



SCRAP & MATERIAL HANDLING GRAPPLE COMPETENCY ASSESSMENT

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 Scrap and Material Handling Grapple. It can be used by either Workers or Employers to assess their knowledge.

The ASME B30.20 Standard has been used for reference when compiling this evaluation. ASME B30.20 states that the Scrap and Material Handling Grapple Manufacturer specifications must also be referenced to provide specific information required for the Selection, Inspection, Limitations and Use.

EMPLOYER READ THE CAPITALIZED WORDS, can the Employer successfully explain and complete the following.	YES	NO
1) COMPLIANCE TO STANDARDS THE EMPLOYER TO VERIFY THE GRAPPLE IS COMPLIANT TO A STANDARD. Compliance to a standard should be confirmed in the manufacturers' specifications, <i>generally the ASME B30.20 standard in North America.</i>		
2) DESIGN FACTORS DOES THE EMPLOYER KNOW THE DESIGN FACTOR ASSOCIATED WITH THE GRAPPLE BEING USED? This is the point it will break above its rated load. The minimum required design factor of grapples is based on the service class. <i>The manufacturer must be consulted.</i>		
3) MANUFACTURERS SPECIFICATIONS 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>		
4) PERIODIC INSPECTIONS THE EMPLOYER IS RESPONSIBLE TO ENSURE THAT THE GRAPPLE HAS HAD A PERIODIC INSPECTION. These are the inspections required by the ASME B30.20 standard that the employer must ensure are completed. <i>At a minimum annually.</i>		
5) STORAGE THE EMPLOYER IS RESPONSIBLE TO ENSURE PROPER GRAPPLE STORAGE WHEN NOT IN USE. Storage is important to stop or reduce possible damage to the grapple whether it be mechanical, chemical or temperature related. <i>What is your company's storage policy?</i>		

GRAPPLE KNOWLEDGE Evaluators to READ THE CAPITALIZED WORDS and see if the worker can successfully explain the following.	COMPETENT	NEEDS COACHING
6) MANUFACTURERS SPECIFICATIONS 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) DESIGN FACTORS DOES THE WORKER KNOW THE DESIGN FACTOR ASSOCIATED WITH THE GRAPPLE BEING USED? The worker states the minimum required design factor of grapples is based on the service class. <i>The manufacturer must be consulted.</i>		
8) PERIODIC INSPECTIONS CAN THE WORKER VERIFY THAT THE GRAPPLE HAS HAD A PERIODIC INSPECTION? These are the annual inspections required by the employer to complete. As stated in the ASME B30.20 standard. <i>Records should be available for each periodic inspection and when the grapple is either altered or repaired.</i>		
9) MARKINGS - MANUFACTURER SHOW ME THE MANUFACTURERS NAME MARKING ON THE GRAPPLE The manufacturer's name and contact information must be marked on the grapple. <i>This may be an actual name, but in some cases is a trademark or abbreviation, the contact information may be an address, telephone number or website.</i>		
10) MARKINGS – SERIAL NUMBER SHOW ME THE SERIAL NUMBER MARKING ON THE GRAPPLE. The serial number must be marked on the grapple. <i>It gives the grapple its own unique unit identifier.</i>		
11) MARKINGS – GRAPPLE WEIGHT SHOW ME THE GRAPPLE WEIGHT MARKING ON THE GRAPPLE. The grapple own weight must be marked on the grapple. <i>The grapple becomes part of the total weight attached to the lifting hoist/crane.</i>		
12) MARKINGS – VOLTAGE REQUIREMENTS SHOW ME THE RATED VOLTAGE MARKING ON THE GRAPPLE. the voltage must be marked on the grapple, if applicable. <i>This would be applicable if the grapple has powered movement.</i>		
13) MARKINGS – OPERATING HYDRAULIC PRESSURES SHOW ME THE OPERATING HYDRAULIC PRESSURES MARKING ON THE GRAPPLE. The operating hydraulic pressures must be marked on the grapple, if applicable. <i>this would be applicable if the grapple has powered movement. Usually marked with Bar or PSI.</i>		
14) MARKINGS – RATE LOAD SHOW ME THE RATED LOAD MARKING ON THE GRAPPLE. The rated load must be marked on the grapple. Usually marked with WLL “working load limit” followed by a number and unit that can be US or Metric <i>E.g. 1 Ton, 2000 lbs. or maybe 1Tonne, 1000 kg.</i>		
15) MARKINGS – DESIGN CATEGORY SHOW ME THE DESIGN CATEGORY MARKING ON THE GRAPPLE. the design category must be marked on the grapple. <i>Design category refers to the grapple static strength criteria</i>		
16) MARKINGS – SERVICE CLASS SHOW ME THE SERVICE CLASS MARKING ON THE GRAPPLE. The service class must be marked on the grapple. <i>Service Class refers to grapple fatigue life criteria.</i>		
17) MARKINGS – OPERATING CONTROLS SHOW ME THE OPERATING CONTROLS LABEL ON THE GRAPPLE. Each control shall be clearly marked describing resulting motion or function of the grapple. <i>The worker must refer to instruction manuals for additional information.</i>		

