



Sling Inspection Overview

Scope

The purpose of this document is to give an overview of the sling inspection we offer to users of lifting slings and rigging hardware. We offer this sling inspection service to assist users in identifying when slings and related lifting hardware are not in safe working condition and need to be removed from service.

This inspection is required under The American Society of Mechanical Engineers (ASME) B30.9 standard for all synthetic slings including webbing (flat) and fiber yarns in a protective cover (round), alloy steel chain slings, wire rope slings, and metal mesh slings. There are three types of inspections referenced in this ASME standard.

Initial Inspection – Prior to use, all new, altered, modified, or repaired slings shall be inspected by a designated person to verify compliance with applicable safety standards.

Frequent Inspection – A visual inspection for damage shall be performed by the user or other designated person each day or shift that the sling is used. Slings that do not meet applicable safety standards shall be removed from service and not returned to service until approved by a qualified person. Written records are not required for frequent inspections.

Periodic Inspection – A complete inspection for damage of the sling shall be periodically performed by a qualified person to determine if the sling meets applicable safety standards. Periodic inspection intervals shall not exceed 1 year. A written record of the most recent periodic inspection shall be maintained and be available for examination.

Guidelines for the time intervals of the periodic inspection are:

- 1) Normal service – yearly
- 2) Severe service – monthly to quarterly
- 3) Special service – as recommended by a qualified person

The frequency of periodic inspections should be based on:

- 1) Frequency of sling use
- 2) Severity of service conditions
- 3) Nature of lifts being made
- 4) Knowledge gained on the service life of slings used in similar circumstances

It is also required under Occupational Safety and Health Administration (OSHA) part 1910.184 to perform a thorough periodic inspection of alloy steel chain slings. OSHA requires maintaining a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such records available for examination.



The products inspected during our standard sling inspection service are:

- Synthetic Web Slings
- Synthetic Round Slings
- Alloy Chain Slings
- Wire Rope Slings
- Metal Mesh Slings
- Sling Hardware such as hooks, links, etc
- Shackles
- Hoist Rings

The following products, by the request of the customer, can be inspected are:

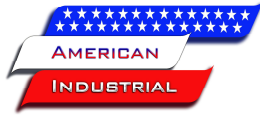
- Certain Fall Protection such as harnesses, lanyards, etc
- Plate Clamps
- Eyebolts
- Manual hoists such as lever hoists and chain falls
- Web tie downs such as ratchet straps
- Binding chain such as grade 70 chain assemblies

American Industrial Lifting Products (AILP) will inspect the items in this section to the common industry guidelines or manufacturer's guidelines, if known. AILP will not disassemble any products in this section as part of our standard sling inspection service. Our inspector will give a thorough visual inspection to the best of his/her knowledge and include in the report the visual results. If requested by the customer, product in this section in need of disassembly may be taken to an AILP facility for a more detailed inspection, for a fee.

The following products are not inspected in our standard sling inspection service:

- Cranes such as bridge, gantry, jib, etc
- Crane cables
- Electrical hoisting units
- Winches
- Spreader Beams
- Specialty Lifting Devices such as vacuum lifters, c-hooks, pallet lifters, etc
- "Homemade" lifting devices
- Certain Fall Protection such as lifeline systems, scaffolding systems, etc

Some of the products in this section may be able to be inspected by AILP, but would be setup separately and quoted accordingly.



The inspection result, which states that a product is suitable for use, does not suggest the length of service for which the product will remain suitable for continued service. It is the responsibility of the users and their supervisors to review and revise their inspection frequency and requirements necessary to assure that only safe lifting products are being used between inspection intervals.

Inspection Procedure

AILP will inspect products that are made available during the inspection. The inspector will not be responsible to inspect: products that are hidden or inaccessible, located in unsafe environments, or products unclean to the point that they cannot be properly inspected.

Each sling will be individually recorded on the inspection report by location (if known), type, description, serial number (if available), and pass/fail inspection result. Also if preferred by the customer, we can attach a serialized, colored tie to correspond with each item that has passed inspection.

The standard (zip) ties are made of nylon cable; are small and light, and are included with the sling inspection if preferred. They come in various colors, and normally present with future inspections in a different color to distinguish from the previous month/year, to be sure nothing gets missed. Also, AILP offers metal tags that are attached with a cable. These tags are serialized and very durable. Metal tags are available for a small fee per tag.

During the inspection, items identified to be unsuitable for use by the inspector will not be tagged with a serialized tag, but either marked with a “do not use” tag, or kept in a location to be discarded, separate from slings that have been found suitable. At the customer’s request, the inspector can take these products with him/her to be discarded at AILP’s facility. If not taken from the facility by the inspector to be discarded, it is the responsibility of the customer’s personnel to discard damaged products properly, so they are not returned back into service.

