

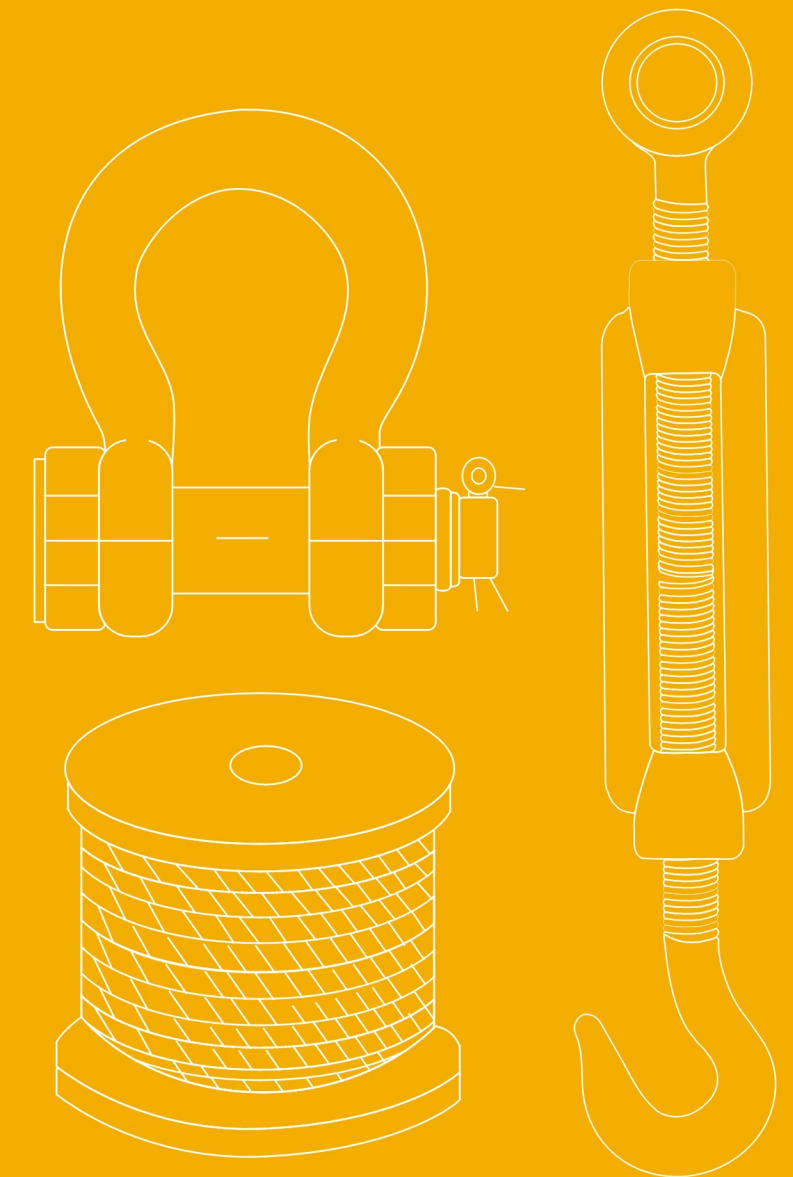
**TOYO<sup>®</sup>**  
LIFTING & HOIST



**TOYO<sup>®</sup>**  
LIFTING & HOIST

**JAPAN TECHNIQUE**

TOYO LIFT



**JAPAN TECHNIQUE**  
**TIANJIN TOYO LIFTING MANUFACTORY CO.,LTD**

CHINA ADD: NO.4669 Xinbei Road TangGu Town  
The New Area Of Tian Jin 300457.P.R.CHINA  
EMAIL: market@toyo-lift.com

JAPAN ADD: Edobori Centre, 2-1-1 Edbori,  
Nishi-ku, Osaka 550 0002 JAPAN.  
HTTP://www.toyo-lift.com

Regional distributor:



**TIANJIN TOYO LIFTING MANUFACTORY CO.,LTD**  
**TOYO LIFTING MFG.CO.,LTD JAPAN**

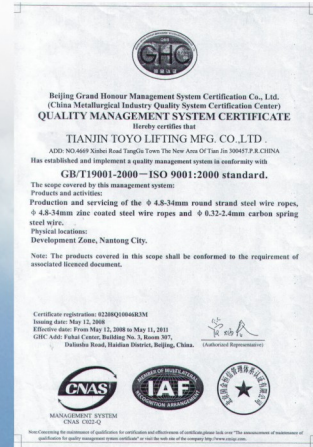
# TOYOLIFTING

## CERTIFICATE



## Company Profile

TIANJIN TOYO LIFTING MANUFACTURING CO.,LTD. which is located in beautiful tianjin city , Our company specializes in designing and manufacturing of excellent quality of steel wire rope ,shackle ,textile sling ,rigging hardware and various high tensile sling . Our main brand is “TOYO” “TOYOHOIST” “TOYOLIFTING” . we get good reputation from our usual customer as our good quality ,japan technical, competitive price . All products, fittings and assemblies are factory tested and inspected according to stringent international standards. Our QC department promises that every materials are inspected before assembling and 100% products tested and inspected before delivery. all our test machine is from japan high quality equipment . We have a strong R&D Design ability to ensure that you are getting the latest products produced with the most advanced and cost effective technologies. Our products have been exported to many countries and regions throughout the world in Europe, North America, South America ,Australia, South-eastern Asia, South Africa etc. Our products get CE, GS certified. All products supplied and installed are warranted against defects in merchantable quality and workmanship. Our business aim is to provide you the best quality products at the most competitive prices.



## TOYOLIFTING SERVICE & QUALITY CONTROL

### Mission statement

#### 1. To our customer

A progressive company providing values enhancing highest performance material lifting parts, products and services in a professional and innovative manner.

#### 2. To our employee

A forward looking company which rewards individuals of hard work and dedication and facilitate them to full potential.

#### 3. To our shareholders

A socially responsible company which yields better returns than other industry to shareholders in suitable ways.

### Message from the CEO

Our progressive company aims at providing the most valuable and highest performance material lifting parts, products and services to you, our value customers. We believe that we are elements of your competitiveness in the world professional attributes and innovative capability are completely integrated as well as bundled with our integrity in giving the excellent services and supports to you.

MR Zhang Huan Long

### QUALITY MANAGEMENT SYSTEM

The company is committed to achieving high customer satisfaction through the four (4) pillars of our quality system:

#### CUSTOMER SATISFACTION:

We believe the only way to guarantee Customer Satisfaction is to ensure Process Consistency. Today's quality product supply ensures tomorrow's repeat order. We know and understand the concept that Excellence requires Continuous Improvement.

#### INTERNAL AUDITS:

Our Management Representative and Internal Quality Auditors plan and carry out auditing activities to ensure that the quality system is relevant and effective, Internal and External Audit Reports will be objectively analyzed and where applicable, have recommendations submitted for the continuous improvement of the Quality Management System.

#### QUALITY:

We work closely with our steel suppliers to ensure that the raw material meets our stringent specification.

#### PRODUCT IMPROVEMENT:

The Maintenance of Excellence requires Continuous Improvement - WORKMATES will guarantee compliance to your country's National Standards - feel free to speak to us about your specific needs. All WORKMATES products are manufactured to ISO9001, ISO3077, EN13157, EN818-1 and Federal Specification.



TOYOLIFTING BUSSINESS CENTER



TOYOLIFTING WAREHOUSE



TOYOLIFTING WIRE ROPE



TOYOLIFTING FACTORY

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## HIGH-CLASS EQUIPMENT

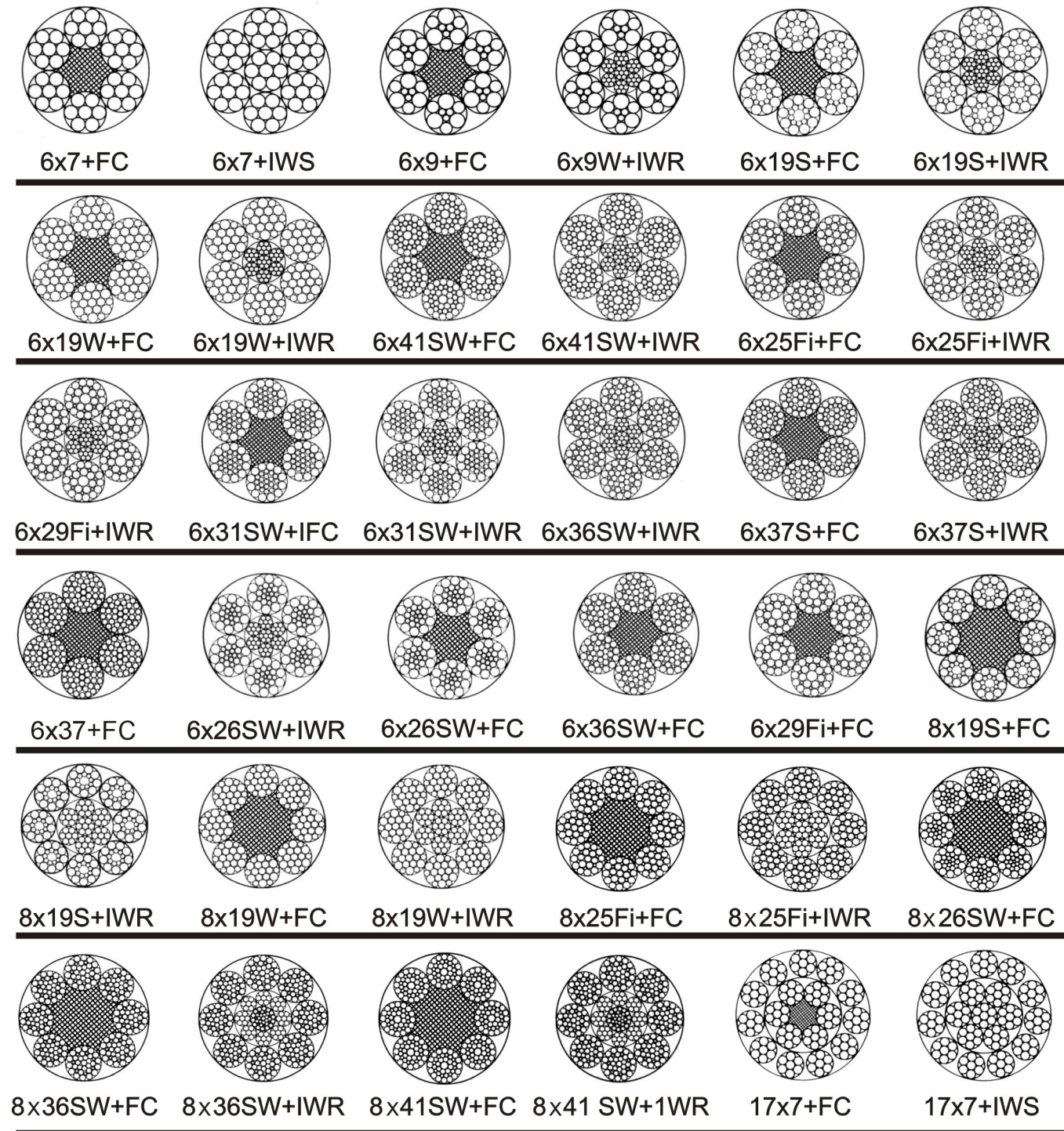
Technological advancement and nice equipment are the trustiness guarantee of the products quality, we fetch in the advanced manufacturing equipment to form our top-ranking product line.

TOYOLIFTING Wire rope factory show , test machine and productive process.



