



**Slings**

## 1 INTRODUCTION

EMCOCABLES® use Improved Plow Steel as the base material and using aluminum or steel rods placed under high pressure, to manufacture slings with the highest international standards.

EMCOCABLES® slings are widely used in every kind of industry: maritime, oil, mining and other fields in which handling of a cargo load is required. The necessity for slings is almost permanent for any application.

## 2 THEIR DEFINITION, COMPONENTS, AND ADVANTAGES

A sling is an element designed to connect to a cargo load that needs to be elevated, moved or rotated in conjunction with an element such as a crane's hook.

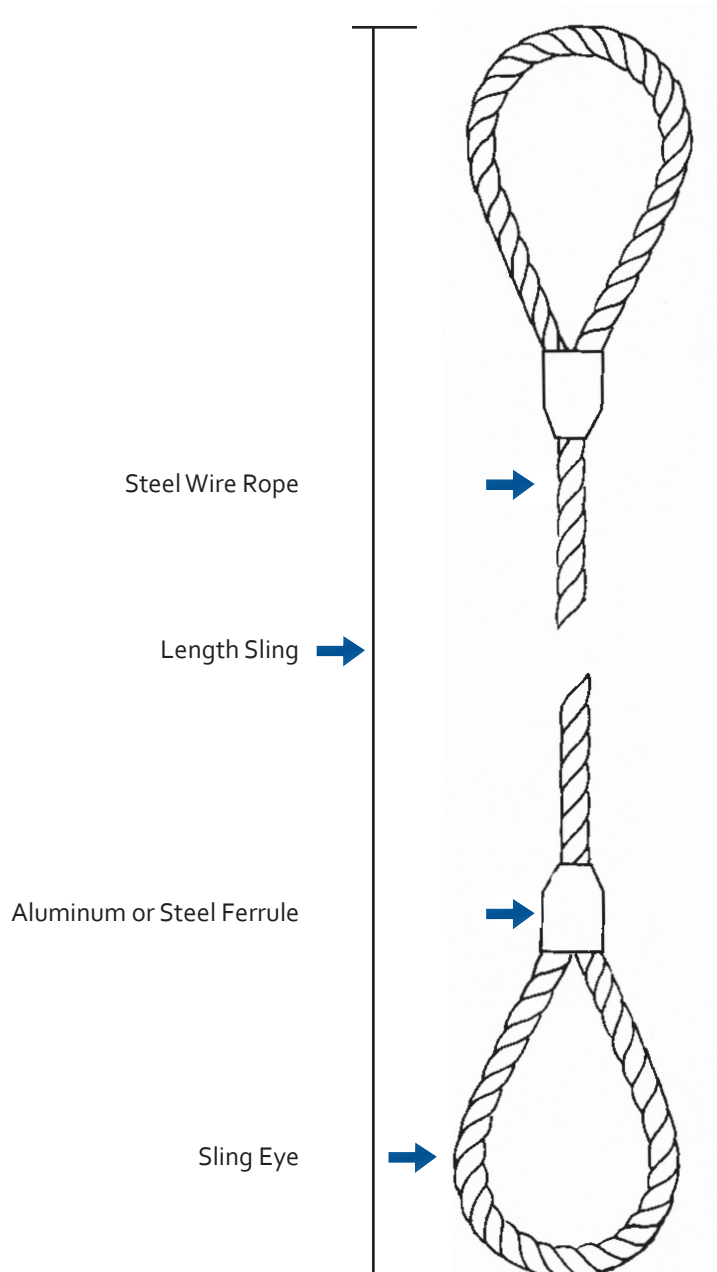
The sling is the tool most used around the world for the movement and maneuvering of all kinds of cargo for the following reasons:

- Technically designed for whatever the sling will be used
- Economical
- Long life
- Ease and security of movement
- Cargo protection

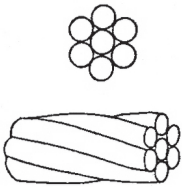




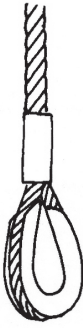

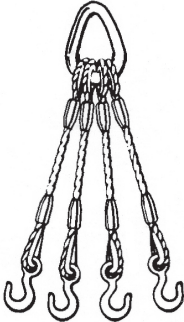


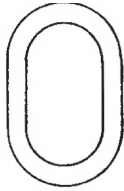
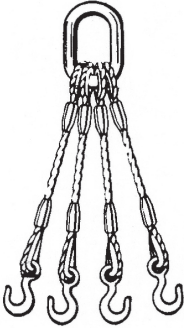
Regardless, as is the case with any machine, a sling requires care and should be inspected in order to determine that it is able to carry out the movements that are asked from it.

### Simple Sling

Basic sling, with multiple individual applications, as well as a start point for any specialized sling.



