RIGGING RESOURCE CENTRE

# POLYESTER ROUNDSLING
# Tool Box Talk

The objective of this Tool Box Talk is that it can be used as part of a safety meeting that focuses on the use of Polyester Roundslings in the workplace. The ASME B30.9 standard has been referenced when compiling this document as this is the most recognized standard used in North America for selection, inspection, cautions to personnel, effects of environment, and rigging practices of slings.

Ask members of the meeting to give answers to the following, encouraging participation whether their answers are right or wrong.

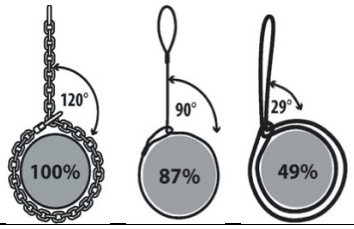
| LEGISLATION | ANSWER |
|---|---|
| **1)** WHAT STANDARDS SHOULD THE SLING COMPLY WITH? | **ASME B30.9 standard.** |
| **2)** WHAT OTHER INFORMATION MUST BE REFERENCED? | **Manufacturers Specifications** |
| **3)** HOW OFTEN DO PERIODIC INSPECTIONS NEED TO BE CARRIED OUT? | **At least annually (ASME), *but state what your company rules are.*** |
| **MARKINGS** | **ANSWER** |
| **4)** WHAT 6 ITEMS ARE REQUIRED TO BE MARKED ON THE SLING? | **1. Manufacturer, 2. Code or Stock Number, 3. Rated load, 4. Core Material, 5. Cover material (if different to core), 6. Number of legs** |
| **APPLICATION** | **ANSWER** |
| **5)** WHAT ARE THE TEMPERATURE RANGES FOR THE SLING? | **Minus 40 to plus 90 Celsius.** |
| **6)** NAME SOME REASONS WHY THE SLING MAY HAVE TO BE REMOVED FROM SERVICE? | **1. Missing or illegible identification, 2. Acid or caustic burns, 3. Evidence of heat damage, 4. Holes, tears, cuts or snags, 5. Broken or damaged core yarns, 6. Weld spatter that exposes core yarns, 7. Knots, except for core yarn knots inside the cover, 8. Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken.** |
| **7)** ON A BRIDAL (MULTI-LEGGED) SLING WHAT HORIZONTAL ANGLE IS THE RATED LOAD NORMALLY BASED ON? | **It is generally based on the horizontal sling angle of 60°** |
| **8)** IF THE SLING IS USED AROUND AN EDGE OR CORNER WHAT MUST BE USED TO PROTECT THE SLING? | **Softeners - ask what is good to use as softeners and what is not good. *Polyester Roundslings have minimum radius and diameters they can be used around, manufacturers charts must be referenced.*** |

| Vertical Rated Capacity | Minimum Edge Radii | Minimum Edge Radii** |
|---|---|---|
| (Lbs.) | (Inches) | (Inches) |
| 2,600 | 0.14 | **3/16** |
| 5,300 | 0.21 | **1/4** |
| 8,400 | 0.26 | **5/16** |
| 10,600 | 0.30 | **5/16** |
| 13,200 | 0.33 | **3/8** |
| 16,800 | 0.40 | **7/16** |
| 21,200 | 0.41 | **7/16** |
| 25,000 | 0.44 | **7/16** |
| 31,000 | 0.50 | **1/2** |
| 40,000 | 0.56 | **9/16** |
| 53,000 | 0.67 | **11/16** |
| 66,000 | 0.72 | **3/4** |
| 90,000 | 0.87 | **7/8** |

**9)** WHAT HAPPENS TO THE RATED LOAD IF THE SLINGS BASKET HITCH IS NOT USED AT 90°?

**When the hitch angle is less than 90 degrees the rated load reduces. (15% @ 60°, 30% @ 45°, AND 50% @ 30°)**

**10)** WHAT HAPPENS TO THE RATED LOAD IF THE SLINGS CHOKE HITCH IS TIGHTENED AGAINST THE LOAD?

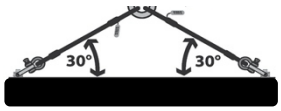



**When the hitch angle is less than 120 degrees the rated load reduces.**

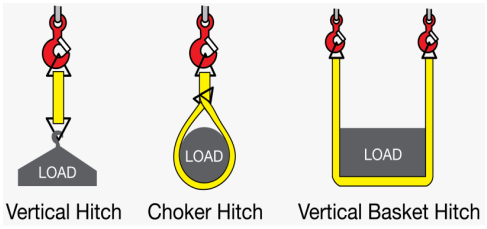
| Choker hitch rated capacity adjustment | |
|---|---|
| Angle of choke in degrees | Rated capacity |
| Over 120 | 100% |
| 90 - 120 | 87% |
| 60 - 89 | 74% |
| 30 - 59 | 62% |
| 0 - 29 | 49% |

**11)** WHAT IS THE LOWEST RECOMMENDED HORIZONTAL SLING ANGLE TO USE THE SLING?

**30 Degrees**




**12)** HOW ARE SLINGS AFFECTED BY DIFFERENT ANGLES AND HITCHES?




**Check with the manufacturers' charts for different configurations.**

| Size | Hitch Type | | | Horizontal Angle, deg | | |
|---|---|---|---|---|---|---|
| | Vertical | Choker | Vertical Basket | 60° | 45° | 30° |
| 1 | 2,600 | 2,100 | 5,200 | 4,500 | 3,700 | 2,600 |
| 2 | 5,300 | 4,200 | 10,600 | 9,200 | 7,500 | 5,300 |
| 3 | 8,400 | 6,700 | 16,800 | 14,500 | 11,900 | 8,400 |
| 4 | 10,600 | 8,500 | 21,200 | 18,400 | 15,000 | 10,600 |
| 5 | 13,200 | 10,600 | 26,400 | 22,900 | 18,700 | 13,200 |
| 6 | 16,800 | 13,400 | 33,600 | 29,100 | 23,800 | 16,800 |
| 7 | 21,200 | 17,000 | 42,400 | 36,700 | 30,000 | 21,200 |
| 8 | 25,000 | 20,000 | 50,000 | 43,300 | 35,400 | 25,000 |
| 9 | 31,000 | 24,800 | 62,000 | 53,700 | 43,800 | 31,000 |
| 10 | 40,000 | 32,000 | 80,000 | 69,300 | 56,600 | 40,000 |
| 11 | 53,000 | 42,400 | 106,000 | 91,800 | 74,900 | 53,000 |
| 12 | 66,000 | 52,800 | 132,000 | 114,300 | 93,300 | 66,000 |
| 13 | 90,000 | 72,000 | 180,000 | 155,900 | 127,300 | 90,000 |

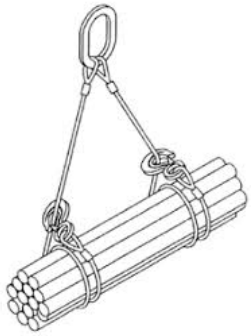
**13)** WHERE IS THE BEST PLACE TO STORE SLING?

**Where they will not be affected by mechanical damage, corrosion, moisture, or adverse temperatures.**

**14)** HOW ARE THE SLINGS AFFECTED BY CHEMICALS?

**Nylon is resistant to many alkalis and polyester is resistant to many acids, but the worker must check with the manufacturer for specific information.**

**15)** WHAT ARE THE ADVANTAGES OF DOUBLE WRAPPING THE SLING WHEN MAKING A HITCH?



**Double wrapping the sling will assist with load control by reducing the possibility of the sling slipping or sliding along the load.**