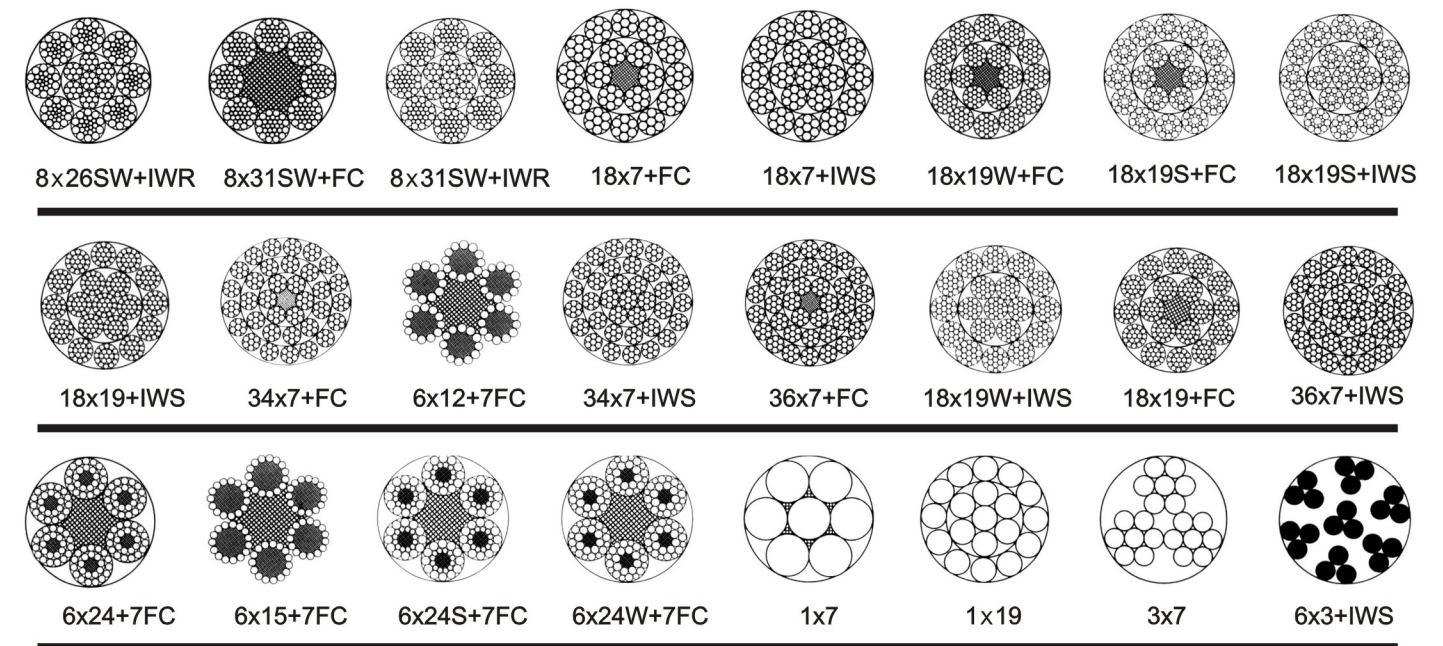
## WIRE ROPE

TYPICAL CROSS SECTIONS OF WIRE ROPE & STRAND

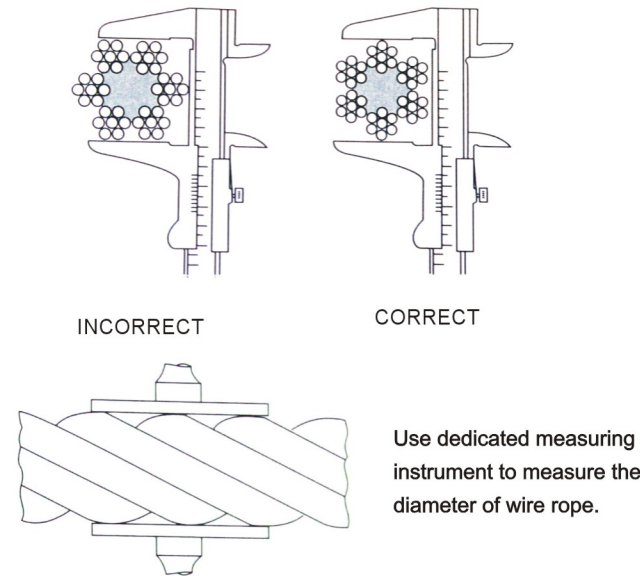
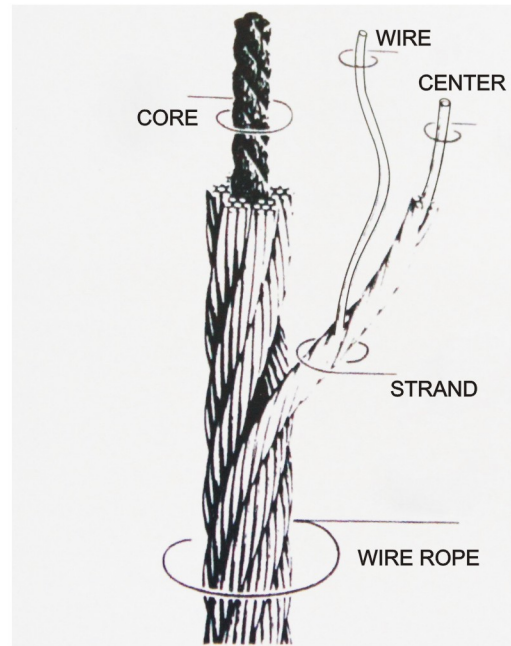


## QUALITY ASSURANCE

To create first-class products, only advanced production equipments are not enough. It also needs the spirit of tireless pursuit in perfection and first-rate testing equipments.  
TOYOLIFTING Steel Rope strived for perfection and excellence through strict checking from R&D to inspection.



## GENETAL INFORMATION ON WIRE ROPES



What is a wire rope? It consists of a group of strands laid helically around a core. In some cases, a single strand is a rope.

### TYPE AND DIRECTION OF LAY



Wire rope	Construction example
Point contact round strand wire rope	6x19 6x37 6x24
Linear contact round strand wire rope	6x19S/6x19W 6x25Fi/6x29Fi 6x26WS/6x31WS 6x36WS 6x37S
Triangular strand wire rope	6Vx19 6Vx30 6Vx34 6Vx37 6Vx37S
Compacted strand wire rope	6xK25Fi 6xK19S/6xK36WS 8xK26WS/8xK31WS 18xK7/18xK19S 35(W)xK740(W)xK7
Wire rope with PVC	IWRC

## WIRE ROPE SERIES

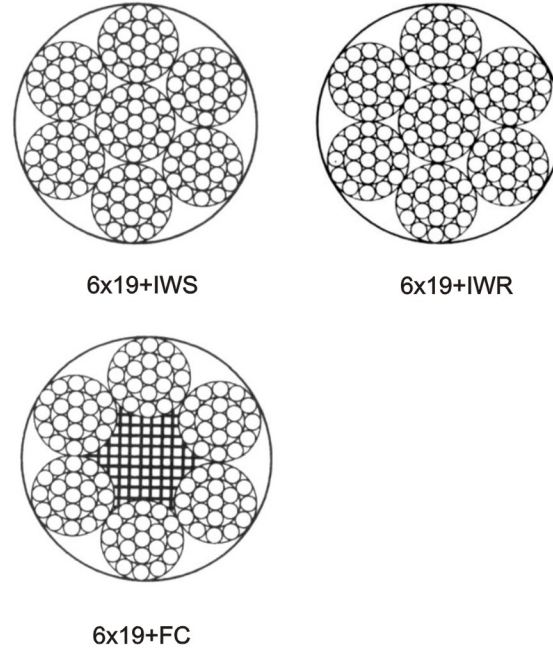
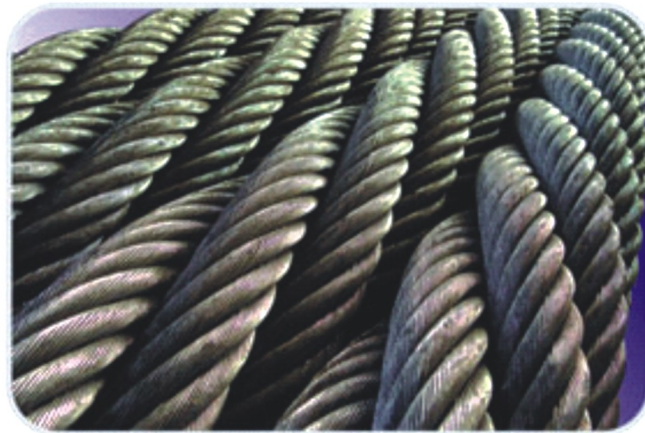
Wire rope and the minimum weight coefficient breaking rally coefficient

No.	Construct ion	Approx. weight K			K <sub>2</sub> /K <sub>1n</sub>	K <sub>2</sub> /K <sub>1p</sub>	Minimum Breaking Load of Rope K'		K <sub>2</sub> /K <sub>1</sub>
		NF	SF	IWR/IWS			FC	IWR/IWS	
		K <sub>1n</sub>	K <sub>1p</sub>	K <sub>2</sub>					
		Kg/100m.mm <sup>2</sup>					K <sub>1</sub>	K <sub>2</sub>	
1	6x7	0.351	0.344	0.387	1.10	1.12	0.332	0.359	1.08
2	6x19(a) 6x37(a)	0.380	0.371	0.418	1.10	1.13	0.330	0.356	1.08
3									
2	6x19(b)	0.346	0.337	0.381	1.10	1.13	0.307	0.332	1.08
3	6x37(b)	0.346	0.337	0.381	1.10	1.13	0.295	0.319	1.08
4	8x19 8x37	0.357	0.344	0.435	1.22	1.26	0.293	0.346	1.18
5									
6	17x7	0.390			-	-	0.328		-
7	34x7	0.390			-	-	0.318		-
8	6x24	0.318	0.304	-	-	-	0.280	-	-

1. Weight  
M Weight per 100(Kg/100m)  
d Dia. meter(mm)  
K Weight Factor per meter

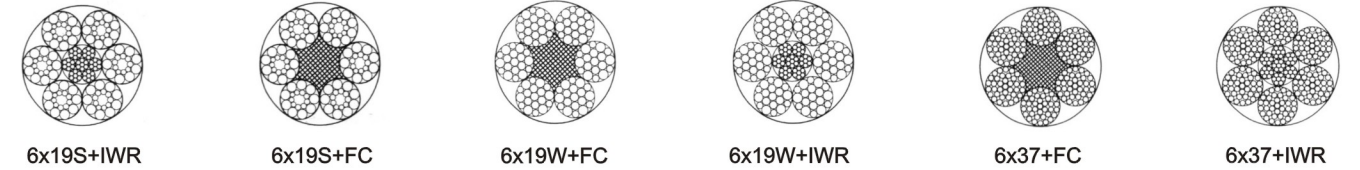
2. Breaking Load of Rope  
F0 Minimum Breaking Load of Rope (Kn)  
d Dia. meter(mm)  
R0 Nominal Tensile Strength of Rope(Mpa)  
K' Minimum Breaking Load of Rope Factor(Kn)

