

WORKER BEING EVALUATED: \_\_\_\_\_

EVALUATOR: \_\_\_\_\_

LOCATION: \_\_\_\_\_ DATE: \_\_\_\_\_

This evaluation form can be used as a demonstration or knowledge-based competency of a worker's understanding of a Metal Mesh Sling. It can be used by either Workers or Employers to assess their knowledge.

The ASME B30.9 Standard has been used for reference when compiling this evaluation. ASME B30.9 states that the Metal Mesh Sling Manufacturer specifications must also be referenced to provide specific information required for the Selection, Inspection, Limitations and Use.

<b>EMPLOYER</b> READ THE CAPITALIZED WORDS, can the Employer successfully explain and complete the following.	<b>YES</b>	<b>NO</b>
<b>1) COMPLIANCE TO STANDARDS</b> THE EMPLOYER TO VERIFY THE SLING IS COMPLIANT TO A STANDARD. Compliance to a standard should be confirmed in the manufacturer's specifications, <i>generally the ASME B30.9 standard in North America.</i>		
<b>2) DESIGN FACTORS</b> DOES THE EMPLOYER KNOW THE DESIGN FACTOR ASSOCIATED WITH THE SLING BEING USED? This is the point it will break above its rated load. <i>ASME B30.9 states 5:1 minimum.</i>		
<b>3) MANUFACTURERS SPECIFICATIONS</b> THE EMPLOYER MUST HAVE THE MANUFACTURERS SPECIFICATIONS READILY AVAILABLE. The only way a worker can be assessed is if they have been given the manufactures specification for the product being evaluated on, as manufactures specifications differ. <i>This information will provide the worker its limitations, use and inspection requirements.</i>		
<b>4) PERIODIC INSPECTIONS</b> THE EMPLOYER IS RESPONSIBLE TO ENSURE THAT THE SLING HAS HAD A PERIODIC INSPECTION. These are the inspections required by the ASME B30.9 standard that the employer must ensure are completed. <i>At a minimum annually.</i>		
<b>5) STORAGE</b> THE EMPLOYER IS RESPONSIBLE TO ENSURE PROPER SLING STORAGE WHEN NOT IN USE. Storage is important to stop or reduce possible damage to the sling whether it be mechanical, chemical, temperature or kinking related. <i>What is your company's storage policy?</i>		

<b>METAL MESH SLING KNOWLEDGE</b> Evaluator to READ THE CAPITALIZED WORDS and see if the worker can successfully explain the following.	<b>COMPETENT</b>	<b>NEEDS COACHING</b>
6) <b>MANUFACTURERS SPECIFICATIONS</b> DOES THE WORKER HAVE ACCESS TO THE MANUFACTURERS SPECIFICATIONS? The worker knows that manufacturers specification are available, where they are located, and why they have to be used.		
7) <b>DESIGN FACTORS</b> DOES THE WORKER KNOW THE DESIGN FACTOR ASSOCIATED WITH THE SLING BEING USED? The worker states the minimum required design factor of metal mesh slings. <i>ASME B30.9 states 5:1 minimum.</i>		
8) <b>PERIODIC INSPECTIONS</b> CAN THE WORKER VERIFY THAT THE SLING HAS HAD A PERIODIC INSPECTION? These are the annual inspections required by the employer to complete. <i>As stated in the ASME B30.9 standard.</i>		
9) <b>MARKINGS - MANUFACTURER</b> SHOW ME THE MANUFACTURERS NAME MARKING ON THE SLING. The manufacturer's name or trademark must be marked on the information tag. <i>This may be an actual name, but in some cases is a trademark or abbreviation.</i>		
10) <b>MARKINGS – RATED LOAD</b> SHOW ME THE RATED LOAD MARKING ON THE SLING. The rated load must be marked on the information tag. Usually marked with WLL “working load limit” followed by a number and unit that can be US or Metric <i>E.g. 2200 lbs. or maybe 1000 kg.</i>		
11) <b>MARKINGS – SLING ID</b> SHOW ME THE INDIVIDUAL SLING IDENTIFICATION MARKING ON THE SLING. The slings individual identification must be marked on the information tag. <i>So the sling has traceability for inspection or certification.</i>		
12) <b>TEMPERATURES</b> ASK THE WORKER WHAT THE TEMPERATURE RANGE FOR THE SLING IS FROM THE MANUFACTURER. AND HOW CAN THE WORKER VERIFY THIS? The worker knows extreme temperatures can affect the sling, ASME B30.9 states not below -29C or above 228 C. <i>The worker must confirm with the manufacturer as they may differ.</i>		

