Institute of the Ironworking Industry

1750 New York Avenue, N.W.Phone: (202 783-3998
Washington, D.C. 20006 Fax: (202) 393-1507

WIRE ROPE SLINGS
6x19 Classification Group, Improved Plow steel. IWRC.*

MAXIMUM SAFE WORKING LOADS - POUNDS
(Safety Factor = 5)

*Independent Wire Rope Core

Rope Diameter (inches)	Single Vertical Hitch	Single Choker Hitch	Single Basket Hitch (Vertical Legs)	2-Leg Bridle Hitch& Single Basket Hitch With Legs Included		
				60°	45°	30°
3/16	650	480	1,300	1,100	,900	,650
1/4	1,150	860	2,300	2,000	1,600	1,150
5/16	1,750	1,300	3,500	3,000	2,500	1,750
3/8	2,550	1,900	5,100	4,400	3,600	2,550
7/16	3,450	2,600	6,900	6,000	4,900	3,450
1/2	4,700	3,500	9,400	8,150	6,650	4,700
9/16	5,700	4,200	11,400	9,900	8,050	5,700
5/8	7,100	5,300	14,200	12,300	10,000	7,100
3/4	10,200	7,650	20,400	17,700	14,400	10,200
7/8	13,750	10,300	27,500	23,800	19,400	13,750
1	17,950	13,450	35,900	31,100	25,400	17,950
1 1/8	22,750	17,000	45,500	39,400	32,200	22,750
1 1/4	28,200	21,200	56,400	48,800	39,900	28,200
1 3/8	34,800	26,100	69,600	60,300	49,200	34,800
1 1/2	41,300	31,000	82,600	71,500	58,400	41,300
1 5/8	48,600	36,400	97,200	84,200	68,700	48,600
1 3/4	55,900	41,900	111,800	96,800	79,000	55,900
1 7/8	65,400	49,000	130,800	113,300	92,500	65,400
2	72,600	54,500	145,200	125,700	102,700	72,600

If used with Choker Hitch multiply above values by 3/4.

For Double Basket Hitch multiply above values by 2.

NOTE: Table values are for slings with eyes and thimbles in both ends. Flemish Spliced Eyes and mechanical sleeves.

SOURCE: National ironworkers and employers apprenticeship training and journeyman upgrading funds instructors guide to rigging safty.

INSPECTION OF HARDWARE

DEFORMATION

REMOVE FROM SERVICE IF ANY SIGNIFICANT DEFORMATION. CHECK THROAT OPENING OF HOOKS.

WEAR

REMOVE FROM SERVICE IF EXCESSIVE WEAR. WEAR IS EXCESSIVE IF:
MORE THAN 5 % WEAR IN THROAT OR EYE OF HOOK AND OTHER CRITICAL AREAS OF HARDWARE.
MORE THAN 10% WEAR IN OTHER AREAS.

CRACKS, NICKS, GOUGES

REMOVE FROM SERVICE IF CRACKS, NICKS, OR GOUGES ARE DETECTED.

MODIFICATION

DO NOT WELD, DO NOT SUBSTITUTE SHACKLE PINS OR OTHER COMPONENTS, DO NOT HEAT, BEND OR MODIFY IN ANY MANNER

PROPER FUNCTION

IMPROPERLY INSTALLED HARDWARE OR MALFUNCTION IS CAUSE FOR REMOVAL. CHECK FOR LATCHES, SWIVEL BEARINGS, LOCKING DEVICES, AND INSTALLATION OF WIRE ROPE CLIPS AND WEDGE SOCKETS.

INSPECTION OF WIRE ROPE SLINGS

PER ANSI B30.9

ALL SLINGS AND ATTACHMENTS SHALL BE VISUALLY INSPECTED BY THE PERSON HANDLING THE SLING EACH DAY THEY ARE USED. IN ADDITION, A PERIODIC INSPECTION SHALL BE PERFORMED BY A DESIGNATED PERSON, AT LEAST ANNUALLY, AND SHALL INCLUDE A RECORD OF THE INSPECTION.

INSPECTION CRITERIA

KINKING
CRUSHING
UNSTRANDING
BROKEN OR CUT STRANDS
STRANDING DISPLACEMENT
CORE PROTRUSION
CORROSION
BIRDCAGING
BROKEN WIRES

BROKEN WIRES

REMOVE FROM SERVICE STRAND LAID AND SINGLE PART SLINGS IF TEN OR MORE RANDOMLY DISTRIBUTED WIRES IN ONE ROPE LAY, OR FIVE BROKEN WIRES IN ONE ROPE STRAND IN ONE ROPE LAY.

DISTORTION OF WIRE ROPE

REMOVE FROM SERVICE WIRE ROPE SLINGS THAT HAVE ANY DAMAGE RESULTING IN DISTORTION OF THE WIRE ROPE STRUCTURE SUCH AS KINKING, CRUSHING, UNSTRANDING, BIRDCAGING, STRAND DISPLACEMENT OR CORE PROTRUSION.