Optional Information

Name of School: Date of Inspection:

Vocational Program/Course/Room: Signature of Inspector:

**Slings – Steel Chain, Wire Rope and Metal Mesh**

**Self Inspection Checklist**

**Guidelines:** This checklist covers part of the regulations issued by the U.S. Department of Labor - OSHA under the General Industry standards 29 CFR 1910.184 and the Construction standards 1926.251. All of these regulations were adopted by reference. It applies to slings used in conjunction with other material handling equipment to move material by lifting or hoisting. Definitions are provided at the end of the checklist to help you understand some of the questions. Questions marked with the symbol (⊕) may require the help of an outside expert.

Numerous tables are included as part of 29 CFR 1910.184 which relates sling configuration, sling construction, sling diameter and maximum load capacity. These tables have not be included as part of this checklist. For additional information, consult the OSHA regulations.

**Alloy Steel Chain Slings**

<table>
<thead>
<tr>
<th>Question</th>
<th>Y</th>
<th>N</th>
<th>N/A</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do alloy steel chain slings have permanently affixed durable identification stating the size, grade, rated capacity and reach? [29 CFR 1910.184(e) and 1926.251(b)(1)]</td>
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</tbody>
</table>

Comments/Corrective Action:
2. Do hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links or other attachments have rated capacities at least equal to that of the alloy steel chain with which they are used? [29 CFR 1910.184(e)(2) and 1926.251(b)(2)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>N/A</th>
<th>DK</th>
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</table>

3. Is the *slings* not used in excess of the rated capacity of the weakest component? [29 CFR 1910.184(e)(2)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
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<th>DK</th>
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</table>

4. Is the use of makeshift links or other fasteners formed from bolts or rods prohibited? [29 CFR 1910.184(e)(2)(ii) and 1926.251(b)(3)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
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<th>DK</th>
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</table>

5. Is a thorough inspection made of the alloy steel chain *slings* at least once every twelve months? [29 CFR 1910.184(e)(3)(i)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
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</table>

6. Are written records kept of the inspections of alloy steel chain *slings*? [29 CFR 1910.184(e)(3)(ii)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
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</thead>
</table>

7. Are thorough inspections of alloy steel chain *slings* performed by competent persons? The inspection must include inspection for wear, defective welds, deformation and increase in length. [29 CFR 1910.184(e)(3)(iii)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
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<th>DK</th>
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</thead>
</table>

8. Have new, repaired or reconditioned alloy steel chain *slings* been *proof tested* by the manufacturer and is a certificate of *proof test* available? [29 CFR 1910.184(e)(4)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>N/A</th>
<th>DK</th>
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</thead>
</table>

9. Is use of alloy steel chain *slings* in excess of the rated capacities prohibited? [29 CFR 1910.184(e)(5) and 1926.251(b)(4)]

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>N/A</th>
<th>DK</th>
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</thead>
</table>

Comments/Corrective Action:
<table>
<thead>
<tr>
<th></th>
<th>10. Are alloy steel chain slings permanently removed from service if heated above 1000° F? [29 CFR 1910.184(e)(5)]</th>
<th>Y N N/A DK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11. Are maximum working loads reduced in accordance with the manufacturer's recommendations if the chain or sling is exposed to temperatures in excess of 600° F? [29 CFR 1910(e)(5)]</td>
<td>Y N N/A DK</td>
</tr>
<tr>
<td></td>
<td>12. Have repaired and reconditioned alloy steel chain slings been proof tested by the sling manufacturer or an equivalent entity? [29 CFR 1910.184(e)(7)]</td>
<td>Y N N/A DK</td>
</tr>
<tr>
<td></td>
<td>13. Is the use of mechanical coupling links or low carbon steel repair links prohibited? [29 CFR 1910.184(e)(7)(ii)]</td>
<td>Y N N/A DK</td>
</tr>
<tr>
<td></td>
<td>14. Are slings removed from service if their hooks are cracked or have opened more than 15 percent of the normal throat opening (measured at the narrowest point)? [29 CFR 1910.184(e)(9)(ii)]</td>
<td>Y N N/A DK</td>
</tr>
<tr>
<td></td>
<td>15. Are slings removed from service if their hooks are twisted more than 10 degrees from the plane of the unbent hook? [29 CFR 1910.184(e)(9)(ii)]</td>
<td>Y N N/A DK</td>
</tr>
<tr>
<td></td>
<td>16. Are wire rope slings prohibited to be used in excess of their rated capacities? [29 CFR 1910.184(f)(1) and 1926.251(c)(1)]</td>
<td>Y N N/A DK</td>
</tr>
<tr>
<td></td>
<td>17. Are fiber core wire rope slings permanently removed from service if they are exposed to temperatures in excess of 200° F? [29 CFR 1910.184(f)(3)]</td>
<td>Y N N/A DK</td>
</tr>
</tbody>
</table>