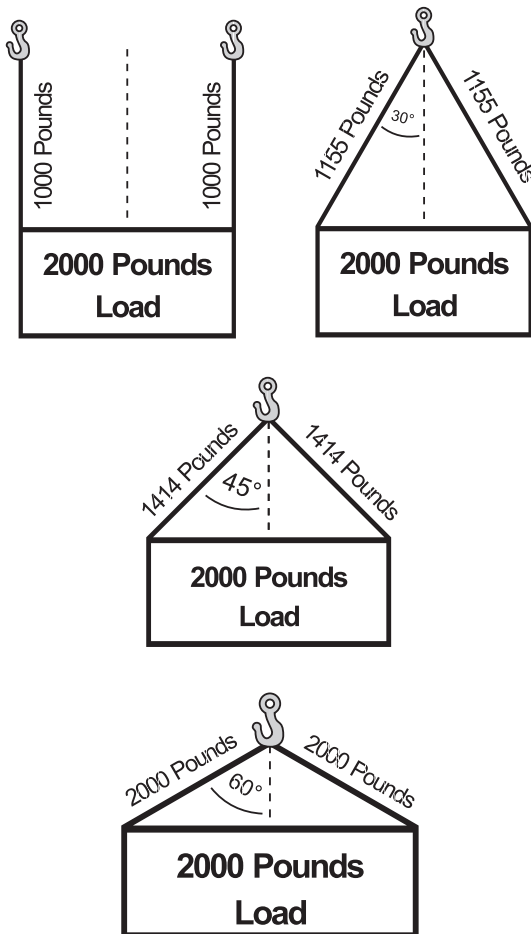
## 3 | BASIC ELEMENTS OF A SLING

 <p><b>Steel Wire Rope</b></p> <p>Can be manufactured with a steel or fiber core and in various basic constructions.</p>		<p><b>Sliding Hook</b></p> <p>Made of high resistance wrought steel and covered with an anti-oxidation paint. The hook slides down the cable, forming a knot that allows for usage with various different cargos. Especially useful for round or irregular loads.</p> 	
 <p><b>Cable Guard</b></p> <p>Made from extra resistant galvanized steel. Protects the cable against wear or damage on the interior of the sling.</p>		<p><b>Pear Shaped Ring</b></p> <p>Made from high resistance wrought steel with no seams. Allows the integration of various slings to one unit, augmenting its capacity. This allows for easier maneuvering of the load.</p> 	
 <p><b>Fixed Hook</b></p> <p>Made from high resistance wrought steel. Thermally treated and painted to prevent oxidation.</p>		<p><b>Elliptical Ring</b></p> <p>Made from high resistance wrought steel with no seams. Allows the integration of various slings to one unit, augmenting its capacity. This allows for easier maneuvering of the load.</p> 	

## 4 | LIFTING CAPACITY

The rated capacity of a sling is the maximum load (in tons) for which it is designed to operate under normal conditions. This is based on the break load of cable, the design factor, number of branches, type of sling (simple, basket, or traveling), load angle and diameter of the curve around which the sling is bent.

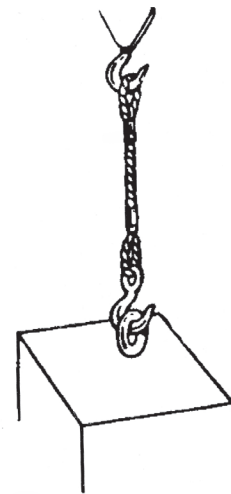
The capacity of elevation of any sling decreases as the angle with the vertical increases



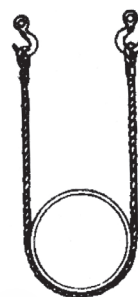
## 5 | NUMBER OF BRANCHES

### 5.1. Single Branch Slings

The single branch sling is the basic sling. A great amount of single branch slings can be produced by adding different amounts and kinds of elements. It can be used "vertically" or "simply," which means it is wrapped around the cargo in the shape of a basket. Also, the "traveling" method can be used.