## 6X19 STEEL WIRE ROPE (UN GALVANIZED AND GALVANIZED)



Construction: 6x19+FC 6x19+IWS 6x19+IWR

Nominal Diameter		Apprx. Weight (Kg/100m)			Nominal Tensile Strength of Rope(Mpa)									
					1470		1570		1670		1770		1870	
mm	in.	NF	SF	IWR/IWS	Minimum Breaking Load of Rope(Kn)									
					FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS
3	1/8	3.11	3.03	3.43	4.06	4.39	4.33	4.69	4.61	4.98	4.89	5.28	5.16	5.58
4	5/32	5.54	5.39	6.10	7.22	7.80	7.71	8.33	8.20	8.87	8.69	9.40	9.18	9.93
5	3/16	8.65	8.42	9.52	11.20	12.20	12.00	13.00	12.80	13.80	13.50	14.60	14.30	15.50
6	1/4	12.50	12.10	13.70	16.20	17.50	17.30	18.70	18.40	19.90	19.50	21.10	20.60	22.30
7	9/32	17.00	16.50	18.70	22.10	23.90	23.60	25.50	25.10	27.10	26.60	28.70	28.10	30.40
8	5/16	22.10	21.60	24.40	28.80	31.20	30.80	33.30	32.80	35.40	34.70	37.60	36.70	39.70
9	3/8	28.00	27.30	30.90	36.50	39.50	39.00	42.20	41.50	44.90	44.00	47.50	46.50	50.20
10	13/32	34.60	33.70	38.10	45.10	48.80	48.10	52.10	51.20	55.40	54.30	58.70	57.40	62.00
11	7/16	41.90	40.80	46.10	54.60	59.00	58.30	63.00	62.00	67.00	65.70	71.10	69.40	75.10
12	15/32	49.80	48.50	54.90	64.90	70.20	69.40	75.00	73.80	79.80	78.20	84.60	82.60	89.40
13	1/2	58.50	57.00	64.40	76.20	82.40	81.40	88.00	86.60	93.70	91.80	99.30	97.00	104.00
14	9/16	67.80	66.10	74.70	88.40	95.60	94.40	102.00	100.0	108.00	106.00	115.00	112.00	121.00
16	5/8	88.60	86.30	97.50	115.00	124.00	123.00	133.00	131.00	141.00	139.00	150.00	146.00	158.00
18	23/32	112.00	109.00	123.00	146.00	158.00	156.00	168.00	166.00	179.00	176.00	190.00	186.00	201.00
20	13/16	138.00	135.00	152.00	180.00	195.00	192.00	208.00	205.00	221.00	217.00	235.00	229.00	248.00
22	7/8	167.00	163.00	184.00	218.00	236.00	233.00	252.00	248.00	268.00	263.00	284.00	277.00	300.00
24	15/16	199.00	194.00	219.00	259.00	281.00	277.00	300.00	295.00	319.00	312.00	338.00	330.00	357.00
26	1-1/32	234.00	228.00	258.00	305.00	329.00	325.00	352.00	346.00	374.00	367.00	397.00	388.00	419.00
28	1-1/8	271.00	264.00	299.00	353.00	382.00	377.00	408.00	401.00	434.00	426.00	460.00	450.00	486.00



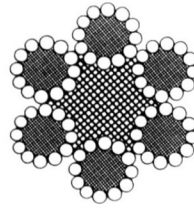
Construction: 6x19S+FC 6x19S+IWR 6x19W+FC 6x19W+IWR

Nominal Diameter		Apprx. Weight (Kg/100m)			Nominal Tensile Strength of Rope(Mpa)									
					1470		1570		1670		1770		1870	
mm	in.	NF	SF	IWR/IWS	Minimum Breaking Load of Rope(Kn)									
					FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS
6	1/4	13.30	13.00	14.60	17.40	18.80	18.60	20.10	19.80	21.40	21.00	22.60	22.20	23.90
7	9/32	18.10	17.60	19.90	23.70	25.60	25.30	27.30	27.00	29.10	28.60	30.80	30.20	32.60
8	5/16	23.60	23.00	25.90	31.00	33.40	33.10	35.70	35.20	38.00	37.30	40.30	39.40	42.60
9	3/8	29.90	29.10	32.80	39.20	42.30	41.90	45.20	44.60	48.10	47.30	51.00	49.90	53.90
10	13/32	36.90	36.00	40.50	48.50	52.30	51.80	55.80	55.10	59.40	58.40	63.00	61.70	66.50
11	7/16	44.60	43.50	49.10	58.60	63.30	62.60	67.60	66.60	71.90	70.60	76.20	74.60	80.50
12	15/32	53.10	51.80	58.40	69.80	75.30	74.60	80.40	79.30	85.60	84.10	90.70	88.80	95.80
13	1/2	62.30	60.80	68.50	81.90	88.40	87.50	94.40	93.10	100.00	98.70	106.00	104.00	112.00
14	9/16	72.20	70.50	79.50	95.00	102.00	101.00	109.00	108.00	116.00	114.00	123.00	120.00	130.00
16	5/8	94.40	92.10	104.00	124.00	133.00	132.00	143.00	141.00	152.00	149.00	161.00	157.00	170.00
18	23/32	119.00	117.00	131.00	157.00	169.00	167.00	181.00	178.00	192.00	189.00	204.00	199.00	215.00
20	13/16	147.00	144.00	162.00	194.00	209.00	207.00	223.00	220.00	237.00	233.00	252.00	246.00	266.00
22	7/8	178.00	174.00	196.00	234.00	253.00	250.00	270.00	266.00	287.00	282.00	304.00	298.00	322.00

Construction: 6x37+FC 6x37+IWS 6x37+IWR

Nominal Diameter		Apprx. Weight (Kg/100m)			Nominal Tensile Strength of Rope(Mpa)									
					1470		1570		1670		1770		1870	
mm	in.	NF	SF	IWR/IWS	Minimum Breaking Load of Rope(Kn)									
					FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS
5	3/16	8.65	8.42	9.52	10.80	11.70	11.50	12.50	12.30	13.30	13.00	14.10	13.70	14.90
6	1/4	12.50	12.10	13.70	15.60	16.80	16.60	18.00	17.70	19.10	18.70	20.30	19.80	21.40
7	9/32	17.00	16.50	18.70	21.20	22.90	22.60	24.50	24.10	26.10	25.50	27.60	27.00	29.20
8	5/16	22.10	21.60	24.40	27.70	30.00	29.60	32.00	31.50	34.00	33.40	36.10	35.30	38.10
9	3/8	28.00	27.30	30.90	35.10	37.90	37.50	40.50	39.90	43.10	42.20	45.70	44.60	48.30
10	13/32	34.60	33.70	38.10	43.30	46.80	46.30	50.00	49.20	53.20	52.20	56.40	55.10	59.60
11	7/16	41.90	40.80	46.10	52.40	56.70	56.00	60.60	59.60	64.40	63.10	68.30	66.70	72.10
12	15/32	49.80	48.50	54.90	62.40	67.50	66.60	72.10	70.90	76.70	75.10	81.30	79.40	85.90
13	1/2	58.50	57.00	64.40	73.20	79.20	78.20	84.60	83.20	90.00	88.20	95.40	93.20	100.00
14	9/16	67.80	66.10	74.70	84.90	91.90	90.70	98.10	96.50	104.00	102.00	110.00	108.00	116.00
16	5/8	88.60	86.30	97.50	111.00	120.00	118.00	128.00	126.00	136.00	133.00	144.00	141.00	152.00
18	23/32	112.00	109.00	123.00	140.00	151.00	150.00	162.00	159.00	172.00	169.00	182.00	178.00	193.00
20	13/16	138.00	135.00	152.00	173.00	187.00	185.00	200.00	197.00	213.00	208.00	225.00	220.00	238.00
22	7/8	167.00	163.00	184.00	209.00	226.00	224.00	242.00	238.00	257.00	252.00	273.00	266.00	288.00

## 6X12 STEEL WIRE ROPE (UN GALVANIZED AND GALVANIZED)



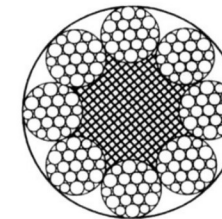
6x12+7FC

Construction: 6x12+7FC

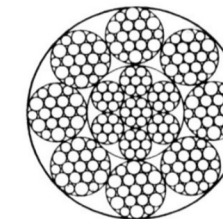
Nominal Diameter ( mm )	Approx Weight (Kg/100m)		Nominal Tensile Strength of Rope(Mpa)				
			1470	1570	1670	1770	1870
	NF	SF	Minimum Breaking Load of Rope(Kn)				
3	2.26	2.08	2.77	2.95	3.14	3.33	3.52
4	4.02	3.70	4.92	5.30	5.58	5.92	6.25
5	6.28	5.78	7.68	8.20	8.73	9.25	9.77
6	9.04	8.32	11.1	11.8	12.6	13.3	14.1
7	12.3	11.3	15.1	16.1	17.1	18.1	19.2
8	16.1	14.8	19.7	21.0	22.3	23.7	25.0
9	20.3	18.7	24.9	26.6	28.3	30.0	31.7
10	25.1	23.1	30.7	32.8	34.9	37.0	39.1
11	30.4	28.0	37.2	39.7	42.2	44.8	47.3
12	36.1	33.3	44.2	47.3	50.3	53.3	56.3
14	49.2	45.3	60.2	64.3	68.4	72.5	76.6
16	64.3	59.1	78.7	84.0	89.4	94.7	100
18	81.3	74.8	99.5	106	113	120	127
20	100	92.4	123	131	140	148	156
22	122	112	149	159	169	179	189
24	145	133	177	189	201	213	225
26	170	156	208	222	236	250	264
28	197	181	241	257	274	290	306
30	226	208	277	295	314	333	352
32	257	237	315	336	357	379	400
34	290	267	355	379	404	428	452
36	325	299	398	425	452	479	507
38	362	334	444	474	504	534	564
40	402	370	492	525	558	592	625

Main Applications: Towboat, goods net, floating transportation of wood, bunding etc.

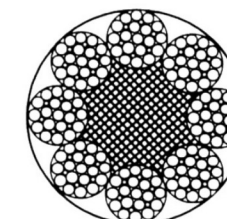
## 8X19S OR 8X19W ELEVATOR STEEL WIRE ROPE



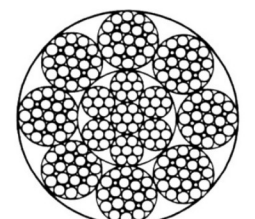
8x19S+FC



8x19S+IWR



8x19W+FC



8x19W+IWR

Construction: 8x19S+FC 8x19S+IWR 8x19W+FC 8x19W+IWR

Nominal Diameter ( mm )	Approx Weight (Kg/100m)			Nominal Tensile Strength of Rope(Mpa)									
				1470		1570		1670		1770		1870	
	NF	SF	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS	FC	IWR/IWS
8	22.1	21.4	27.0	27.5	32.5	29.4	34.7	31.3	36.9	33.1	39.2	35.0	41.4
9	28.0	27.1	34.2	34.8	41.1	37.3	44.0	39.6	46.7	42.0	49.6	44.3	52.4
10	34.6	33.4	42.2	43.0	50.8	46.0	54.3	48.9	57.7	51.8	61.2	54.7	64.7
11	41.9	40.4	51.1	52.1	61.5	55.6	65.7	59.2	69.9	62.7	74.1	66.2	78.2
12	49.9	48.0	60.8	62.0	73.2	66.2	78.2	70.4	83.2	74.6	88.1	78.8	93.1
13	58.5	56.4	71.3	72.7	85.9	77.7	91.8	82.6	97.6	87.6	103	92.5	109
14	67.9	65.4	82.7	84.4	99.6	90.1	106	95.9	113	101	120	107	126
16	88.7	85.4	108	110	130	117	139	125	147	132	156	140	165
18	112	108	137	139	164	149	176	158	187	168	198	177	209
20	139	133	169	172	203	184	217	195	231	207	244	219	258
22	168	162	204	208	246	222	262	236	279	251	296	265	313
24	199	192	243	248	292	264	312	281	332	298	352	315	372

Main Applications: Elevator and derricking machinery



# SELECTION, INSTALLATION, AND MAINTENANCE OF STEEL WIRE ROPE

## 1. Selection of Wire Rope

Refer to GB8918-2006 “Steel wire ropes for important purposes” and GB/T20018-2006

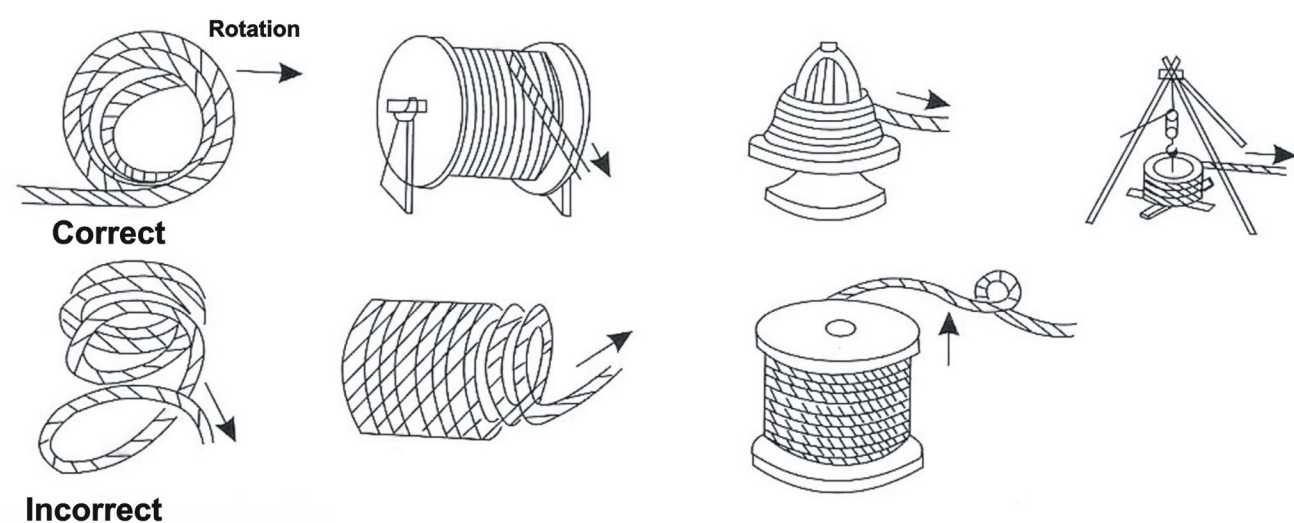
“Steel wire ropes for general purposes” on how to select from different constructions of wire rope. Please also refer to this section of our product catalogue in selecting wire rope. We suggest choosing equal lay steel wire rope. Compacted wire rope for general usage. The technical parameters such as lifting load, safety coefficient, and the lifting capacity of the lifting equipment should be taken into consideration when selecting the strength class of wire rope. Do not blindly choose high strength and high breaking force wire rope, this may compromise results.

## 2. Installation of Wire Rope

(1) Unwinding: Put a piece of iron tube through the reel or coil of wire rope, then install the reel onto a dedicated carrier. Keep the wire parallel to the ground and turn to unwind.

(2) The arrangement of wire rope on the reel: The winding direction of wire rope on the reel should depend on the lay direction of wire rope from left to right for right-lay wire rope, from right to left for left-lay wire rope. Wind the wire rope neatly onto the reel without the wire rope overlapping each other.

(3) Cutting: For wire rope with relatively high residual stress, use a soft iron wire to tie the rope 10-20mm from the cutting point. The length of the soft iron wire should be 1-4 times that of rope diameter. Then cut with cutting tool.



## 3. Maintenance and Inspection of Steel Wire Rope

(1) Operation: In operation, the wire rope should be in steady speed, never overload, and never shock load a wire rope.

(2) Maintenance: Lubricant is applied to the wires and strands of a wire rope when manufactured. This lubricant is depleted when the rope is in service. And various noxious matters will stick to the surface of the rope. These will cause abrasion between wire rope and the block, and rusting of the rope. It is important to clean and replace lubricant to the wire rope periodically.

(3) Record of inspection: wire rope should be inspected regularly, and all the records should be kept carefully. Other than cleaning and adding lubricant, the inspection should include checking the following: abrasion of wire rope, condition of broken wires, and corrosion. Also check the condition of metal parts such as pulley groove, loading ring, hook, etc. Pay special attention and check for external and internal broken wires in the fixed end of wire rope, and the section of wire rope that passes through pulley blocks and drums.

## 4. Contact between Wire Rope and Pulley Groove

The appropriate contact between pulley groove and wire rope is indicated in (figure 1). If the pulley groove is too wide (figure 2), the wire rope and its metal core are subject to more broken wires owing to fatigue. If the pulley groove is too narrow (figure 3), the wire rope will be worn seriously. The ratio between the radius of pulley groove and that of the wire rope should be:  $R/d=0.525\sim 0.550$ .



(Figure1)Correct

(Figure2)Incorrect

(Figure3)Incorrect

## WIRE SERIES APPLICATION RECOMMENDATION

Usage	Rope type	Structure	Comments
Hoisting in vertical shafts	Triangular strand wire rope	6Vx37S 6Vx37 6Vx34 6Vx30 6Vx21 6Vx43	
	Equal laid wire rope	6x19S 6x19W 6x25Fi 6x26WS 6x29Fi 6x31WS 6x36WS 6x41WS	Lang's lay is recommended
	Multi-layer strand wire rope	18x7 17x7 35Wx7 24Wx7 6Qx19+6Vx21 6Qx33+6Vx21	For use in vertical shafts with wire rope guide
Shaft excavation	Multi-layer strand wire rope un-shaped strand wire rope	60x33+6Vx21 17x7 18x7 34x7 36x7 60x19+6Vx21 4Vx39S 4Vx48S 35Wx7 24Wx7	
Balanced ropes for use in vertical shafts	Steel wire rope	6x37S 6x36WS 4Vx39S 4Vx48S	Use ordinary lay only
	Multi-layer strand wire rope	17x7 18x7 34x7 36x7 35Wx7 24Wx7	Use ordinary lay only
Hoisting in inclined shafts(winch)	Triangular strand wire rope	6Vx18 6Vx19	
	Steel wire rope	6x7 6x9W	Lang's lay is recommended
Blast furnace hoist	Triangular strand wire rope	6Vx37S 6Vx37 6Vx30 6Vx34 6Vx43	
	Equal laid wire rope	6x19S 6x25Fi 6x29Fi 6x26WS 6x31WS 6x36WS 6x41WS	
Vertical shaft guide and ropeway	Triangular strand wire rope	6Vx18 6Vx19	
	Multi-layer strand wire rope	18x7 17x7	Lang's lay is recommended
Winch on slope	Triangular strand wire rope	6Vx37S 6Vx37 6Vx30 6Vx34 6Vx43	
	Equal laid wire rope	6x36WS 6x37S 6x41WS 6x49SWS 6x55SWS	Lang's lay is recommended
Oil exploration	Equal laid wire rope	6x19S 6x19W 6x25Fi 6x29Fi 6x26WS 6x31WS 6x36WS	May use steel core wire ropes
Conveyer belt, telpher, cable railway	Equal laid wire rope	6x19S 6x19W 6x25Fi 6x29Fi 6x26WS 6x31WS 6x36WS 6x41WS	Lang's lay is recommended
Excavating machinery	Equal laid wire rope	6x19S+IWR 6x25Fi+IWR 6x19W+IWR 6x29Fi+IWR 6x26WS+IWR 6x31WS+IWR 6x36WS+IWR 6x55SWS+IWR 6x49SWS+IWR 35Wx7 24Wx7	Lang's lay is recommended
	Triangular strand wire rope	6Vx30 6Vx34 6Vx37 6Vx37S 6Vx43	

Usage	Rope type	Structure	Comments
Metallurgy	Equal laid wire rope	6x19S+IWR 6x19W+IWR 6x25Fi+IWR 6x36WS+IWR 6x41WS+IWR	
Dock, irrigation Projects, tower crane	Multi-layer strand wire rope	18x19S 18x19W 34x7 36x7 35Wx7 24Wx7	
	4 strand fan-shaped wire rope	4Vx39S 4Vx48S	
Frequent hoisting and for other important purposes	Equal laid wire rope	6x19S 6x19W 6x25Fi 6x29Fi 6x26WS 6x31WS 6x36WS 6x37S 6x41WS 6x49SWS 6x55SWS 8x19S 8x19W 8x25Fi 8x26WS 8x31WS 8x36WS 8x41WS 8x49SWS 8x55SWS	
	4 strand fan-shaped wire rope	4Vx39S 4Vx48S	
Steel works	Equal laid wire rope	6x19S+IWR 6x19W+IWR 6x25Fi+IWR 6x29Fi+IWR 6x31WS+IWR 6x37S+IWR 6x36WS+IWR	
Ship loading and unloading	Equal laid wire rope	6x19W 6x25Fi 6x29Fi 6x31WS 6x36WS 6x37S	Galvanized
	Multi-layer strand wire rope	18x19S 18x19W 34x7 36x7 35Wx7 24Wx7	
	4 strand fan-shaped wire rope	4Vx39S 4Vx48S	
Towboat, cargo net	Steel wire rope	6x31WS 6x36WS 6x37S	Galvanized
Fixing mast and hanging bridge on ships	Steel wire rope	6x7+IWS 6x19S+IWR	Galvanized
Salvage operations	Steel wire rope	6x37S 6x36WS 6x41WS 6x49SWS 6x31WS 6x55SWS 8x19S 8x19W 8x31WS 8x36WS 8x41WS 8x49SWS 8x55SWS	Galvanized

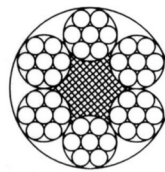
**Note:**

1. Use galvanized wire ropes in corrosive environment.
2. Use Lang's lay when the wire rope should not rotate during operation; or when the ropes should not cross each other, even if they belong to rotation-resistant type.