It is common to encounter chain slings without proper tags. It is required that the sling be proof tested, before being placed back into service as stated in the ASME B30.9 standard. We offer proof testing if it is desired by the customer. We will take your chain sling(s) to our facility for a detailed visual inspection, proof test to 2x the working load limit, and will attach a metal tag to each chain assembly (if passed). We will provide a certificate of test for your records which is required to keep on file. There is a small fee per sling for this test.

Upon conclusion of the sling inspection, a typed report will be either mailed or e-mailed per the customer’s request, identifying each item inspected.

Please note that this inspection service does not extend any warranties of any product beyond those present at the time of sale.



Removal Criteria for Synthetic Web Slings

- a. Missing or illegible sling identification.
- b. Acid or caustic burns.
- c. Melting or charring of any part of the sling.
- d. Holes, tears, cuts, or snags.
- e. Broken or worn stitching in load bearing splices.
- f. Excessive abrasive wear.
- g. Knots in any part of the sling.
- h. Discoloration and brittle or stiff areas on any part of the sling, which may mean chemical or ultraviolet/sunlight damage.
- i. Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken.
- j. For hooks, removal criteria as stated in ASME B30.10
- k. For applicable fittings, removal criteria as stated in ASME B30.26
- l. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Removal Criteria for Synthetic Round Slings

- a. Missing or illegible sling identification.
- b. Acid or caustic burns.
- c. Evidence of heat damage.
- d. Holes, tears, cuts, abrasive wear, or snags that expose the core yarns.
- e. Broken or damaged core yarns.
- f. Weld splatter that exposes core yarns.
- g. Round slings that are knotted.
- h. Discoloration and brittle or stiff areas on any part of the slings, which may mean chemical or ultraviolet/sunlight damage.
- i. Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken.
- j. For hooks, removal criteria as stated in ASME B30.10.
- k. For applicable fittings, removal criteria as stated in ASME B30.26.
- l. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.



Removal Criteria for Alloy Steel Chain Slings

- a. Missing or illegible sling identification.
- b. Cracks or breaks.
- c. Excessive wear, nicks, or gouges.
- d. Stretched chain links or components.
- e. Bent, twisted, or deformed chain links or components.
- f. Evidence of heat damage.
- g. Excessive pitting or corrosion.
- h. Lack of ability of chain or components to hinge (articulate) freely.
- i. Weld splatter.
- j. For hooks, removal criteria as stated in ASME B30.10.
- k. For applicable fittings, removal criteria as stated in ASME B30.26.
- l. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Removal Criteria for Wire Rope Slings

- a. Missing or illegible sling identification.
- b. Broken Wires:
 - For strand-laid and single-part slings, ten randomly distributed broken wires in one rope lay, or five broken wires in one strand, in one rope lay.
 - For cable-laid slings, 20 broken wires per lay.
 - For six-part braided slings, 20 broken wires per braid
 - For eight-part braided slings, 40 broken wires per braid.
- c. Severe localized abrasion or scraping.
- d. Kinking, crushing, bird caging, or any other damage resulting in damage to the rope structure.
- e. Evidence of heat damage.
- f. End attachments that are cracked, deformed, or worn to the extent that the strength of the sling is substantially affected.
- g. Severe corrosion of the rope, end attachments, or fittings.
- h. For hooks, removal criteria as stated in ASME B30.10.
- i. For applicable fittings, removal criteria as stated in ASME B30.26.
- j. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.



Removal Criteria for Metal Mesh Slings

- a. Missing or illegible sling identification.
- b. Broken weld or brazed joint along the sling edge.
- c. Broken wire in any part of the mesh.
- d. Reduction in wire diameter of 25% due to abrasion, or 15% due to corrosion.
- e. Lack of flexibility due to distortion of the mesh.
- f. Distortion of the choker fitting so the depth of the slot is increased by more than 10%.
- g. Distortion of either end fitting so the width of the eye opening is decreased by more than 10%.
- h. A 15% reduction of the original cross-sectional area of any point around the hook opening of the end fitting.
- i. Visible distortion of either end fitting out of its plane.
- j. Cracked end fitting.
- k. Slings in which the spirals are locked or without free-articulation shall not be used.
- l. Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken.
- m. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Training

AILP does offer training courses on proper sling usage through our OSHA outreach instructors. Courses are available for basic rigging practices, or the more advanced procedures. They can be held at the AILP training center, or your own facility.

We hope this information pertaining to our sling inspection service has been beneficial to you. If you have any further questions, please contact our customer service at (888) 829-9099. You can email us at info@safeslings.com or contact your local AILP distributor.