

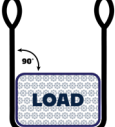
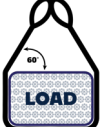






**HMPE EYE & EYE SLINGS**

**! WARNING !** See page 49 for removal criteria



Diameter (")	Vert 	Choker 	90° 	60° 	45° 	30° 	Circ. (")	MBL (lbs)
1/4 (6 mm)	1,600	1,120	3,200	2,770	2,260	1,600	3/4	8,000
5/16 (8 mm)	2,340	1,630	4,680	4,050	3,300	2,340	15/16	11,700
3/8 (9 mm)	3,500	2,450	7,000	6,060	4,940	3,500	1-1/8	17,500
7/16 (11 mm)	4,200	2,940	8,400	7,270	5,930	4,200	1-1/4	21,000
1/2 (12 mm)	6,260	4,380	12,500	10,800	8,850	6,260	1-1/2	31,300
9/16 (14 mm)	7,580	5,300	15,100	13,100	10,700	7,580	1-3/4	37,900
5/8 (16 mm)	10,200	7,190	20,500	17,800	14,500	10,200	2	51,400
3/4 (18 mm)	13,700	9,590	27,400	23,700	19,300	13,700	2-1/4	68,500
13/16 (20 mm)	14,800	10,300	29,600	25,600	20,900	14,800	2-1/2	74,000
7/8 (22 mm)	18,500	12,900	37,000	32,000	26,100	18,500	2-3/4	92,600
1 (24 mm)	22,000	15,400	44,000	38,100	31,100	22,000	3	110,000
1-1/16 (26 mm)	25,800	18,000	51,600	44,700	36,500	25,800	3-1/4	129,200
1-1/8 (28 mm)	29,400	20,500	58,800	50,900	41,500	29,400	3-1/2	147,000
1-1/4 (30 mm)	33,000	23,100	66,000	57,100	46,600	33,000	3-3/4	165,000
1-5/16 (32 mm)	39,200	27,400	78,400	67,800	55,400	39,200	4	196,000
1-1/2 (36 mm)	44,200	30,900	88,400	76,500	62,500	44,200	4-1/2	221,000
1-5/8 (40 mm)	58,200	40,700	116,400	100,800	82,300	58,200	5	291,000
1-3/4 (44 mm)	62,800	43,900	125,600	108,700	88,800	62,800	5-1/2	314,000
2 (48 mm)	71,000	49,700	142,000	122,900	100,400	71,000	6	355,000
2-1/8 (52 mm)	85,600	59,900	171,200	148,200	121,000	85,600	6-1/2	428,000
2-1/4 (56 mm)	96,200	67,300	192,400	166,600	136,000	96,200	7	481,000
2-1/2 (60 mm)	106,000	74,200	212,000	183,500	149,900	106,000	7-1/2	530,000
2-5/8 (64 mm)	119,200	83,400	238,400	206,400	168,500	119,200	8	596,000
2-3/4 (68 mm)	132,000	92,400	264,000	228,600	186,600	132,000	8-1/2	660,000
3 (72 mm)	156,000	109,200	312,000	270,100	220,600	156,000	9	780,000
3-1/8 (76 mm)	170,000	119,000	340,000	294,400	240,400	170,000	9-1/2	850,000
3-1/4 (80 mm)	188,000	131,600	376,000	325,600	265,800	188,000	10	940,000
3-1/2 (84 mm)	221,600	155,100	443,200	383,800	313,300	221,600	10-1/2	1,108,000
3-5/8 (88 mm)	250,000	175,000	500,000	433,000	353,500	250,000	11	1,250,000
3-3/4 (92 mm)	263,400	184,300	526,000	456,200	372,500	263,400	11-1/2	1,317,000

\*Rated capacities (in pounds) are based on a design factor of 5:1 and determined with the sling angle calculated from the vertical.

Chart continued on next page

Dia. (")	Vert 	Choker 	90° 	60° 	45° 	30° 	Circ. (")	MBL (lbs)
4 (96 mm)	304,000	212,800	608,000	526,000	429,900	304,000	12	1,520,000
4-1/8 (100 mm)	324,400	227,000	648,000	561,000	458,700	324,400	12-1/2	1,622,000
4-1/4 (104 mm)	339,400	237,500	678,000	587,000	479,900	339,400	13	1,697,000
4-1/2 (108 mm)	365,400	255,700	730,000	632,000	516,000	365,400	13-1/2	1,827,000
4-5/8 (112 mm)	376,000	263,200	752,000	651,000	531,000	376,000	14	1,880,000
4-3/4 (116 mm)	385,400	269,700	770,000	667,000	545,000	385,400	14-1/2	1,927,000
5 (120 mm)	413,900	289,700	827,000	716,000	585,000	413,900	15	2,069,500
5-1/8 (124 mm)	442,400	309,600	884,000	766,000	625,000	442,400	15-1/2	2,212,000
5-1/4 (128 mm)	471,000	329,700	942,000	815,000	666,000	471,000	16	2,355,000
5-1/2 (132 mm)	499,500	349,600	999,000	865,000	706,000	499,500	16-1/2	2,497,500
5-5/8 (136 mm)	528,000	369,600	1,056,000	914,000	746,000	528,000	17	2,640,000
5-3/4 (140 mm)	556,000	389,500	1,113,000	963,000	787,000	556,000	17-1/2	2,782,500

Minimum Break Load (MBL) in pounds is determined using spliced test samples in accordance with Cordage Institute 1500-02 - Test Method for Fiber Ropes.

Minimum sling length on fabricated eye & eye slings assumes 1) a compressed minimum eye length of 6.75 times the rope diameter in inches, and 2) a clear span area between splices of 10 times Kennedy rope circumference in feet.

The recommended design factor (DF) of 5:1 on this chart is based on several existing sling standards including ASME B30.9. This design factor takes into account various factors including the use of Ultra High Molecular Weight Polyethylene (HMPE) fiber which is extremely durable and resistant to repeated high loads. HMPE rope slings have and can be used with different DF ratios; however, this is a decision which must be made by a qualified person in conjunction with the rope manufacturer.

We recommend the use of wear protection around choking points. Please consult KWRS if you require the use of our fiber rope slings in a choker hitch at a lifting angle of less than 120°, following ASME B30.9 guidelines.

### Bending Guidance for Eye & Eye Slings

In theory, a sling used in a basket configuration could have twice the working load as a sling in a vertical configuration because two ropes are now holding the load instead of one. However, the decrease in tensile stress is partially offset by an increase in bending stress. The magnitude of this bending stress is dependent on the size and shape of the contact surface. Users must account for the bending strength loss with an efficiency factor as shown below in the reduced basket capacity calculation.

The bending efficiency reduces as the D:d ratio is reduced. Example: a 5:1 D:d ratio provides 80% efficiency.

**Reduced Basket Capacity Calculation**

$C = B \times e$

**C = Reduced Basket Capacity due to bending efficiency reduction**

**B = Rated Basket Capacity with consideration of horizontal sling fleet angle**

**e = Bending efficiency percentage**

- Represents a contact surface that is equal to or greater than the rope diameter
- Represents a contact surface with a D:d ratio of one or greater. Refer to the Efficiency Table for deductions as needed.

Efficiency Table	
D:d Ratio	eff % (e)
25:1	100.0%
8:1	82.5%
5:1	80.0%
3:1	75.0%
2:1	72.5%
1:1	65.0%