

**Lesson:** Material Handling

- Lesson Objectives:**
- Describe the control methods for preventing material hazards.
  - Move and store different materials on construction sites safely.
  - Use material handling equipment properly, safety, and efficiently.

- Topics:**
- Control Methods
  - Moving and Storing Materials
  - Material Handling Equipment

### **Topic: Control Methods**

This topic introduced safety methods for preventing hazards when handling materials. Having completed this topic, you should be able to:

- Identify the hazards associated with handling materials
- Recognize the need for efficient housekeeping
- Define the hierarchy of controls
- Describe OSHA's requirements for disposal, manufacturers, and training when handling materials

#### Topic summary:

Please take a moment to review these major points before you continue with the next topic.

- The risks associated with material handling include potential injuries to personnel and damage to equipment or property.
- Good housekeeping on a job site promotes efficiency and safety.
- The preferred order of control is (1) engineering, (2) administrative, and (3) personal protective equipment.
- OSHA has specific material handling requirements for disposal, manufacturers, and training.

### **Topic: Moving and Storing Materials**

This lesson addressed the different materials that are common to construction sites, particularly their moving and storage. Having completed this topic, you should be able to:

- Identify the safety precautions for moving materials
- Implement the general guidelines for storing materials

#### Topic summary:

Please take a few minutes to review these key points before you continue with the next topic.

- Workers must follow specific guidelines for moving materials manually, mechanically, and with dockboards.
- There are important general safety precautions for storing materials.
- A number of materials have unique storage requirements.

### **Topic: Material Handling Equipment**

This topic explored the different equipment used in moving heavy loads on a worksite. Choosing the best method of rigging and hoisting seriously affects your safety. You examined the different types of slings and their specific applications. Having completed this topic, you should be able to:

- Identify safe measures for rigging and hoisting
- Recognize the different types of slings
- Determine how to select and inspect slings
- Identify the specific requirement for slings: alloy steel chains, wire rope, natural rope, and synthetic webbing

#### Topic summary:

Please take a moment to review these key points before you continue with the next topic.

- While rigging, workers use slings and hoists to move large heavy loads.
- When selecting a proper hoist, the primary concern is the capacity required for the load to be lifted. OSHA provides tables to identify safe working loads.
- Careful consideration should be given to the selection and inspection of slings. It is important to ask: what type of sling, what size, and was it inspected.
- There are numerous safety guidelines for the four sling types: (1) wire, (2) synthetic, (3) chain, and (4) mesh.
- Use OSHA's tables to determine the safe load capacity for shackles and the manufactures' recommendations for the use of hooks.
- The size of the sling is determined by the weight, shape, and size of the load. There is a formula to determine the stress level, and the Rigger's Reference Chart determines the diameter.