The listed capacities of wire rope slings & assemblies in this catalog are based on the industry standard of a 5 to 1 design factor. This is the method used to determine the working load limit (WLL) of a sling: minimum breaking strength of the wire rope (MBL) multiplied by the efficiency of the splice or end fittings divided by the design factor 5.

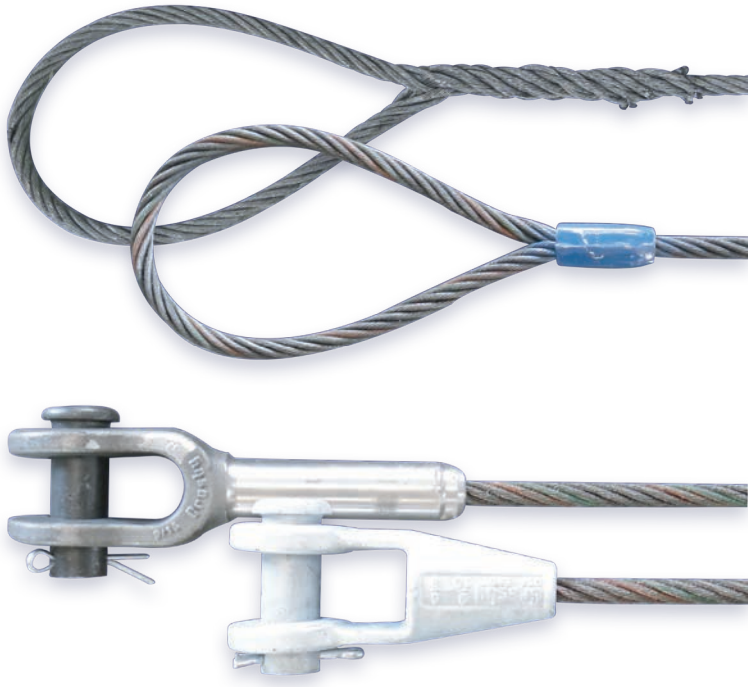
The factors listed below affect the capacity of a wire rope sling:

- Efficiency of the end termination or eye splice
- Type of hitch being used when lifting the load
- Diameter of the item being lifted where the sling is attached
- Diameter of the hook or shackle where the sling attaches to the lifting device

EFFICIENCY OF THE END TERMINATION OR EYE SPLICE

Hand spliced eyes:

Rope Diameter	Efficiency
1/4"	**90%**
5/16"	**89%**
3/8"	**88%**
7/16"	**87%**
1/2"	**86%**
9/16"	**85%**
5/8"	**84%**
3/4"	**82%**
7/8" to 2-1/2"	**80%**



Mechanical spliced eyes:

Rope Diameter (IWRC)	Efficiency
1/4" to 1"	**95%**
1-1/8" to 2"	**92.5%**
2-1/4" to 4-1/2"	**90%**

Swage and spelter sockets:

Rope Diameter	Efficiency
1/4" to 4-1/2"	**100%**

TYPE OF HITCH BEING USED WHEN LIFTING THE LOAD:

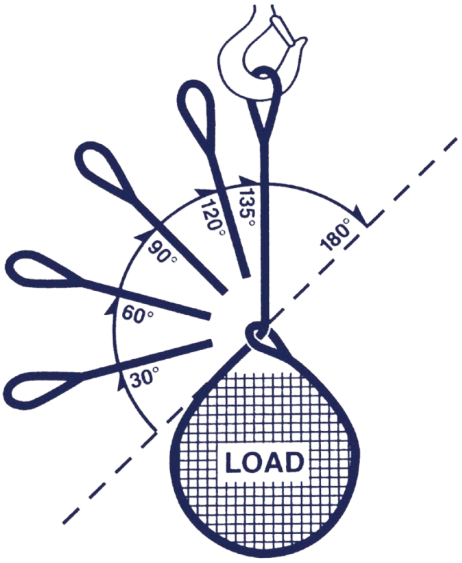
Vertical Pull:

A vertical pull is when a sling is hitched in a straight line between the lifting device and load to lift it vertically. It is crucial to use appropriate rigging and equipment rated for the load to prevent accidents and ensure safety.

Choker Hitch:

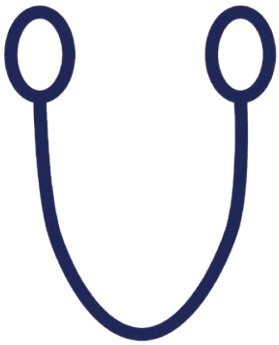
A choker hitch involves passing the eye on one end of the sling through the eye on the other end and choking the sling around the load. It's important to note that a sling used in a choker hitch has a reduced capacity, as shown in the chart below.

Angle of Choke	% of Choker Capacity
Over 120	**100%**
90-120	**87%**
60-89	**74%**
30-59	**62%**
0-29	**49%**



Vertical Basket Hitch:

A vertical basket hitch is where the body of the sling supports the load being lifted and the two ends of the sling are attached to the lifting device.



SLING CAPACITIES WHEN RIGGED AT VARIOUS ANGLES

Load Factor Guidelines

Leg Angle	Load Factor
90°	**1.000**
85°	**1.003**
80°	**1.015**
75°	**1.035**
70°	**1.064**
65°	**1.103**
60°	**1.154**
55°	**1.220**
50°	**1.305**
45°	**1.414**
40°	**1.555**
35°	**1.743**
30°	**2.000**

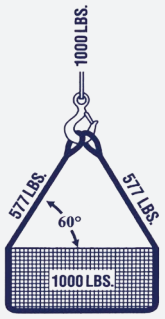
EXAMPLE

A. Vertical lift:

Total load is 1,000 lbs. divided by two legs = 500 lbs. load per leg if vertical lift

B. Horizontal sling angle is 60 degrees:

Multiply 500 lbs. by 1.154 load factor (from table) = 577 lbs. Actual load per leg.



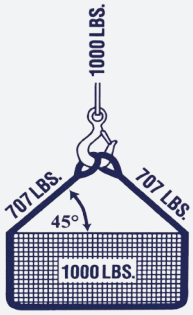
EXAMPLE

A. Vertical lift:

Total load is 1,000 lbs. divided by two legs = 500 lbs. load per leg if vertical lift

B. Horizontal sling angle is 45 degrees:

Multiply 500 lbs. by 1.414 load factor (from table) = 707 lbs. Actual load per leg.



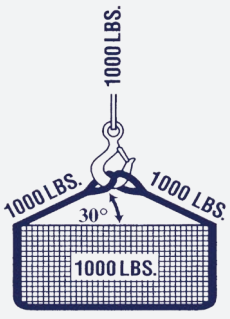
EXAMPLE

A. Vertical lift:

Total load is 1,000 lbs. divided by two legs = 500 lbs. load per leg if vertical lift

B. Horizontal sling angle is 30 degrees:

Multiply 500 lbs. by 2.000 load factor (from table) = 1000 lbs. Actual load per leg.



WARNING:

Slings shall not be used with horizontal angles less than 30°.