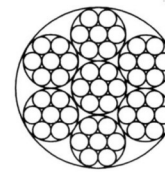
## PVC COATING STEEL WIRE ROPE

### Mechanical property

Construction	Diameter(mm)	Weight(Kg/m)	Min. Breaking Load(MBL)(Kn)		
			1175N/mm <sup>2</sup>	1270N/mm <sup>2</sup>	1370N/mm <sup>2</sup>
6x7+FC	2~3	0.021	2.22	2.35	2.60
	2~3.5	0.025	2.22	2.35	2.60
	3~4	0.043	4.99	5.29	5.86
	3~5	0.053	4.99	5.29	5.86
	4~5	0.072	8.87	9.41	10.42
	4~5.5	0.078	8.87	9.41	10.42
	4~6	0.084	8.87	9.41	10.42
	5~6	0.109	13.87	14.70	16.28
6x7+IWSC (7x7)	1.59~3.18	0.0220	/	1.60	1.78
	1.8~2.5	0.0190	/	2.06	2.28
	2~2.7	0.0206	2.40	2.54	2.81
	2.38~3.18	0.3000	3.40	3.60	3.99
	2.38~3.50	0.0323	3.40	3.60	3.99
	2.38~4	0.0369	3.40	3.60	3.99
	2.38~4.76	0.0437	3.40	3.60	3.99
	3.18~4.76	0.0564	6.05	6.42	7.11
	4.76~6.35	0.1173	13.58	14.40	15.94
	4.76~7.8	0.1250	13.58	14.40	15.94
	5~7.8	0.1350	15.00	15.90	17.60
	5~10	0.1750	15.00	15.90	17.60
6~10	0.1944	21.60	22.90	25.36	



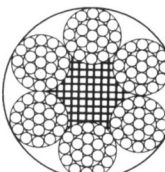
6x7+FC



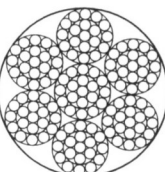
6x7+IWSC  
(7x7)

### Mechanical property

Construction	Diameter(mm)	Weight(Kg/m)	Min. Breaking Load(MBL)(Kn)		
			1175N/mm <sup>2</sup>	1270N/mm <sup>2</sup>	1370N/mm <sup>2</sup>
6x19+FC	2~3	0.021	2.22	2.35	2.60
	3.6~5.8	0.061	6.65	7.05	7.80
	6~8	0.168	18.50	19.60	21.70
	8~10	0.270	32.83	34.80	38.53
	9.3~11	0.355	49.97	52.97	58.65
	10~12	0.430	51.27	54.34	60.17
6x19+IWSC (7x19)	6.35~7.94	0.2020	22.36	23.70	26.24
	7.94~9.53	0.2950	34.95	37.04	41.00



6x19+FC



6x19+IWSC  
(7x19)

### Main purposes:

PVC coating steel wire rope can be widely used in automobiles, shipbuilding, construction industry and all the needs of outdoor applications or special working environment. Mainly used in mine hoist cage, meat processing plant upgrade machinery, ship anchors and fishing operations, fishing vessels trawling and so on.

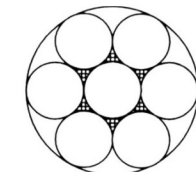
## STAINLESS STEEL WIRE ROPE

### Mechanical property

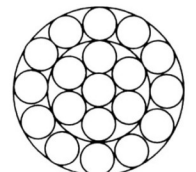
Construction	Diameter(mm)	Weight(Kg/m)	Min. Breaking Load(MBL)(Kn)
1x7	0.15	0.10	24.50
	0.24	0.28	58.80
	0.30	0.44	93.10
	0.36	0.64	127.40
	0.40	0.75	156.80
	0.45	1.00	196.00
	0.50	1.25	254.80
	0.60	1.80	343.00
	0.75	2.80	558.60
	0.90	4.00	823.20
	1.00	4.80	999.60
	1.20	7.00	1323.00
1x19	0.60	1.75	343.00
	0.70	2.40	470.40
	0.80	3.10	617.40
	0.90	3.90	774.20
	1.00	4.90	950.60
	1.20	7.00	1274.00
	1.50	11.00	2254.00
	1.60	12.50	2597.00
	1.80	15.00	3136.00
	2.00	19.50	3822.00
	2.40	28.00	4802.00
	2.50	30.38	5586.00
	3.00	43.74	8036.00
	3.50	59.54	9310.00
	4.00	77.76	12740.00

Standard: GB9944-88  
Material: 304/316/316L

It is used for chemical, engineering, aviation machine, instrument.



1x7



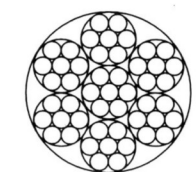
1x19

### Mechanical property

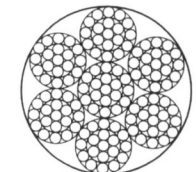
Construction	Diameter(mm)	Weight(Kg/m)	Min. Breaking Load(MBL)(Kn)
6x7+IWSC (7x7)	1.00	0.004	/
	1.50	0.008	/
	1.60	0.012	2.15
	1.80	0.014	2.25
	2.00	0.017	2.94
	2.50	0.025	4.41
	3.00	0.035	6.37
	4.00	0.065	9.51
	5.00	0.095	14.70
	6.00	0.135	18.62
6x19+IWSC (7x19)	3.00	0.0375	6.37
	4.00	0.067	8.62
	5.00	0.097	16.66
	6.00	0.149	23.52
	8.00	0.266	40.05
	9.00	0.350	46.06
	9.50	0.362	53.40
	10.00	0.384	54.88
	12.00	0.550	73.50

Standard: GB9944-88  
Material: 304/316/316L

It is used for chemical, engineering, aviation machine, instrument.



6x7+IWSC  
(7x7)



6x19+IWSC  
(7x19)

## HYDRAULIC SPLICING MACHINE

1. Cutting off the wire rope for one time, and splicing between the two sides, then cutting away the no use strands, at last shaping the splicing section.
2. The machine can splice the wire rope diameter between 10mm~80mm, different sizes only need to change one pin.
3. Reduce the working force, increase the working efficiency, and save the wire rope cost.
4. This machine is right reversal splicing, and WORKMATES can make left reversal splicing machine according to your need. You must make instruction if you splice the wire rope diameter between 80mm~120mm.



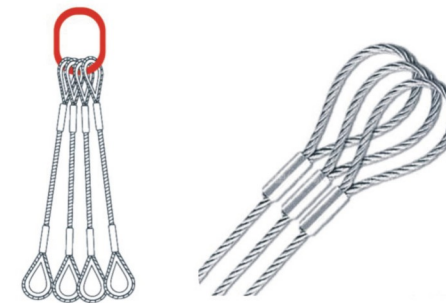
### Splicing Machine Parameter

Model	YQJZ32-C32	YQJZ32-C51	YQJZ32-C80
Rope Diameter (mm)	10~32	10~51	10~80
Rope Cutting Scope (mm)	0.3~30	0.3~30	0.3~30
Strand Cutting Scope (mm)	0.3~10	0.3~10	0.3~10
Shaping Scope (mm)	10~32	10~32	10~32
Power (Kw)	4	4	≤12
Voltage (V)	380V	380V	380V
Frequency (Hz)	50	50	50
Rotate Speed (r/min)	960	960	960
Measurement (mm)	1270x630x2170	3120x660x3100	5320x920x2880
Weight (Kg)	502	777	1439



## HYDRAULIC PRESSING MACHINE YSD100

Wire rope pressing machine YSD100 new product. The aluminum metal alloy inhibits to spread extensively among nations, making manufacturing size accurate, the structure is simple and direct. YSD series pressing machine is we combine with market condition, the independence develops the new model of production, the machine's craft technique is more perfect, structure reasonable, hard enduring, operate a humanization, extensively applied in each big mineral mountain, metallurgy, power station, petroleum, port etc.



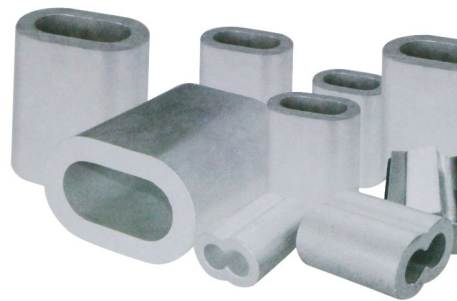
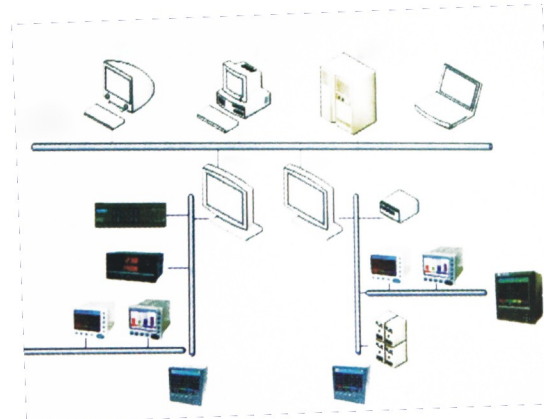
### SPLICING MACHINE PARAMEYER

Max. force (Kn)	1000
Max. dia. in one pressing (mm)	Φ11
Max. dia. with multi bite pressing (mm)	Φ12
Max. working pressing (Mpa)	63
Flow (ml/time)	2.26
Oil storage capacity (L)	3
Color	Blue/Green

## HYDRAULIC PRESSING MACHINE YSD200

### Characteristics of pressed wire rope slings:

1. High working load limit
2. Perfect pressed shape
3. Excellent cauterization resistance
4. Saving wire rope cost
5. Ensure the exact length
6. Advanced technics and efficiency
7. Good solution to rigging works with limited working space



Model	YSD200	YSD300	YSD600	YSD1000
Max. force (Kn)	2000	3000	6000	10000
Max. dia. in one pressing (mm)	Φ20	Φ25	Φ32	Φ46
Max. dia. with multi bite pressing (mm)	Φ22	Φ32	Φ44	Φ56
Max. piston movement (mm)	50	80	80	220
Piston working pressure (mm)	70	70	70	185
Max. working pressing (Mpa)	28	28	28	28
The up speed of piston (mm/s)	4.8	4.8	4.8	3.8
The down speed of piston (mm/s)	25	25	25	24
Color	Blue/Green			

## RELATIVITY TABLE FOR DIES, ALUMINIUM FERRULES AND WIRE ROPES



Relativity Table For Dies, Aluminium Ferrules And Wire Ropes (DIN Standard)

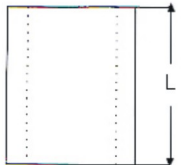
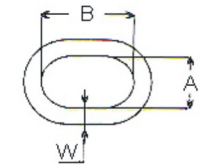
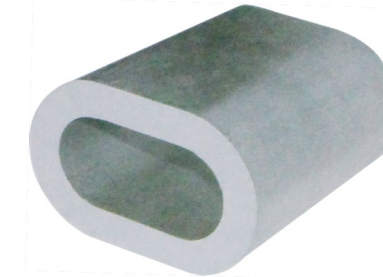
Aluminium Ferrules A	Dies A	Wire rope dia. with fibre core (mm) Fill factor (0.4-0.5)	Wire rope dia. with steel core (mm) Fill factor (0.5-0.6)	Dia. after pressing		Pressure (Kn)
				mm	Tolerance	
1	1	0.9~1.1	0.8~1.0	3	+0.10	5
1.5	1.5	1.2~1.6	1.1~1.4	3.8		10
2	2	1.7~2.1	1.5~1.9	4		20
2.5	2.5	2.2~2.6	2.0~2.4	5	+0.15	30
3	3	2.7~3.2	2.5~2.9	6		45
3.5	3.5	3.3~3.7	3.0~3.4	7		60
4	4	3.8~4.2	3.5~3.8	8	+0.30	80
4.5	4.5	4.3~4.7	3.9~4.3	9		100
5	5	4.8~5.3	4.4~4.8	10		125
6	6	5.4~6.3	4.9~5.8	12	+0.40	180
6.5	6.5	6.4~6.8	5.9~6.2	13		210
7	7	6.9~7.4	6.3~6.7	14		250
8	8	7.5~8.4	6.8~7.7	16	+0.50	320
9	9	8.5~9.5	7.8~8.6	18		410
10	10	9.6~10.5	8.7~9.6	20		500
11	11	10.6~11.6	9.7~10.5	22	+0.60	600
12	12	11.7~12.6	10.6~11.5	24		720
13	13	12.7~13.7	11.6~12.5	26		850
14	14	13.8~14.7	12.6~13.4	28	+0.80	1000
16	16	14.8~16.8	13.5~15.3	32		1300
18	18	16.9~18.9	15.4~17.3	36		1600
20	20	19.0~21.0	17.4~19.2	40	+1.00	2000
22	22	21.1~23.1	19.3~21.1	44		2400
24	24	23.2~25.2	21.2~23.0	48		2900
26	26	25.3~27.3	23.1~24.9	52	+1.10	3400
28	28	27.4~29.4	25.0~26.8	56		3900
30	30	29.5~31.5	26.9~28.8	60		4500
32	32	31.6~33.6	28.9~30.7	64	+1.30	5100
34	34	33.7~35.7	30.8~32.6	68		5800
36	36	35.8~37.8	32.7~34.5	72		6500
38	38	37.9~39.9	34.6~36.4	76	+1.30	7200
40	40	40.0~42.0	36.5~38.3	80		8000
42	42	42.1~44.1	38.4~40.3	84		8800
44	44	44.2~46.2	40.4~42.2	88	+1.30	9700
46	46	46.3~48.3	42.3~44.1	92		10600
48	48	48.0~50.4	44.0~46.2	96		11500