Vertical single sling



Choker



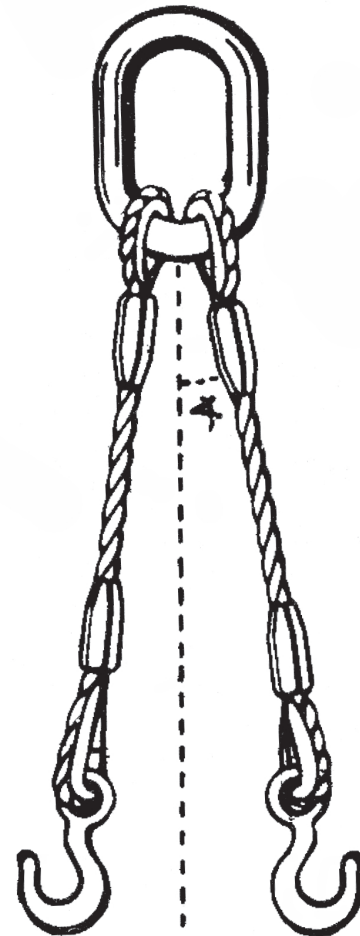
Vertical Basket

# Slings

ONE LEG				TABLE 1		
Steel Cable	Capacity In Metric Tons					
	6x19 o 6x36 Steel Core			6x19 o 6x36 Polypropylene Core		
	vertical	traveling	basket	vertical	traveling	basket
1/4	0.56	0.41	1.1	0.51	0.38	1.0
5/16	0.87	0.64	1.7	0.79	0.60	1.6
3/8	1.2	0.92	2.4	1.1	0.85	2.2
7/16	1.7	1.2	3.4	1.5	1.2	3.0
1/2	2.2	1.6	4.4	2.0	1.5	4.0
9/16	2.8	2.0	5.6	2.5	1.9	5.0
5/8	3.4	2.5	6.8	3.1	2.3	6.2
3/4	4.9	3.6	9.8	4.4	3.3	8.8
7/8	6.6	4.8	13	6.0	4.5	12
1	8.5	6.3	17	7.7	5.9	15
1-1/8	10	7.9	20	9.5	7.4	19
1-1/4	13	9.7	26	12	9.0	24
1-3/8	15	12	30	14	11	28
1-1/2	18	14	36	17	13	34
1-3/4	25	19	50			
2	31	24	62			
2-1/4	39	30	78			
2-1/2	47	37	94			
2-3/4	57	44	114			
3	67	52	134			

## 5.2. Multiple Legs Slings

Many cargo loads cannot be manipulated with a single sling; this is why over time multiple slings have been developed. In their simplest form, the slings consist of two, three or four single slings connected at their highest point to a common accessory (elliptic ring or in the shape of pear).



**TWO LEGS**
**TABLE 2**

Steel Cable	Capacity in Tons					
	6x19 o 6x36 Steel Core			6x19 o 6x36 Polypropylene Core		
	15°	30°	45°	15°	30°	45°
1/4	1.1	0.97	0.79	0.99	0.88	0.72
5/16	1.7	1.5	1.2	1.5	1.4	1.1
3/8	2.3	2.1	1.7	2.1	1.9	1.6
7/16	3.3	2.9	2.4	2.9	2.6	2.1
1/2	4.3	3.8	3.1	3.9	3.5	2.8
9/16	5.4	4.8	4.0	4.8	4.3	3.5
5/8	6.6	5.9	4.8	6.0	5.4	4.4
3/4	9.5	8.5	6.9	8.5	7.6	6.2
7/8	13	11	9.3	12	10	8.5
1	16	15	12	15	13	11
1-1/8	19	17	14	18	16	13
1-1/4	25	23	18	23	21	17
1-3/8	29	26	21	27	24	20
1-1/2	35	31	25	33	29	24
1-3/4	48	43	35			
2	60	54	44			
2-1/4	75	68	55			
2-1/2	91	81	66			
2-3/4	110	99	81			

**THREE LEGS**
**TABLE 3**

Steel Cable	Capacity in Tons					
	6x19 o 6x36 Steel Core			6x19 o 6x36 Polypropylene Core		
	15°	30°	45°	15°	30°	45°
1/4	1.6	1.5	1.2	1.5	1.3	1.1
5/16	2.5	2.3	1.8	2.3	2.1	1.7
3/8	3.5	3.1	2.5	3.2	2.9	2.3
7/16	4.9	4.4	3.6	4.3	3.9	3.2
1/2	6.4	5.7	4.7	5.8	5.2	4.2
9/16	8.1	7.3	5.9	7.2	6.5	5.3
5/8	9.9	8.8	7.2	9.0	8.1	6.6
3/4	14	13	10	13	11	9.3
7/8	19	17	14	17	16	13
1	25	22	18	22	20	16
1-1/8	29	26	21	28	25	20
1-1/4	38	34	28	35	31	25
1-3/8	43	39	32	41	36	30
1-1/2	52	47	38	49	44	36
1-3/4	72	65	53			
2	90	81	66			
2-1/4	113	101	83			

# Slings

FOUR LEGS				TABLE 4		
Steel Cable	Capacity In Metric Tons					
	6x19 o 6x36 Steel Core			6x19 o 6x36 Polypropylene Core		
	15°	30°	45°	15°	30°	45°
1/4	2.2	1.9	1.6	2.0	1.8	1.4
5/16	3.4	3.0	2.5	3.1	2.7	2.2
3/8	4.6	4.2	3.4	4.3	3.8	3.1
7/16	6.6	5.9	4.8	5.8	5.2	4.2
1/2	8.5	7.6	6.2	7.7	6.9	5.7
9/16	11	9.7	7.9	9.7	8.7	7.1
5/8	13	12	9.6	12	11	8.8
3/4	19	17	14	17	15	12
7/8	26	23	19	23	21	17
1	33	29	24	30	27	22
1-1/8	39	35	28	37	33	27
1-1/4	50	45	37	46	42	34
1-3/8	58	52	42	54	48	40
1-1/2	70	62	51	66	59	48
1-3/4	97	87	71			
2	120	107	88			



## 5.3. Endless Slings

These slings are produced with normal configurations for very special cases of cargo maneuvering.

