

Slings (Natural Rope, Synthetic Rope & Synthetic Web)

Self-Inspection Checklist



Optional Information

Name of School:
Date of Inspection:
Career-Technical program/course/room:
Signature of inspector:


Guidelines:

This checklist covers regulations issued by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) under the general industry standard 29 CFR 1910.184 and the construction standard 1926.251. It applies to slings used with other equipment to move material by lifting or hoisting. The regulations cited apply only to private employers and their employees, unless adopted by a State agency and applied to other groups such as public employees. A yes answer to a question indicates that this portion of the inspection complies with the OSHA or U.S. Environmental Protection Agency (EPA) standard, or with a nonregulatory recommendation. Definitions of terms in bold type are provided at the end of the checklist.

 Questions marked with this symbol may require the help of an outside expert.

Numerous tables in 29 CFR 1910.184 and 1926.251 give sling configuration, sling construction, sling diameter, and maximum load capacity. These tables have not been included as part of this checklist. For additional information, consult the OSHA regulations.

Natural and Synthetic Fiber Rope Slings

1 	Are fiber rope slings that are made from conventional three-strand construction fiber rope used only within their rated capacities and minimum diameter of curvature? [29 CFR 1910.184(h)(1)(i) and 1926.251(d)(1)] <i>Note: Consult the tables in the OSHA regulations or the manufacturer's requirements for permitted load ratings and diameter of curvature restrictions for the different rigging situations. Diameter of curvature is important since wrapping a sling around something at a diameter less than that recommended reduces the strength of the sling at the bend and could cause failure of the line.</i>
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Natural and Synthetic Fiber Rope Slings


2	Are natural and synthetic fiber rope slings used only within a temperature range of 120°F to 180°F? [29 CFR 1910.184(h)(2) and 1926.251(d)(3)]
3	If natural and synthetic fiber rope slings are used outside the temperature range of 120°F to 180°F or have been wetted or frozen, are the manufacturer's recommendations followed for continued use? [29 CFR 1910.184(h)(2) and 1926.251(d)(3)]
4 	Is the use of spliced fiber rope? <i>Note: Consult the OSHA regulations under 29 CFR 1910.184(h)(3) and 1926.251(d)(2) and (4) for additional requirements on splices.</i>
5	Do fiber rope slings have a minimum clear length of rope between eye splices equal to 10 times the rope diameter? [29 CFR 1910.184(h)(3)(iv) and 1926.251(d)(4)(iv)]
6	Is the use of knots in place of splicing prohibited for fiber rope slings? [29 CFR 1910.184(h)(3)(v) and 1926.251(d)(2)(v)]
7	Are fiber rope slings prohibited if the end attachments in contact with the rope have sharp edges or projections? [29 CFR 1910.184(h)(4) and 1926.251(d)(5)]
8	Are natural and synthetic fiber rope slings immediately removed from service if any of the following conditions are present? [29 CFR 1910.184(h)(5) and 1926.251(d)(6)] <ul style="list-style-type: none"> 1. Abnormal wear 2. Powdered fiber between strands 3. Broken or cut fibers 4. Variations in size or roundness of strands 5. Discoloration or rotting 6. Distortion of hardware in the slings
9	Are fiber rope slings only made from new rope; i.e., is the use of repaired or reconditioned fiber rope slings prohibited? [29 CFR 1910.184(h)(6)]

Synthetic Web Slings

10	Is each synthetic web slings marked or coated to show the rated capacity for each type of hitch and synthetic web material? [29 CFR 1910.184(i)(1) and 1926.251(e)(1)]
11	Is the synthetic webbing of uniform thickness and width? [29 CFR 1910.184(i)(2) and 1926.251(e)(3)] <i>Note: Selvage edges must not be split from the webbing's width.</i>
12	Do fittings have a minimum breaking strength equal to that of the sling? [29 CFR 1910.184(i)(3) and 1926.251(e)(4)]
13	Are fittings free of all sharp edges that could damage the webbing? [29 CFR 1910.184(i)(3) and 1926.251(e)(4)]
14	Is stitching the only method used to attach end fittings to webbing and to form eyes? [29 CFR 1910.184(i)(4) and 1926.251(e)(5)]
15 	Are synthetic web slings only used within their rated load capacity? [29 CFR 1910.184(i)(5) and 1926.251(e)(2)] <i>Note: Consult the tables in the OSHA regulations or the manufacturer's requirements for permitted load ratings for the different rigging situations.</i>
16	When synthetic web slings are used, are the following precautions taken? [29 CFR 1910.184(i)(6) and 1926.251(e)(6)] <ul style="list-style-type: none"> 1. Nylon web slings are not used where fumes, vapors, sprays, mists, or liquids of acids or phenolics are present. 2. Polyester and polypropylene web slings are not used where fumes, vapors sprays, mists, or liquids of caustics are present. 3. Web slings with aluminum fittings are not used where fumes, vapors, sprays, mists, or liquids of caustics are present.
17	Is the use of synthetic web slings of polyester and nylon above 180°F prohibited? [29 CFR 1910.184(i)(7) and 1926.251(e)(7)]

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Synthetic Web Slings

18	Is the use of polypropylene web slings above 200°F prohibited? [29 CFR 1910.184(i)(7) and 1926.251(e)(7)]
19	Are synthetic web slings only repaired by the sling manufacturer or another competent person or organization? [29 CFR 1910.184(i)(8)(i)]
20	Is each repaired sling proof tested by the manufacturer (or another competent person or organization) to twice the rated capacity before its return to service? Is a certificate of proof test available? [29 CFR 1910.184(i)(8)(ii)]
21	Is the use of temporarily repaired slings (including webbing and fittings) prohibited? [29 CFR 1910.184(i)(8)(iii)]
22	Are synthetic web slings immediately removed from service if any of the following conditions are present? [29 CFR 1910.184(i)(9) and 1926.251(e)(8)] <ol style="list-style-type: none"> 1. Acid or caustic burns 2. Melting or charring of any part of the sling surface 3. Snags, punctures, tears, or cuts 4. Broken or worn stitches 5. Distortion of fittings
23 	Are shackles and hooks only used within their safe working loads? [1926.251(f)]Note: Consult the OSHA regulations for the safe working loads of various sizes of shackles. Use the manufacturer's recommendations to determine the safe working loads for the various sizes and types of hooks. Test all hooks with no applicable manufacturer's recommendations at twice the intended safe working load before they are initially put into use. Maintain documentation of the dates and results of the test.

Definitions

Proof test: a nondestructive tension test performed by the sling manufacturer (or another competent person or organization) to verify construction and workmanship of a sling.

Sling: an assembly that connects the load to the material handling equipment.