

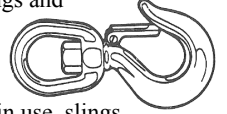


Company Name: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

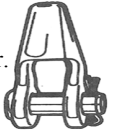
Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

## Topic 176: Inspect Slings for Safe Lifting

**Introduction:** A "Sling" is an assembly which connects the load to the material handling equipment. Slings, chokers, cradles, hooks, and other hoisting gear used in conjunction for materials handling is referred to as rigging equipment. Slings and other rigging gear are made from alloy steel chain, wire rope, metal mesh, and synthetic web (nylon, polyester, and polypropylene). Each day before being used, the sling and all fastenings and attachments must be inspected for damage or defects by a competent person designated by the employer. Employers are required to maintain comprehensive inspection records of all rigging and associated gear. Additional inspections must be performed during sling use if severe service conditions exist. Damaged or defective slings shall be immediately removed from service.



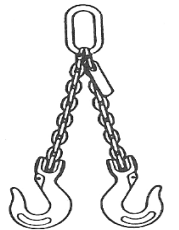
**Rigging equipment** must never be loaded in excess of its recommended safe working load for the specific equipment. When not in use, slings and hoisting gear must be removed from the immediate work area so as not to present a hazard to employees. Special custom design grabs, hooks, clamps, or other lifting accessories must be marked to indicate the safe working loads and be proof-tested prior to use to 125 percent of their rated load. Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, must not be used.



**Welded alloy steel chain** slings must have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer. Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments, when used with alloy steel chains, must have a rated capacity at least equal to that of the chain. Rated capacity (working load limit) for alloy steel chain slings shall conform to manufacturer's values. Whenever wear at any point of any chain link exceeds recommended limits, the assembly must be removed from service.

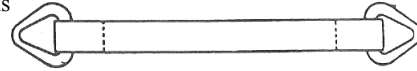
**Wire rope** — Protruding ends of strands in splices on slings and bridles shall be covered or blunted. Never secure wire rope with knots. Eyes in wire rope bridles, slings, or bull wires shall not be formed by wire rope clips or knots. Wire rope must not be used if the rope shows signs of excessive wear, corrosion, or defect. When U-bolt wire rope clips are used to form eyes, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope. Slings must not be shortened with knots or bolts or other makeshift devices and sling legs shall not be kinked. Slings shall be padded or protected from the sharp edges of their loads. Welding of end attachments, except covers to thimbles, shall be performed before assembly of the sling.

**Natural rope and synthetic fiber** — All splices in rope slings provided by the employer shall be made in accordance with fiber rope manufacturers' recommendations. Knots shall not be used in lieu of splices. Clamps not designed specifically for fiber ropes must not be used for splicing. Fiber rope slings shall not be used if end attachments in contact with the rope have sharp edges or projections.



**Natural and synthetic fiber rope slings shall be immediately removed from service if any of the following conditions are present:**

- Distortion of hardware in the sling
- Powdered fiber between strands
- Broken or cut fibers
- Abnormal wear
- Discoloration or rotting



**Synthetic webbing** — When using synthetic webbing (nylon, polyester, and polypropylene), never exceed the rated load capacities. Synthetic webbing shall be of uniform thickness and width and fittings must be of a minimum breaking strength equal to that of the sling and free of all sharp edges that could in any way damage the webbing. Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread must be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.

**Each synthetic web sling must be permanently tagged, marked, or coded to show the following:**

- Name or trademark of manufacturer
- Rated capacities for the type of hitch
- Type of material
- Rated working loads

**Synthetic web slings shall be immediately removed from service if any of the following conditions are present:**

- Broken or worn stitches
- Distortion of fittings
- Snags, punctures, tears, or cuts
- Acid or caustic burns
- Melting or charring of any part of the sling surface

**Hooks must be maintained in good condition. Replace hook if deficiencies include any of the following:**

- If hook throat opening has stretched by 15%
- If hook tip is twisted by 10° or more
- Load bearing point has been worn by 10%
- Damaged, inoperative, or missing hook latches
- Deformations and cracks
- Damage from chemicals

**Conclusion:** It is important to carefully inspect slings and other rigging gear to ensure the safety of all personnel involved with hoisting operations. Virtually all aspects of hoisting operations require that employers maintain documented inspections. If slings or hoisting gear are found to be defective, immediately remove from service. Never put a worker's health and safety at risk by using questionable equipment.



### Work Site Review

Work-Site Hazards and Safety Suggestions: \_\_\_\_\_

Personnel Safety Violations: \_\_\_\_\_

**Employee Signatures:** \_\_\_\_\_  
*(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)*


**Foreman/Supervisor's Signature:** \_\_\_\_\_

*These guidelines do not supersede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.*