Comments/Corrective Action:

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18. Are recommendations of the **sling** manufacturer followed when nonfiber core wire rope slings are used at temperatures above 400° F or below minus 60° F? [29 CFR 1910.184(f)(3)]

19. Is welding of end attachments performed prior to the assembly of the **sling**? [29 CFR 1910.184(f)(4)(i)]

20. Are all welded end attachments proof tested by the manufacturer or equivalent entity at twice their rated capacity prior to their initial use and is a certificate of proof test available? [29 CFR 1910.184(f)(4)(ii)]

21. Are wire rope slings immediately removed from service if any of the following conditions are present: [29 CFR 1910.184(f)(5) and 1926.251(c)(4)(iv)]

   (i) Ten randomly distributed broken wires in one rope lay, or five broken wires in one strand in one rope lay? Y N N/A DK

   (ii) Wear or scraping of one-third the original diameter of outside individual wires? Y N N/A DK

   (iii) Kinking, crushing, bird caging or other damage resulting in distortion of the wire rope structure? Y N N/A DK

   (iv) Evidence of heat damage? Y N N/A DK

   (v) End attachments that are cracked, deformed or worn? Y N N/A DK

Comments/Corrective Action:
(vi) Hooks that have been opened more than 15 percent of the normal throat opening measured at the narrowest point or hooks twisted more than 10 degrees from the plane of the unbent hook? Y N N/A DK

(vii) Corrosion of the rope or end attachments? Y N N/A DK

22. Are protruding ends of strands in splices covered or blunted? [29 CFR 1926.251(c)(2)] Y N N/A DK

Metal Mesh Slings

23. Does each metal mesh *sling* have a permanently affixed durable marking that states the rated capacity for vertical basket hitch and choker hitch loading? [29 CFR 1910.184(g)(1)] Y N N/A DK

24. Do *handles* have a rated capacity at least equal to the metal fabric and exhibit no deformation after *proof testing*? [29 CFR 1910.184(g)(2)] Y N N/A DK

25. Are fabric and *handles* joined so that: [29 CFR 1910.184(g)(3)]

(i) The rated capacity of the *sling* is not reduced? Y N N/A DK

(ii) The load is evenly distributed across the width of the fabric? Y N N/A DK

(iii) Sharp edges will not damage the fabric? Y N N/A DK

Comments/Corrective Action:
26. Is the use of coatings which diminish the rated capacity of the 
sling prohibited? [29 CFR 1910.184(g)(4)]

27. Are all new and repaired metal mesh slings and handles proof 
tested by the manufacturer or equivalent entity at a minimum 
of one and a half times their rated capacity and is a certificate 
of proof test available? [29 CFR 1910.184(g)(5)]

28. Are metal mesh slings permitted to be used in excess of their 
rated capacities? [29 CFR 1910.184(g)(6)]

29. Are the sling manufacturer's recommendations followed 
concerning safe operating temperatures? [29 CFR 
1910.184(g)(7)]

30. Are all repairs to metal mesh slings performed by the 
manufacturer or equivalent entity? [29 CFR 
1910.184(g)(8)(i)]

31. Once repaired, are metal mesh slings marked or tagged, or 
are written records maintained, to indicate the date and 
nature of the repair and the person or organization that 
performed the repairs? [29 CFR 1910.184(g)(8)(ii)]

32. Are metal mesh slings immediately removed from service if 
any of the following conditions are present: [29 CFR 
1910.184(g)(9)]

   (i) The weld or brazed joint is broken along the sling 
   edge?

   (ii) Reduction in wire diameter of 25 percent due to 
   abrasion or 15 percent due to corrosion?

Comments/Corrective Action:

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(iii) Lack of flexibility due to distortion of the fabric? Y N N/A DK
(iv) Distortion of the female *handle* so that the depth of the slot is increased more than 10 percent? Y N N/A DK
(v) Distortion of either *handle* so that the width of the eye is decreased more than 10 percent? Y N N/A DK
(vi) A 15 percent reduction of the original cross sectional areas of metal at any point around the *handle* eye? Y N N/A DK
(vii) Distortion of either *handle* out of its plane? Y N N/A DK

**Definitions:**

*Handle* is a terminal fitting to which metal mesh fabric is attached.

*Proof Test* means a nondestructive tension test performed by the sling manufacturer or an equivalent entity to verify construction and workmanship of a sling.

*Sling* means an assembly which connects the load to the material handling equipment.

Comments/Corrective Action: