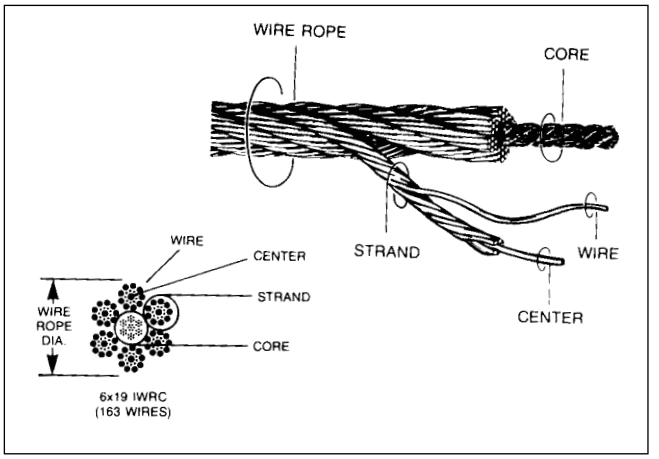
WIRE ROPE AND SLING BASICS

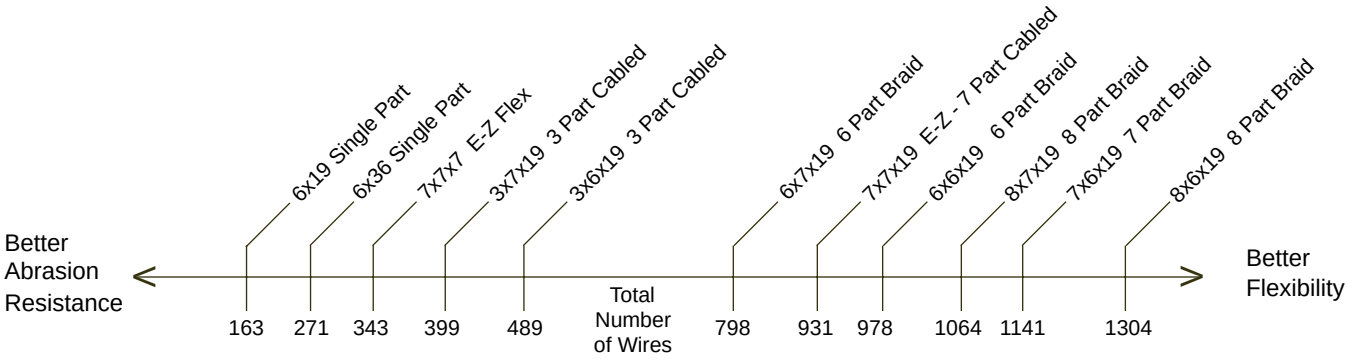
Two major and opposing characteristics of wire rope slings are flexibility and resistance to abrasion. To a great extent, these traits are a direct function of the number of wires. Fewer wires means larger diameter wires, better abrasion resistance, and reduced flexibility. More wires result in decreased wire diameter, reduced abrasion resistance, increased flexibility and kink resistance.

The scale below shows the relative position of the sling constructions shown in this catalog as they pertain to abrasion resistance and flexibility.

EIP = Extra Improved Plow (Steel)
FC = Fiber Core
IWRC = Independent Wire Rope Core

Wire Rope Construction





WIRE ROPE SLINGS

Features, Advantages and Benefits

Promotes Safety

- *Tuff-Tag* for capacity and serial numbered identification for traceability.

Saves Money

- Least expensive, per capacity, of all steel slings.
- Use of EIP, IWRC rope gives 15% greater capacity than IP, IWRC ropes.

Saves Time

- Countless combinations of sling terminations - hooks, chokers and thimbles are available to fit specific lift requirements.

SLING WEIGHTS (Approx.)

To estimate sling weights, multiply length x Per Foot Weight and add Zero Base Weight plus any additional fittings' weights.

Rope Dia. (in.)	*Zero Base Weight (Lbs.)	Per Foot Weight	Thimbled Eye Wt. Ea. (Lbs.)	Alloy Eye Hook Wt. Ea. (Lbs.)	Crescent Thimble Wt. Ea. (Lbs.)	Slip Thru Thimble Wt. Ea. (Lbs.)	Sliding Choker Hook Wt. Ea. (Lbs.)
1/4	.31	.12	.08	.63	.50	1.3	1.3
5/16	.47	.18	.14	.63	.50	1.3	1.3
3/8	.73	.26	.22	.85	.50	1.3	1.3
7/16	1.3	.35	.36	1.4	.50	1.5	1.9
1/2	1.7	.46	.51	1.9	.75	1.5	1.9
9/16	3.1	.59	.51	3.7	.75	1.5	1.9
5/8	3.5	.72	.75	3.7	1.2	3.4	4.0
3/4	5.7	1.0	1.5	7.3	2.0	3.4	4.5
7/8	8.9	1.4	1.9	15	3.3	5.6	10
1	13	1.9	3.0	15	3.8	5.6	10
1 1/8	18	2.3	4.0	22	5.0	8.6	26
1 1/4	25	2.9	8.2	22	6.8	8.6	26
1 3/8	32	3.5	12	38	8.0	10	50
1 1/2	41	4.2	12	38	8.0	10	50
1 3/4	65	5.7	18	60	17	18	
2	99	7.4	25	105	22	53	
2 1/4	169	9.4	40	148	39	70	
2 1/2	278	12	-	-	39	126	

* Zero Base Weight accounts for the additional rope and sleeves required to form two standard eyes.

