

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 Synthetic Rope 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 Synthetic Rope 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.	YES	NO
<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, ultraviolet or temperature related. <i>What is your company's storage policy?</i>		

<b>SYNTHETIC ROPE 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>
<b>6) 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.		
<b>7) 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 synthetic rope slings. <i>ASME B30.9 states 5:1 minimum.</i>		
<b>8) 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>		
<b>9) 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>		
<b>10) MARKINGS – CODE OR STOCK NUMBER</b> SHOW ME THE MANUFACTURERS CODE OR STOCK NUMBER MARKING ON THE SLING. The manufacturers code or stock number must be marked on the information tag. <i>So the sling has traceability for inspection or certification.</i>		
<b>11) 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>		
<b>12) MARKINGS – MATERIAL</b> SHOW ME THE SYNTHETIC ROPE MATERIAL MARKING ON THE SLING. The synthetic rope material must be marked on the information tag. <i>Synthetic rope slings are normally made from Nylon or Polyester</i>		
<b>13) MARKINGS - LEGS</b> SHOW ME THE NUMBER OF LEGS MARKING ON THE SLING. The number of legs must be marked on the information tag if the sling has more than one leg. <i>The slings rated load is based on its number of legs.</i>		
<b>14) 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 -40C or above 90 C. <i>The worker must confirm with the manufacturer as they may differ.</i>		

<b>SYNTHETIC ROPE 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>
<b>15) 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. Cuts, gouges, areas of extensive fiber breakage along the length, and abraded areas on the rope, 3. Damage that has reduced the effective diameter of the rope by more than 10%, 4. Uniform fiber breakage such that the entire rope appears covered with fuzz or whiskers, 5. Inside the rope, fiber breakage, fused or melted fiber involving damage estimated at 10% of the fiber in any strand or the rope as a whole, 6. Discoloration, brittle fibers, and hard or stiff areas that may indicate chemical damage, ultraviolet damage, or heat damage, 7. Dirt and grit in the interior of the rope structure that is deemed excessive, 8. Foreign matter that has permeated the rope, 9. Kinks or distortion in the rope structure, 9. Melted, hard, or charred areas that affect more than 10% of the diameter of the rope or affect several adjacent strands along the length that affect more than 10% of strand diameters, 10. Poor condition of thimbles or other components manifested by corrosion, cracks, distortion, sharp edges or localized wear. <i>Manufacturer will give specific criteria and must be referenced.</i>		
<b>16) EYE DIAMETER</b> IF THE OBJECT THE SLING EYE IS ATTACHED TO IS LARGE IN DIAMETER HAVE THE WORKER TELL YOU IF THE SLING WOULD BE AFFECTED? Over filling the sling eye will cause extra stress on the sling splice. <i>ASME B30.9 states, an object in the eye of a sling should not be wider than one-third the length of the eye.</i>		
<b>17) 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.		
<b>18) EDGE RADIUS</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 may not allow rope slings to be used on corners.</i>		
<b>19) CHOKE HITCH</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 75% 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>		
<b>20) BASKET HITCH</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>		
<b>21) BASKET HITCHES D:d RATIOS</b> IF THE SLING IS BEING USED AROUND A DIAMETER HAVE THE WORKER TELL YOU IF THE RATED LOAD WOULD NEED TO BE REDUCED. The worker should give you the de-rated value based on your manufacture's specifications. <i>ASME B30.9 states, If the diameter of the load is less than 8 times the ropes diameter the slings rated load must be reduced.</i>		

<p><b>22) DOUBLE WRAPPING</b> IF THE SLING IS DOUBLE WRAPPED AROUND THE LOAD HAVE THE WORKER TELL YOU THE EFFECT ON THE SLING. Double wrapping the sling will assist with load control by reducing the possibility of the sling slipping or sliding along the load. The worker must ensure the sling does not cross over itself below the load.</p>		
<p><b>23) SLING ANGLES</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>24) SLING TENSION</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>25) BRIDLE SLINGS</b> IF A BRIDLE SLING IS BEING USED HAVE THE WORKER TELL YOU ITS RATING AT 60, 45 AND 30 DEGREES. The worker must be able to reference the rated loads from the manufacturer charts. <i>As slings are only required to be marked for one angle.</i></p>		
<p><b>26) BRIDLE SLINGS</b> IF A BRIDLE IS BEING USED HAVE THE WORKER TELL YOU ITS SINGLE LEG RATING. The worker must reference the manufacturers chart to assess the slings single leg rated load. <i>The bridle will not provide individual leg ratings.</i></p>		
<p><b>27) MOISTURE</b> IF THE SLING IS BEING USED IN A WET ENVIRONMENT HAVE THE WORKER TELL YOU HOW THIS MAY AFFECTS THE SLING. The worker knows water absorption can decrease the strength of nylon rope slings by as much as 15% although its strength will return when the sling dries completely. Slings exposed to saltwater should be thoroughly rinsed with fresh water to prevent mechanical damage from salt crystals when the rope dries. <i>Polyester webbing slings are recommended in wet environments.</i></p>		
<p><b>28) CHEMICALS</b> IF THE SLING IS BEING EXPOSED TO ACIDS OR ALKALIS HAVE THE WORKER TELL YOU THE POSSIBLE EFFECTS TO THE SLING. The worker knows exposing the sling to acids or alkalis can damage the sling from little to total degradation. <i>Nylon is resistant to many alkalis and polyester is resistant to many acids, but the worker must check the manufacturers for specific information.</i></p>		
<p><b>29) STORAGE</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, chemical, ultraviolet, or temperature related. <i>Ultraviolet damage will cause the sling to become discoloured, brittle or stiff and results in a significant reduction in the slings rated load.</i></p>		

**COMMENTS:**

**SIGNATURE OF WORKER BEING EVALUATED:**

X \_\_\_\_\_

**SIGNATURE OF EVALUATOR:**

X \_\_\_\_\_