**Relativity Table For Dies, Aluminium Ferrules And Wire Ropes (DIN Standard)**

Aluminium Ferrules A	Dies A	Wire rope dia. with fibre core(mm) Fill factor(0.4-0.5)	Wire rope dia. with steel core(mm) Fill factor(0.5-0.6)	Dia. after pressing (GB91-76)		Pressure (Kn)
				mm	Tolerance	
50	50	48.4~52.5	44.2~47.9	100	+1.6	12500
52	52	52.0~54.6	46.3~47.9	104		13500
54	54	52.6~56.7	48.0~51.7	108	+1.7	14600
56	56	56.0~58.8	50.5~51.9	112		15700
58	58	56.8~60.9	51.8~55.6	116	+1.8	16800
60	60	60.6~63.0	54.7~55.9	120		18000
62	62	61.0~65.1	55.7~59.4	124	+2	19200
66	66	65.2~69.3	59.5~63.2	132		22000
70	70	69.4~73.5	63.3~67.1	140	+2.2	24500
74	74	73.6~77.7	67.2~70.9	148		27000
78	78	77.8~81.9	71.0~74.7	156	+2.6	30000
82	82	82.0~86.1	74.8~78.6	164		34000
86	86	85.1~90.3	77.7~82.4	172	+2.6	37000
94	94	93.7~98.7	82.5~90.2	188		44200
116	116	113.4~121.8	105.5~111.1	232	+2.6	67000
126	126	121.9~132.3	111.1~120.7	252		79000



**ALUMININUM FERRULES DIN3093**



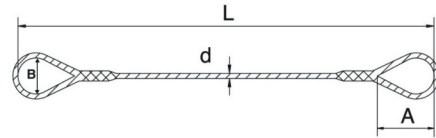
ART. NO	SLEEVE CODE	A (mm)	B (mm)	W (mm)	L (mm)	N. W (Kg) (PER 1000PCS)
CLF0101	1	1.2	2.4	0.65	5	0.094
CLF0102	1.5	1.7	3.4	0.75	6	0.211
CLF0103	2	2.2	4.4	0.85	7	0.375
CLF0104	2.5	2.7	5.4	1.05	9	0.499
CLF0105	3	3.3	6.6	1.25	11	0.843
CLF0106	3.5	3.8	7.6	1.5	13	1.32
CLF0107	4	4.4	8.8	1.7	14	1.81
CLF0108	4.5	4.9	9.8	1.9	16	2.61
CLF0109	5	5.5	11.0	2.1	18	3.57
CLF0110	6	6.6	13.2	2.5	21	5.86
CLF0111	6.5	7.2	14.4	2.7	23	7.55
CLF0112	7	7.8	15.6	2.9	25	9.5
CLF0113	8	8.8	17.6	3.3	28	13.7
CLF0114	9	9.9	19.8	3.7	32	19.8
CLF0115	10	10.9	21.8	4.1	35	26.4
CLF0116	11	12.1	24.2	4.5	39	35.8
CLF0117	12	13.2	26.4	4.9	42	45.8
CLF0118	13	14.2	28.4	5.4	46	59.7
CLF0119	14	15.3	30.6	5.8	49	73.5
CLF0120	16	17.5	35.0	6.7	56	111
CLF0121	18	19.6	39.2	7.6	63	156
CLF0122	20	21.7	43.4	8.4	70	217
CLF0123	22	24.3	48.6	9.2	77	292
CLF0124	24	26.4	52.8	10.0	84	376
CLF0125	26	28.5	57.0	10.9	91	481
CLF0126	28	31.0	62.0	11.7	98	603
CLF0127	30	33.1	66.2	12.5	105	739
CLF0128	32	35.2	70.4	13.4	112	897
CLF0129	34	37.8	75.6	14.2	119	1077
CLF0130	36	39.8	79.6	15.0	126	1275
CLF0131	38	41.9	83.8	15.8	133	1503
CLF0132	40	44.0	88.0	16.6	140	1734
CLF0133	42	46.2	92.4	17.5	147	2024
CLF0134	44	48.4	96.8	18.3	154	2314
CLF0135	46	50.6	101.2	19.2	161	2662
CLF0136	48	52.8	105.6	20.0	168	3010
CLF0137	50	55.0	110.0	20.8	175	3412
CLF0138	52	57.2	114.4	21.6	182	3813
CLF0139	54	59.4	118.8	22.5	189	4293
CLF0140	56	61.6	123.2	23.3	196	4772
CLF0141	58	63.8	127.6	24.2	203	5326
CLF0142	60	66.0	132.0	25.0	210	5880

**Aluminum sleeve hourglass**

ART. NO	PSEC.	ROPE DIA.	INS. DIA	OUT. DIA	OUT. WIDTH	INS. WIDTH	LENGTH	WEIGHT
	SLEEVE CODE	inch	(mm)	(mm)	(mm)	(mm)	(mm)	Kg
CLE0601	1/1 6"	1.60	1.98	4.37	4.35	4.00	9.60	0.0400
CLE0602	5/6 4"	2.00	2.39	5.56	7.95	4.80	9.60	0.0700
CLE0603	3/3 2"	2.40	3.30	7.06	10.26	6.50	12.70	0.0150
CLE0604	1/8 "	3.20	3.96	8.71	12.70	7.90	15.90	0.0290
CLE0605	5/3 2"	4.00	4.75	9.53	14.28	9.50	17.50	0.0360
CLE0606	3/1 6"	5.10	5.66	11.20	16.89	11.40	25.40	0.0700
CLE0607	7/3 2"	5.60	6.35	12.70	19.05	12.70	27.40	0.01000
CLE0608	1/4 "	6.40	7.37	13.61	20.78	14.60	28.60	0.01100
CLE0609	9/3 2"	7.10	7.92	14.27	22.35	16.00	32.20	0.01300
CLE0610	5/1 6"	8.00	9.53	17.45	26.19	18.30	31.70	0.02100
CLE0611	3/8 "	9.50	11.13	19.05	29.36	21.40	36.50	0.02700
CLE0612	7/1 6"	11.10	12.70	23.08	36.50	25.40	42.80	0.05300
CLE0613	1/2 "	12.70	14.27	27.00	41.28	28.50	50.80	0.08000



## SWAGED JOINT SOFT LOOP SLINGS



Rope Dia. (mm)	Soft loop Dia.(mm)		MBL (T)	Working Load Limit (T)		Rope Dia. (mm)	Soft loop Dia.(mm)		MBL (T)	Working Load Limit (T)	
	A	B		n=5	n=6		A	B		n=5	n=6
5	130	65	1.25	0.25	0.20	54	1000	500	146.84	29.40	24.50
6	150	75	1.80	0.36	0.30	56	1000	500	157.04	31.40	26.20
7	150	75	2.46	0.50	0.40	58	1200	600	169.27	33.90	28.20
8	200	100	3.21	0.60	0.50	60	1200	600	180.49	36.10	30.10
9	200	100	4.07	0.80	0.70	62	1200	600	185.59	37.10	31.00
10	200	100	5.03	1.00	0.80	64	1300	650	197.82	40.00	33.00
11	230	115	6.08	1.20	1.00	66	1300	650	210.06	42.00	35.00
12	230	115	7.23	1.50	1.20	68	1400	700	223.32	44.70	37.20
13	230	115	8.49	1.70	1.40	70	1400	700	236.57	47.30	39.40
14	250	125	9.85	2.00	1.60	72	1400	700	249.93	50.00	41.60
16	300	150	12.85	2.60	2.10	74	1500	750	264.01	52.80	44.00
18	300	150	16.32	3.30	2.70	76	1500	750	278.38	55.70	46.40
20	350	175	20.09	4.00	3.40	78	1600	800	293.68	58.70	49.00
22	350	175	24.27	4.90	4.10	80	1600	800	307.95	61.10	51.30
24	450	225	28.96	5.80	4.80	82	1600	800	324.27	64.90	54.00
26	450	225	33.96	6.80	5.70	84	1700	850	339.57	67.90	56.60
28	500	250	39.36	7.90	6.60	86	1700	850	356.90	71.40	59.50
30	500	250	45.17	9.00	7.50	88	1800	900	373.22	74.60	62.20
32	550	275	51.39	10.30	8.60	90	1800	900	390.55	78.10	65.10
34	600	300	58.12	11.60	9.70	92	1800	900	407.89	81.60	68.00
36	600	300	65.06	13.00	10.80	94	1900	950	426.24	85.30	71.00
38	600	300	72.50	14.50	12.10	96	1900	950	444.60	88.90	74.10
40	700	350	80.35	16.10	13.40	98	2000	1000	462.95	92.60	77.20
42	800	400	88.61	17.70	14.80	100	2000	1000	482.33	96.50	80.40
44	800	400	97.28	19.50	16.20	102	2000	1000	501.10	100.40	83.60
46	900	450	106.05	21.20	17.70	104	2100	1050	521.07	104.20	86.90
48	900	450	116.25	23.30	19.40	106	2100	1050	541.47	108.30	90.30
50	1000	500	125.43	25.10	21.00	108	2200	1100	561.86	112.40	93.60
52	1000	500	135.62	27.10	22.70	110	2200	1100	583.28	116.70	97.20

1. Steel wire rope with diameters from  $\Phi 5$  to  $\Phi 60$  are 6x37+FC-1670N/mm<sup>2</sup> type complying to the GB/T201118 standard, while the ones with diameters from  $\Phi 62$  to  $\Phi 100$  are 6x61+FC-1670N/mm<sup>2</sup> type complying to the GB/T20067 standard.
2. Values "A" or "B" can be customized. Otherwise, the values in the table apply.
3. "L" value meets client requirements; n=5 and n=6 are safety factors, determine by users.