<b>METAL MESH SLING APPLICATION</b> Evaluator to READ THE CAPITALIZED WORDS and see if the worker can successfully explain the following.	<b>COMPETENT</b>	<b>NEEDS COACHING</b>
13) <b>REMOVAL CRITERIA</b> HAVE THE WORKER INSPECT THE SLING AND TELL YOU REASONS TO REMOVE THE SLING FROM SERVICE. 1. Missing or illegible identification, 2. Broken weld or a broken brazed joint along the sling edge, 3. Broken wire in any part of the mesh, 4. Reduction in wire diameter of 25% due to abrasion or 15% due to corrosion, 5. Lack of flexibility due to distortion of the mesh, 6. Distortion of the choker fitting so the depth of the slot is increased by more than 10%, 7. Distortion of either end fitting so the width of the eye opening is decreased by more than 10%, 8. A 15% reduction of the original cross-sectional area of any point around the hook opening of the end fitting, 9. Visible distortion of either end fitting out of its plane, 10. Cracked end fitting, 11. Slings in which the spirals are locked or without free articulation shall not be used, 12. Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken. <i>Manufacturer will give specific criteria and must be referenced.</i>		
14) <b>EDGE CONTACT</b> IF THE SLING IS BEING USED ON A SHARP EDGE OR SQUARE CORNER HAVE THE WORKER TELL YOU HOW TO PROTECT THE SLING. All slings must be protected with a material of sufficient strength, thickness, and construction to prevent damage to the sling.		

<p><b>15) <u>EDGE RADIUS</u></b> IF THE SLING IS BEING USED ON AN EDGE WITH A SMALL RADIUS HAVE THE WORKER TELL YOU THE EFFECT ON THE SLING. The slings rated load may be reduced if the edge radius is small. The worker must refer to the manufacturers' specifications. <i>Some manufactures do not allow chain to be used on corners.</i></p>		
<p><b>16) <u>CHOKE HITCH</u></b> IF THE SLING IS BEING USED IN A CHOKE HITCH HAVE THE WORKER TELL YOU ITS RATING. A slings choke rating is not usually identified on the tag. Choke ratings are based on a 120° choke angle and are generally 100% of vertical hitch. <i>If the choke angle is less than 120° the worker needs to identify its reduced ratings using the manufacturers specifications.</i></p>		
<p><b>17) <u>LOAD DISTRIBUTION - CHOKE HITCH</u></b> IF THE SLING IS BEING USED IN A CHOKE HITCH HAVE THE WORKER TELL HOW THE LOAD SHOULD BE DISTRIBUTED. The load should be evenly distributed across the width of the metal mesh and the load should be balanced to prevent edge overload. <i>Manufacturer will give specific criteria and must be referenced.</i></p>		
<p><b>18) <u>BASKET HITCH</u></b> IF THE SLING IS BEING USED IN A BASKET HITCH HAVE THE WORKER TELL YOU ITS RATING. A slings basket rating is not usually identified on the tag. Basket ratings are based on a 90° vertical hitch angle. <i>If the basket angle is less than 90° the worker needs to identify its reduced ratings using the manufacturers specifications.</i></p>		
<p><b>19) <u>LOAD DISTRIBUTION – BASKET HITCH</u></b> IF THE SLING IS BEING USED IN A BASKET HITCH HAVE THE WORKER TELL HOW THE LOAD SHOULD BE DISTRIBUTED. The load should be evenly distributed across the width of the metal mesh and the load should be balanced to prevent</p>		
<p><b>20) <u>LOAD DISTRIBUTION – MULTIPLE SLINGS</u></b> IF MULTIPLE SLINGS ARE BEING USED TO LIFT A LOAD HAVE THE WORKER TELL HOW THE SLINGS SHOULD BE DISTRIBUTED. Slings used in pairs should be attached to a spreader beam. <i>Manufacturer will give specific criteria and must be referenced.</i></p>		
<p><b>21) <u>ADJUSTING SLING LENGTH</u></b> IF THE SLINGS LEG LENGTH NEEDS TO BE SHORTENED HAVE THE WORKER TELL YOU ACCEPTABLE WAYS TO SHORTEN THE LENGTH. Slings shall be shortened or adjusted only by methods approved by the sling manufacturer or a qualified person, they cannot be knotted or twisted. <i>Manufacturer will give specific criteria and must be referenced.</i></p>		
<p><b>22) <u>SLING ANGLES</u></b> IF THE SLING IS BEING USED AT AN ANGLE HAVE THE WORKER TELL YOU THE ANGULAR RESTRICTIONS FOR THE SLING. Slings are restricted to a minimum horizontal sling angle. The worker must be aware of the minimum allowable horizontal sling angle from the manufacturer. <i>ASME B30.9 states the minimum horizontal sling angle is 30 degrees.</i></p>		
<p><b>23) <u>SLING TENSION</u></b> IF THE SLING IS BEING USED OTHER THAN VERTICAL HAVE THE WORKER TELL YOU HOW THIS AFFECTS THE SLINGS TENSION. As the horizontal sling angle decreases the sling tension increase. The worker must be aware of the effects of the horizontal sling angle by referring to the manufacturers' specifications. <i>Normally if the horizontal sling angle is 60 degrees the tension increases by 1.155 times (15%), at 45 degrees the tension increases by 1.414 times (41%) and at 30 degrees the sling tension increase by 2 times (100%).</i></p>		
<p><b>24) <u>STORAGE</u></b> HAVE THE WORKER TELL YOU WHERE THE SLING IS KEPT WHEN NOT IN USE. Storage is important to stop or reduce possible damage to the sling whether it be mechanical, corrosive, moisture, temperature or kinking related.</p>		

**COMMENTS:**

**SIGNATURE OF WORKER BEING EVALUATED:**

X \_\_\_\_\_

**SIGNATURE OF EVALUATOR:**

X \_\_\_\_\_