course shall have no formal pre-requisite. The individual should have no history of a disabling medical condition, which may be sufficient reason for disqualification.

Course Length: 6-8 hours – Course length shall vary depending on the number of delegates. Total course time includes breaks and meals.

Class Size: The maximum number of delegates that may be trained and tested per instructor shall be twenty four (24) in the classroom session and twenty (20) in the practical session. A second instructor shall be added for the practical session once the participation exceeds twenty (20) and exercises will be divided into groups.

Course Objective

- Provide delegates assigned to rigging duties the necessary skills to safely perform their jobs.
- Provide delegates with recommended practices and guidelines to perform safely while working with cranes.
- Delegates should be able to demonstrate these necessary skills during practical examination and demonstrate knowledge during written examination.

Course Design

- Power Point© / Lecture / Audio Video / Visual Aids
- Demonstrations
- Practical Exercises

Successful Course Completion

- Requires a minimum score of 75% or better.
- Grades shall be calculated by dividing the number of questions answered correctly by the total number of exam questions.
- Delegates will have no more than thirty (30) minutes to complete the exam.
- Successful completion of practical session is mandatory.

Course Content Summary

- Classroom
- Practicals

Breaks: 10 minutes (approximately every hour)

Lunch: 1 Hour

Course Outline

Rigging Requirements

- Qualified Rigger – API RP 2D Definition
- Rigger Responsibilities
- Manufacturer Responsibilities
- Common Rigging Problems

Rigging Equipment

- Definition & Terminology
- Blocks & Sheaves
 - Inspection Criteria
 - Typical Block Components
 - Proper/Improper Use
- Wedge Sockets
 - Installation and Inspection Criteria
- Hooks, Latches
 - Different Types
 - Inspection Criteria
 - Proper/Improper Use
- Shackles
 - Different Types
 - Inspection Criteria
 - Proper/Improper Use
- Slings
 - Different Types
 - Inspection Criteria
 - Characteristics
 - Proper/Improper Use
- Rings, Links, Swivels
 - Different Types
 - Characteristics
- Turnbuckles
 - Different Types
 - Inspection Criteria
- Spreader and Equalizer Beams
- Cable Clips
- Pad eyes, Eyebolts, and Other Lifting Equipment
- Load Binding Equipment
 - Ratchet Binders
 - Lever Binders



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- Ratchet Straps
- Inspection Criteria
- Potential Hazards
- Housekeeping and Storage

Rigging Technique

- 3 Basic Hitches
- Sling Configuration
- Sling Angles
- Rated Load
- Weight of a Load
- Center of Gravity
- Moving the Load
- Load Control
 - Tag Lines
 - Hands-Free Devices
 - Advantages
 - Why Hands-Free Devices
 - Device Types
- Knots
- Unbinding Loads
- Pinch Points/Body Positions
- Load Stability
- Personnel Transfer
- Other Factors (Environmental/Electrical)

Air Tugger

- CFM & PSI
- Installation & Inspection
- Snatch Blocks
- Loads on Blocks
- Come-A-Long / Manual Chain Hoist

Rigging Safety

- Lift Planning
- Personal Protective Equipment
- Communication – Hand and Voice Signals



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Practical Session

Practical training shall utilize a hydraulic crane, various slings, loads & rigging techniques.

Practical shall verify that the delegate is able to complete the following:

- Select and wear appropriate PPE during practical training
- Inspect and identify damaged hardware/rigging gear
- Select the appropriate hardware/rigging gear to complete required lifts
- Communicate effectively with the crane operator using proper hand signals
- Use tag lines properly to control loads
- Select the appropriate rigging techniques to complete the required lifts
- Use acceptable sling angles to determine safe lifting operations
- Maintain hand/body position absent from hazards (pinch points)
- Prevent anyone from standing under a suspended load
- Work safely with other riggers as a team
- Store hardware/rigging gear properly following its use

Training Center Provided Material

- PPE
- Crane with Operator
- Rigging Material

Delegate Requirements

- Must possess good physical health as the practical training is physical demanding.

Reference Material / Documents

API RP 2D Seventh Edition

OSHA 29 CFR 1926.251

OSHA 29 CFR 1926.753

OSHA 29 CFR 1926.1421