## SINGLE-LIMB SWAGED JOINT SLING ASSEMBLY

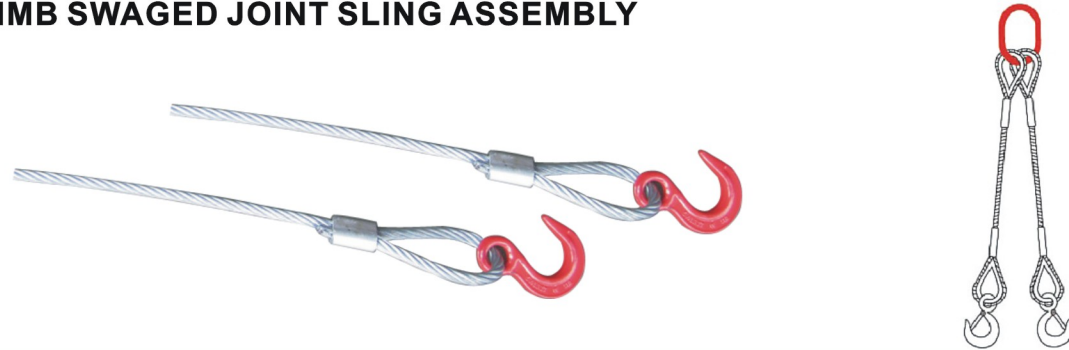


Code	Rope Dia.(mm)	Working Load Limit(Kn)	Loop dimension (mm)	Dimension of hook opening (mm)
LSJ06B-1-06	6	2.90	110x60x14	24
LSJ06B-1-08	8	4.90	110x60x14	24
LSJ06B-1-10	10	7.90	110x60x14	24
LSJ06B-1-12	12	11.80	110x60x16	25
LSJ06B-1-14	14	15.70	110x60x16	27
LSJ06B-1-16	16	21.60	135x75x18	30
LSJ06B-1-18	18	26.50	135x75x18	38
LSJ06B-1-20	20	32.40	160x90x22	38
LSJ06B-1-24	24	49.00	160x90x22	38
LSJ06B-1-28	28	68.60	180x100x26	45
LSJ06B-1-32	32	88.30	200x110x32	61
LSJ06B-1-38	38	117.70	260x140x36	67
LSJ06B-1-40	40	132.40	260x140x36	67
LSJ06B-1-44	44	147.00	300x160x40	67
LSJ06B-1-52	52	216.00	350x190x50	87
LSJ06B-1-56	56	257.00	350x190x50	87
LSJ06B-1-64	64	335.00	400x200x56	108
LSJ06B-1-70	70	400.00	400x200x56	108

**Note:**

1. The steel wire ropes are 1670N/mm<sup>2</sup> fiber core type.
2. "L" value meets client requirements.

**DOUBLE-LIMB SWAGED JOINT SLING ASSEMBLY**



Code	Rope Dia.(mm)	Working Load Limit(Kn) $\alpha \leq 90^\circ$	Working Load Limit(Kn) $90^\circ \leq \alpha \leq 120^\circ$	Loop dimension (mm)	Dimension of hook opening (mm)
LSJ06B-2-06	6	4.10	2.90	110x60x14	24
LSJ06B-2-08	8	6.90	4.90	110x60x14	24
LSJ06B-2-10	10	11.00	7.90	110x60x16	25
LSJ06B-2-12	12	16.50	11.80	110x60x16	25
LSJ06B-2-14	14	22.00	15.70	135x75x18	27
LSJ06B-2-16	16	30.00	21.60	135x75x18	30
LSJ06B-2-18	18	37.00	26.50	160x90x22	38
LSJ06B-2-20	20	45.00	32.40	160x90x22	38
LSJ06B-2-24	24	68.60	49.00	180x100x26	45
LSJ06B-2-28	28	96.00	68.60	200x110x32	61
LSJ06B-2-32	32	123.60	88.30	260x140x36	66
LSJ06B-2-38	38	165.00	117.70	300x160x40	87
LSJ06B-2-40	40	185.00	132.40	340x180x45	87
LSJ06B-2-44	44	206.00	147.00	340x180x45	87
LSJ06B-2-52	52	302.40	216.00	350x190x50	102
LSJ06B-2-56	56	359.80	257.00	400x200x56	107
LSJ06B-2-64	64	469.00	335.00	430x220x63	121
LSJ06B-2-70	70	560.00	400.00	480x250x72	146

Note:  
1. The steel wire ropes are 1670N/mm<sup>2</sup> fiber core type.  
2. "L" value meets client requirements.

**FOUR-LIMB SWAGED JOINT SLING ASSEMBLY**

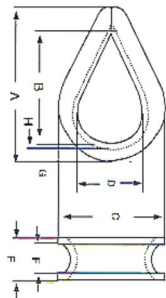


Code	Rope Dia.(mm)	Working Load Limit(Kn) $\alpha \leq 90^\circ$	Working Load Limit(Kn) $90^\circ \leq \alpha \leq 120^\circ$	Main loop dimension (mm)	Assistant loop dimension (mm)	Dimension of hook opening (mm)
LSJ06B-4-06	6	6.10	4.40	100x60x14	85x40x12	24
LSJ06B-4-08	8	10.30	7.40	100x60x14	85x40x12	25
LSJ06B-4-10	10	16.60	11.90	100x60x14	85x40x12	27
LSJ06B-4-12	12	24.80	17.70	160x90x18	100x60x14	30
LSJ06B-4-14	14	33.00	23.60	160x90x20	100x60x14	38
LSJ06B-4-16	16	45.40	32.40	180x100x22	150x70x18	38
LSJ06B-4-18	18	55.70	39.80	180x100x22	150x70x18	45
LSJ06B-4-20	20	68.00	48.60	270x140x28	160x90x22	45
LSJ06B-4-24	24	102.90	73.50	270x140x32	180x100x25	61
LSJ06B-4-28	28	144.10	102.90	260x140x36	-	66
LSJ06B-4-32	32	185.40	132.50	340x180x45	-	87
LSJ06B-4-38	38	247.00	176.60	340x180x50	-	102
LSJ06B-4-40	40	278.00	199.00	340x180x50	-	102
LSJ06B-4-44	44	309.00	221.00	340x180x50	-	108
LSJ06B-4-52	52	450.00	324.00	430x220x63	-	121
LSJ06B-4-56	56	540.00	386.00	460x250x72	-	146

Note:  
1. The steel wire ropes are 1670N/mm<sup>2</sup> fiber core type.  
2. "L" value meets client requirements.



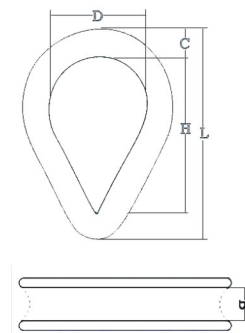
### G411 US TYPE THIMBLE



Pope Dia. (in.)	Weight Per 100 (lbs)	Dimensions(in.)							
		A	B	C	D	E	F	G	H
1/8	2.5	1.9	1.31	1.06	0.69	0.25	0.16	0.05	0.13
3/16	2.5	1.94	1.31	1.06	0.69	0.31	0.22	0.05	0.13
1/4	3.75	1.94	1.31	1.06	0.69	0.38	0.28	0.05	0.13
5/16	3.75	2.13	1.5	1.25	0.81	0.44	0.34	0.05	0.13
3/8	6.25	2.38	1.63	1.47	0.94	0.53	0.41	0.06	0.16
1/2	12.5	2.75	1.88	1.75	1.13	0.69	0.53	0.08	0.19
5/8	25	3.5	2.25	2.38	1.38	0.91	0.66	0.13	0.34

in=25.4mm lbs=0.4536Kg

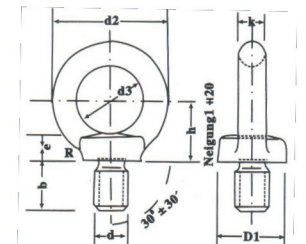
### WIRE ROPE THIMBLE, "B", DIN6899



Diameter rope(mm)	Thimble generally to B DIN6899					
	Groove width(mm) B	Back thickness (mm) C	Inside width(mm) D	Inside length(mm) H	Overall length(mm) L	App. Weight per 100 Purchase(Kg)
2.5	3	1.6	12	19	22	0.5
3.5	4	1.6	13	21	26	0.8
4	5	1.9	14	23	32	1
5	6	2.4	16	25	38	1.6
6	7	2.4	18	28	44	1.9
7	8	2.8	20	32	51	3
9	10	3.1	24	38	57	4.7
11	12	3.3	28	45	64	6.8
13	13	3.3	30	48	70	8
13	14	3.7	32	51	76	10
15	16	3.8	36	58	83	14.5
16	17	4.7	38	61	89	18
17	18	4.7	40	64	95	20
18	20	5.7	45	72	102	29
20	22	5.7	50	80	114	32
22	24	6.5	56	90	127	47
24	26	6.8	62	99	140	58
26	28	8	70	112	152	80
28	30	8	75	120	165	110
30	32	8	80	128	178	123
32	34	8.5	95	152	203	156
34	36	8.5	100	160	216	176
36	38	8.5	110	176	229	192
38	40	10.5	115	184	241	292
40	42	10.5	120	192	254	320
42	45	10.5	150	240	305	364

### EYE SCREW DIN580 FINISH: BRIGHT OR GALVANIZED

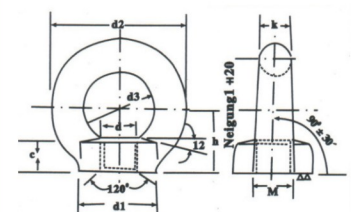
Side d	WLL(T)	WLL(T)	Dimensions(mm)							Weight (Kg)
			d1	d2	d3	b	e	h	k	
M6*	0.07	0.05	17	28	16	13	6	17	6	5
M8*	0.14	0.095	20	36	20	15	6	18	8	6
M10*	0.23	0.17	25	45	25	18	8	22	10	11
M12	0.34	0.24	30	54	30	22	10	26	12	18
M14*	0.49	0.34	35	63	35	28	12	30	14	28.5
M16*	0.7	0.50	35	63	35	28	12	30	14	28
M20	1.2	0.83	40	72	40	30	12	35	16	45
M22*	1.5	1.05	45	81	45	35	14	40	18	67
M24	1.8	1.27	50	90	50	38	16	45	20	87
M27*	2.5	1.65	50	90	50	38	18	45	20	88
M30	3.6	2.60	65	108	60	45	18	55	24	166
M33*	4.3	3.20	65	108	60	45	22	55	24	172
M36	5.1	3.70	75	126	70	55	22	65	28	265
M39*	6.1	4.30	75	126	70	55	26	65	28	280
M42	7.0	5.00	85	144	80	65	30	75	32	403
M45*	8.0	5.50	85	144	80	65	30	75	32	425
M48	8.6	6.10	100	166	90	70	35	85	38	638
M52*	9.9	7.30	100	166	90	70	35	85	38	660
M56	11.5	8.30	110	184	100	80	38	95	42	880
M64	16.0	11.0	120	206	110	90	42	100	48	1240



in=25.4mm lbs=0.4536Kg

### RING-NUT DIN582 FINISH: BRIGHT OR GALVANIZED

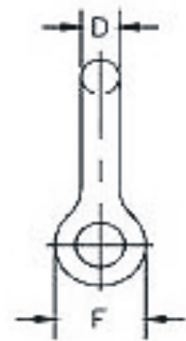
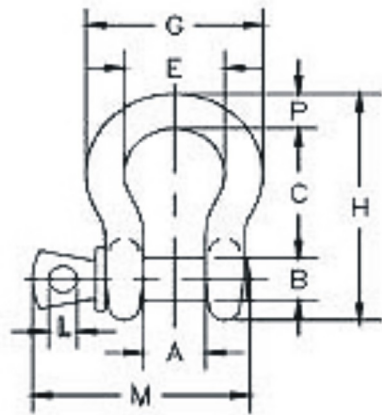
Side d	WLL(T)	WLL(T)	Dimensions(mm)						Weight (Kg)
			d1	d2	d3	e	h	k	
M6*	-	-	20	36	20	8.5	18	8	4.9
M8*	0.14	0.095	20	36	20	8.5	18	8	5
M10*	0.23	0.17	25	45	25	10	22	10	9
M12	0.34	0.24	30	54	30	11	26	12	16
M16	0.7	0.5	35	63	35	13	30	14	24
M20	1.2	0.83	40	72	40	16	35	16	36
M22*	1.5	1.05	45	81	45	18	40	18	58
M24	1.8	1.27	50	90	50	20	45	20	72
M27*	2.5	1.65	50	90	50	20	45	20	70
M30	3.6	2.6	65	108	60	25	55	24	132
M33*	4.3	3.2	65	108	60	25	55	24	130
M36	5.1	3.7	75	126	70	30	65	28	208
M39*	6.1	4.3	75	126	70	30	65	28	202
M42	7	5	85	144	80	35	75	32	311
M45*	8	5.5	85	144	80	35	75	32	304
M48	8.6	6.1	100	166	90	40	85	38	502
M52*	9.9	7.3	100	166	90	40	85	38	495
M56	11.5	8.3	110	184	100	45	95	42	669
M64	16	11	120	206	110	50	105	48	930