WIRE ROPE SLINGS

Inspection Criteria for Wire Rope Slings

⚠ WARNING Read Definition on page 3

Remove sling from service if any of the following are visible:

- Ten broken wires in one rope lay or five broken wires in one strand in one rope lay
- Wear or other loss of one-third of the original diameter of the individual wires
- Evidence of heat damage or corrosion of rope (internal and external) or attachments
- Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure
- End attachments, including hooks, that are cracked, deformed or obviously worn

⚠ CAUTION

Do not inspect a sling by passing bare hands over the wire rope.

Environmental Considerations

- Wire core wire rope (IWRC) must not be used at temperatures above 400°F.
- Fiber core wire rope (FC) must not be used at temperatures above 180°F.
- Fiber core ropes should not be subjected to degreasing solvents.

D/d - Basket Hitch Effect

⚠ WARNING Read Definition on page 3

Tests have shown that whenever a sling body is bent around a diameter, the strength of the sling is decreased. D/d ratio is the ratio of the diameter around which the sling is bent divided by the body diameter of the sling.

The capacities in this catalog are based on the minimum D/d ratios that appear below each of the capacity tables. For more severe bending conditions, contact *Lift-All* for revised capacities.

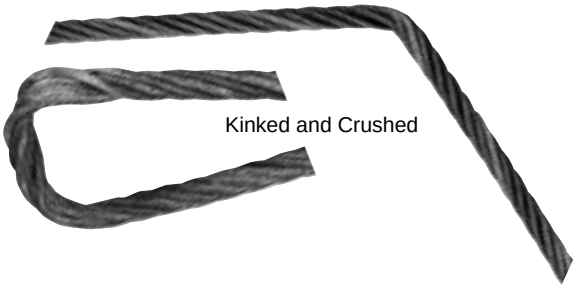
Examples of Wire Rope Sling Abuse

Broken Wires

Worn Wires

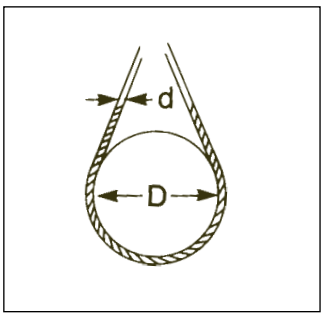
Corroded

Bird Caging



Kinked and Crushed

Worn and Deformed Attachments



HOW TO ORDER WIRE ROPE SLINGS

Prior to sling selection and use, review and understand the "Help" section pages 3 through 11.

Specify:

1. Rope Diameter - inches
2. Sling Length - Feet (Bearing point to bearing point)
3. Description of rope construction class - 6 x 19 etc.
4. Attachments - Master link, Hook, etc.

