

# Synopsis of Requirements:

## Rigging, Overhead Hoists & Below the Hook Lifting Devices Inspections

### **Please note:**

The purpose of this document is to summarize the inspection requirements set forth by OSHA and ASME as it relates to rigging and manual hoisting equipment. This document does NOT cover all possible situations and applications related to rigging and manual hoisting equipment inspection. It is intended to be a general guideline and it is the responsibility of the end user to understand the applicable OSHA & ASME standards.



### **Introduction**

This topic is complex in nature due to the number of different OSHA and ASME standards that are involved and how they are/or could be applied. National consensus standards like ASME are a helpful compliment to the OSHA standards.

### **Standards Overview**

The federal OSHA standards should be considered the minimum requirement for inspections and are the basis for most enforcement. Most state plans have adopted Federal OSHA regulations and standards verbatim. A few states have State Plans that differ significantly from Federal OSHA. These states have standards that are more stringent than Federal OSHA standards or address hazards not covered by Federal OSHA.

OSHA often references “national consensus standards” in their letters of interpretation. The national consensus standards are used to “fill the holes” in OSHA’s own standards. **Important:** *companies can be cited based on national consensus standards under the general duty clause.*

### **Definitions**

#### **National Consensus Standard**

1910.2(g)- "National consensus standard" means any standard or modification thereof which (1) has been adopted and promulgated by a nationally recognized standards-producing organization under procedures whereby it can be determined by the Secretary of Labor or by the Assistant Secretary of Labor that persons interested and affected by the scope or provisions of the standard have reached substantial agreement on its adoption, (2) was formulated in a manner which afforded an opportunity for diverse views to be considered, and (3) has been designated as such a standard by the Secretary or the Assistant Secretary, after consultation with other appropriate Federal agencies; and

#### **General Duty Clause**

- (a) Each employer - (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees; (2) shall comply with occupational safety and health standards promulgated under this Act. 29 USC 654

- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

### **Below the Hook Lifting Devices**

Custom or manufactured lifting equipment such as: Lifting Beams, Spreader Bars, Plate Clamps, Grapples, Magnetic or Vacuum Lifters, Coil Lifters, etc.

### **Qualified / Competent Person**

**Qualified person:** A person who, by possession of a recognized degree or certificate of professional standing in an applicable field, or who, by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.

An OSHA "**competent person**" is defined as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them" [29 CFR 1926.32(f)].

### **Applicable OSHA Standards**

1. [1910.184](#) – General Industry – Slings / Rigging
2. [1926.251](#) – Construction – Slings / Rigging
3. [1926.554](#) – Construction – Overhead hoists (Lever, Manual Chain, Electric Chain/Wire Rope Hoists)

### **Applicable ASME Standards**

The standards below are copy written material and there for cannot be reproduced in this document and must be purchased.

You can find out more, and purchase standards at: [www.asme.org](http://www.asme.org)

1. ASME B30.9 – Slings
2. ASME B30.20 – Below the Hook Lifting Devices
3. ASME B30.16 – Overhead Hoists Underhung (Manual Chain, Electric Chain/Wire Rope Hoists)
4. ASME B30.21 – Lever Hoists

### **Pre-Shift Inspections**

Both OSHA and ASME agree that all rigging, slings, below the hook lifting devices, overhead hoisting equipment must be inspected prior to each shift or use.

#### **1910.184 & 1926.251 OSHA States:**

*Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use, where service conditions warrant. Damaged or defective slings shall be immediately removed from service*

#### **1926.554(a)(6) Overhead Hoists OSHA States:**

*All overhead hoists in use shall meet the applicable requirements for construction, design, installation, testing, inspection, maintenance, and operation, as prescribed by the manufacturer.*

In our research we found most if not all manufacturers require a pre-shift / pre-use inspection.

## Chain Slings

OSHA and ASME more or less agree that in addition pre-shift inspections of chain slings, documented annual inspections are also required.

### In 1910.184 & 1926.251 OSHA States:

#### **1926.251(b)(6)(i)**

In addition to the inspection required by other paragraphs of this section, a thorough periodic inspection of alloy steel chain slings in use shall be made on a regular basis, to be determined on the basis of (A) frequency of sling use; (B) severity of service conditions; (C) nature of lifts being made; and (D) experience gained on the service life of slings used in similar circumstances. Such inspections shall in no event be at intervals greater than once every 12 months.

#### **1926.251(b)(6)(ii)**

The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such record available for examination.

## Synthetic Slings and Wire Rope Slings

OSHA does not require a documented annual inspection of synthetic or wire rope slings. However, they do highlight in their safe sling use guidelines that:

***“Although OSHA’s sling standard does not require you to make and maintain records of inspections, the ASME standard contains provisions on inspection records.”***

ASME requires that these slings are inspected every 12 months at a minimum with written records of the most recent inspection. For further information please refer to the following link [OSHA Guidance on Safe Sling Use](#).

## Below The Hook Lifting Devices

OSHA says very little about below the hook lifting devices in any standard. They simply point out that:

***“Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load.”***

Further research references the applicable ASME standards for construction, use and maintenance of below the hook lifting devices in a number of letters of interpretation.

### One letter states:

*“With regard to whether OSHA recognizes ANSI/ASME B30.20 specifications as the reference point for determining inspections for Below-the-Hook Lifting Devices, please be advised that the answer is yes. OSHA refers to the subject consensus standard for inspection provisions for Below-the-Hook Lifting Devices.”* For further information please refer to the following link: [\(Link to Complete Letter\)](#)

### Another letter of interpretation states:

*“Yes. Section 1926.251 does not address inspection criteria for below-the-hook lifting devices, except for slings used in conjunction with other material handling equipment.”*

*Under the "General Duty Clause" (Section 5(a)(1)) of the Occupational Safety and Health Act, employers must: furnish to each of [its] employees employment... free from recognized hazards that are causing or are likely to cause death or serious physical harm... The construction industry recognizes the necessity for inspections of below-the-hook lifting devices. An employer who follows ASME B.30.20, specifically sections 20-1.3.1 through 20-1.3.7 and 20-1.3.9 with respect to inspections for below-the-hook lifting devices (other than for slings), would be considered to be in compliance with OSHA requirements. For further information please refer to the following link: [\(Link to Complete Letter\)](#)*

## **Overhead Hoists Underhung**

Like below the hook lifting devices OSHA says very little about overhead hoists. The entire standard is one page long, as relates to inspection, the standard states, that you must meet all applicable requirements of the manufacturer.

### **1926.554(a)(6)**

*All overhead hoists in use shall meet the applicable requirements for construction, design, installation, testing, inspection, maintenance, and operation, as prescribed by the manufacturer.*

This can create a problem for the end user as there are a myriad of hoist manufacturers on the market all with different inspection requirements. The majority of contractors and industrial plant operations have multiple brands and models of hoists in use. In the research we conducted, most if not all manufacturers require, at a minimum, a pre-shift/pre-use inspection and a documented annual inspection (same as ASME). Our recommendation is to follow the ASME B30 standards. The difference relates to the level of inspection and if disassembly is required. ASME requires a visual inspection and any defects found will require further investigation.

A complete copy of the ASME standards can be found at [www.asme.org](http://www.asme.org). Please note, these standards are protected by copyright law and must be purchased from ASME.