<p>18) TEMPERATURES WHAT IS THE TEMPERATURE RANGE OF THE GRAPPLE FROM THE MANUFACTURER? AND HOW CAN THE WORKER VERIFY THIS. The worker knows temperatures exceeding normal ambient temperatures can affect the grapple, the temperature of the load shall not exceed the maximum allowable limits of the grapple. <i>The worker must confirm with the manufacturer as they may differ.</i></p>		
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<p>GRAPPLE APPLICATION Evaluators to READ THE CAPITALIZED WORDS and see if the worker can successfully explain the following.</p>	<p>COMPETENT</p>	<p>NEEDS COACHING</p>
<p>19) REMOVAL CRITERIA HAVE THE WORKER TELL YOU REASONS TO REMOVE THE GRAPPLE FROM SERVICE. 1. Structural members if deformed, cracked or worn, 2. Pins and bushings for wear or damage, 3. Hydraulic lines for leaking, blistering and excessive abrasion, 4. Hydraulic cylinders for drifting, leakage, scores, nicks dents, loose or deformed rod eyes or connecting joints, 5. Hydraulic motors for loose bolts or fasteners, leaks, unusual noises or vibration, loss of operating speed, excessive heating of the fluid or loss of pressure, 6. Magnets if a combination magnet/grapple, 7. Electrical components for correct operation of electrohydraulic grapples, 8. Loose bolts, 9. Missing or illegible operating control markings, <i>Manufacturer may give specific criteria and must be referenced.</i></p>		
<p>20) LOAD ATTACHMENT IF A LOAD IS LIFTED WITH A GRAPPLE HAVE THE WORKER TELL YOU HOW THE LOAD MUST BE ATTACHED? The worker knows that the grapple must be positioned above the loads center of gravity to achieve balance, and functions must be operated in a smooth controlled manner. <i>The operator shall ensure that the grapple is adequately protected from damage during use.</i></p>		
<p>21) LOAD DISTRIBUTION IF A LOAD IS LIFTED WITH A GRAPPLE HAVE THE WORKER TELL YOU HOW THE LOAD MUST BE DISTRIBUTED? The worker knows that the load must be as evenly distributed as possible, shall not be loaded in excess of the grapples rated load or handle any load for which it is not designed. <i>Manufacturers will give specific criteria and must be referenced.</i></p>		
<p>22) LOAD SECURITY IF THE GRAPPLE IS BEING USED TO LIFT A LOAD HAVE THE WORKER TELL YOU WHAT COULD AFFECT LOAD SECURITY. The worker knows that load size, balance, bending, thickness and temperature can affect the grapples load securement capabilities. The temperature of the load shall not exceed the maximum allowable limits of the grapple. Do not allow load or grapple to come into contact with any obstruction. <i>Manufacturer may give specific criteria and must be referenced.</i></p>		
<p>23) STORAGE HAVE THE WORKER TELL YOU WHERE THE GRAPPLE IS KEPT WHEN NOT IN USE. The worker must land any attached load and store the grapple before leaving the device. Storage is important to stop or reduce possible damage to the grapple whether it be mechanical, corrosive or temperature related. <i>Manufacturer may give specific criteria and must be referenced.</i></p>		

COMMENTS:

SIGNATURE OF WORKER BEING EVALUATED:

X _____

SIGNATURE OF EVALUATOR:

X _____