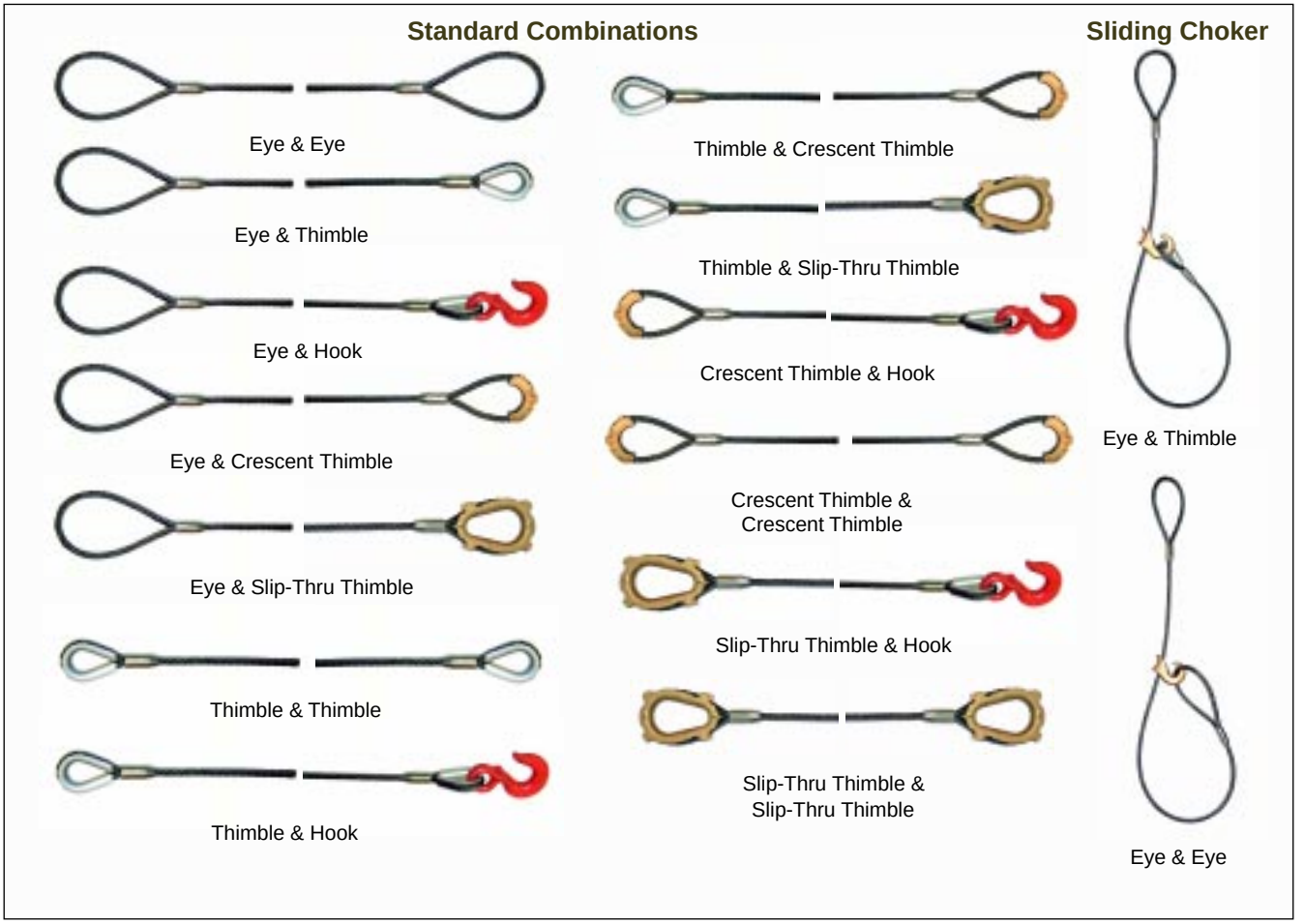
Tolerances and Minimum Lengths

Refer to tables for tolerances and minimum lengths.

Wire Rope Class

Standard rope classes are shown for each type and size of sling in the charts. Specific rope constructions are available upon request.

Note: Proof testing with certification available for all slings at an additional charge.

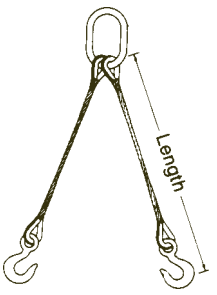
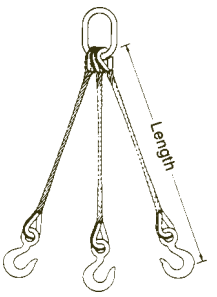
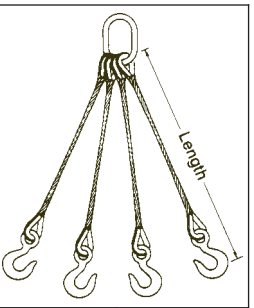


Acknowledgement

Lift-All wire rope slings and rated capacities comply with all OSHA, ASME B30.9, and Wire Rope Technical Board publications. Portions of this section of the catalog were taken from the Wire Rope Sling User's Manual with the permission of the Wire Rope Technical Board and the American Iron and Steel Institute.

SLING WEIGHTS (Approx.)

To estimate sling weights, multiply length x Per Foot Weight and add Zero Base Weight.

	2-Leg Bridle		3-Leg Bridle		4-Leg Bridle	
						
Rope Dia. (in.)	*Zero Base Weight (Lbs.)	Per Foot Weight (2 Legs)	*Zero Base Weight (Lbs.)	Per Foot Weight (Lbs.) (3 Legs)	*Zero Base Weight (Lbs.)	Per Foot Weight (Lbs.) (4 Legs)
1/4	2.8	.23	2.8	.35	4.7	.46
5/16	3.2	.36	5.7	.54	6.9	.72
3/8	5.8	.52	7.5	.78	12	1.0
7/16	8.1	.70	14	1.0	17	1.4
1/2	10	.92	17	1.4	26	1.8
9/16	20	1.2	27	1.8	39	2.4
5/8	21	1.4	34	2.2	42	2.9
3/4	38	2.1	60	3.1	85	4.2
7/8	58	2.8	89	4.3	121	5.7
1	76	3.7	114	5.6	171	7.4
1 1/8	108	4.7	163	7.0	250	9.4
1 1/4	131	5.8	210	8.7	296	12
1 3/8	197	7.0	320	11		
1 1/2	230	8.3	350	13		
1 3/4	380	11				
2	550	15				

* Zero Base Weight includes Oblong Link, Thimbled Eyes and Sling Hooks