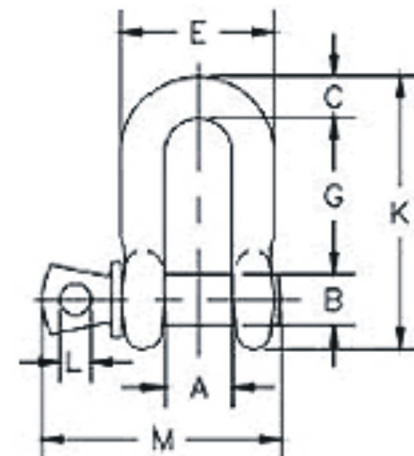
\* These sizes should be avoid, if possible  
Model: Drop forged, fused, selfcoloured  
Material and Thread: C15/DIN11/DIN267  
in=25.4mm lbs=0.4536Kg

**SHACKLE**

**US TYPE SCREW PIN ANCHOR SHACKLE G209 S209**



**US TYPE SCREW PIN ANCHOR SHACKLE G210 S210**

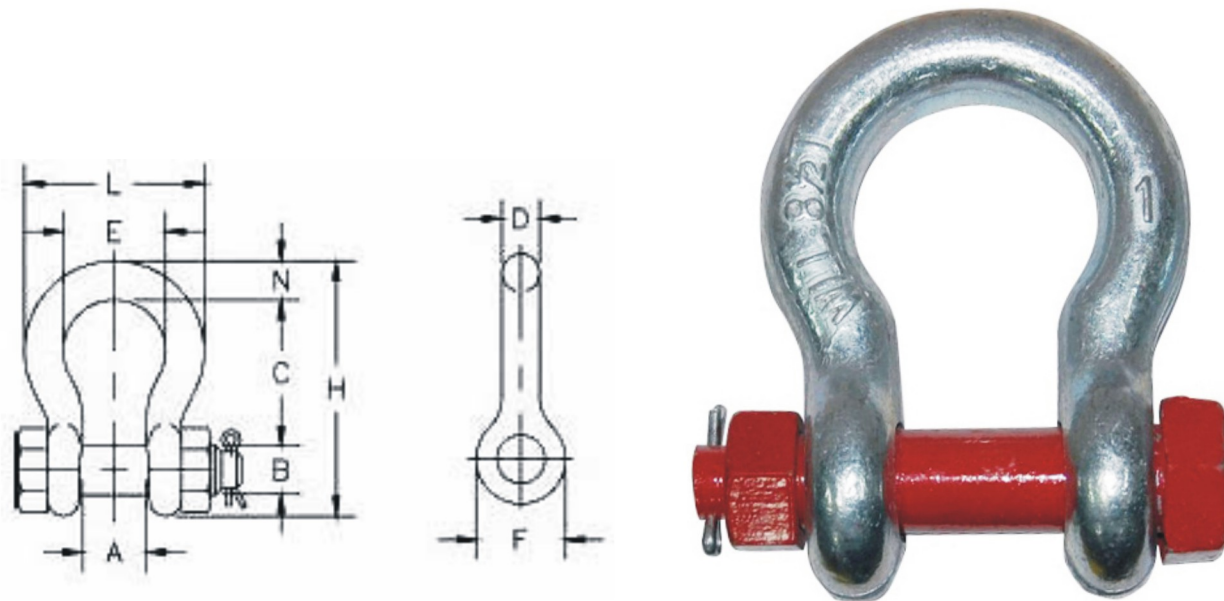


Nominal Size (in.)	Working Load Limit(t)	Weight Each (lbs.)	Dimensions(in.)											Tolerance +/-	
			A	B	C	D	E	F	G	H	L	M	P	C	A
3/16	1/3	0.06	0.38	0.25	0.88	0.19	0.60	0.56	0.98	1.47	0.16	1.12	0.19	0.06	0.06
1/4	1/2	0.10	0.47	0.31	1.13	0.25	0.78	0.61	1.28	1.84	0.19	1.38	0.26	0.06	0.06
5/16	3/4	0.19	0.53	0.38	1.22	0.31	0.84	0.75	1.47	2.09	0.22	1.66	0.31	0.06	0.06
3/8	1	0.31	0.66	0.44	1.44	0.38	1.03	0.91	1.78	2.49	0.25	2.03	0.38	0.13	0.06
7/16	1-1/2	0.38	0.75	0.50	1.69	0.44	1.16	1.06	2.03	2.91	0.31	2.38	0.44	0.13	0.06
1/2	2	0.72	0.81	0.63	1.88	0.50	1.31	1.19	2.31	3.28	0.38	2.69	0.50	0.13	0.06
5/8	3-1/4	1.37	1.06	0.75	2.38	0.63	1.69	1.50	2.94	4.19	0.44	3.34	0.69	0.13	0.06
3/4	4-3/4	2.35	1.25	0.88	2.81	0.75	2.00	1.81	3.50	4.97	0.50	3.97	0.81	0.25	0.06
7/8	6-1/2	3.62	1.44	1.00	3.31	0.88	2.28	2.09	4.03	5.83	0.50	4.50	0.97	0.25	0.06
1	8-1/2	5.03	1.69	1.13	3.75	1.00	2.69	2.38	4.69	6.56	0.56	5.07	1.06	0.25	0.06
1-1/8	9-1/2	7.41	1.81	1.25	4.25	1.16	2.91	2.69	5.16	7.47	0.63	5.59	1.25	0.25	0.06
1-1/4	12	9.50	2.03	1.38	4.69	1.29	3.25	3.00	5.75	8.25	0.69	6.16	1.38	0.25	0.06
1-3/8	13-1/2	13.53	2.25	1.50	5.25	1.42	3.63	3.31	6.38	9.16	0.75	6.84	1.50	0.25	0.13
1-1/2	17	17.20	2.38	1.63	5.75	1.54	3.88	3.63	6.88	10.00	0.81	7.35	1.62	0.25	0.13
1-3/4	25	27.78	2.88	2.00	7.00	1.84	5.00	4.19	8.86	12.34	1.00	9.08	2.25	0.25	0.13
2	35	45.00	3.25	2.25	7.75	2.08	5.75	4.81	9.97	13.68	1.22	10.34	2.40	0.25	0.13
2-1/2	55	85.75	4.13	2.75	10.50	2.71	7.25	5.69	12.87	17.84	1.38	13.00	3.13	0.25	0.25

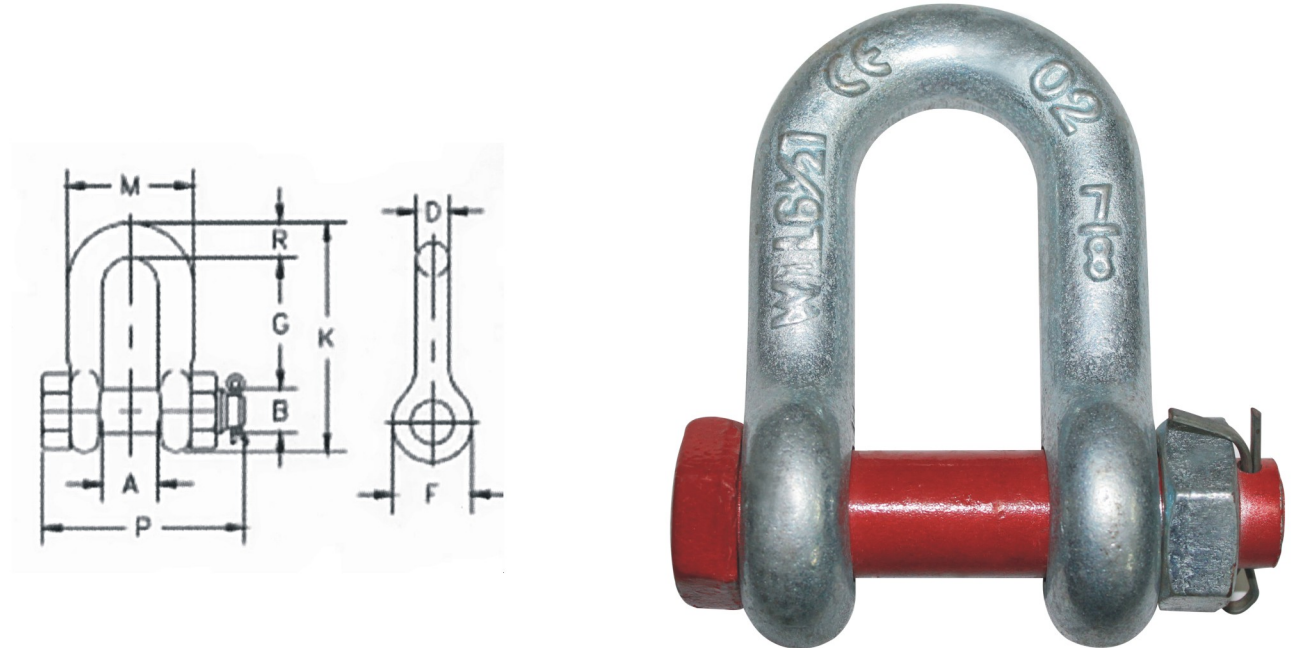
Nominal Size (in.)	Working Load Limit(t)	Weight Each (lbs.)	Dimensions(in.)											Tolerance +/-	
			A	B	C	D	E	F	G	K	L	M	G	A	
1/4	1/2	0.11	0.47	0.31	0.25	0.25	0.97	0.62	0.97	1.59	0.19	1.43	0.06	0.06	
5/16	3/4	0.17	0.53	0.38	0.31	0.31	1.15	0.75	1.07	1.91	0.22	1.71	0.06	0.06	
3/8	1	0.28	0.66	0.44	0.38	0.38	1.42	0.92	1.28	2.31	0.25	2.02	0.13	0.06	
7/16	1-1/2	0.43	0.75	0.50	0.44	0.44	1.63	1.06	1.48	2.67	0.31	2.37	0.13	0.06	
1/2	2	0.59	0.81	0.63	0.50	0.50	1.81	1.18	1.66	3.03	0.38	2.69	0.13	0.06	
5/8	3-1/4	1.25	1.06	0.75	0.63	0.63	2.32	1.50	2.04	3.76	0.44	3.34	0.13	0.06	
3/4	4-3/4	2.63	1.25	0.88	0.81	0.75	2.75	1.81	2.40	4.53	0.50	3.97	0.25	0.06	
7/8	6-1/2	3.16	1.44	1.00	0.97	0.88	3.20	2.10	2.86	5.33	0.50	4.50	0.25	0.06	
1	8-1/2	4.75	1.69	1.13	1.00	1.00	3.69	2.38	3.24	5.94	0.56	5.13	0.25	0.06	
1-1/8	9-1/2	6.75	1.81	1.25	1.25	1.13	4.07	2.69	3.61	6.78	0.63	5.71	0.25	0.06	
1-1/4	12	9.06	2.03	1.38	1.38	1.25	4.53	3.00	3.97	7.50	0.69	6.25	0.25	0.13	
1-3/8	13-1/2	11.63	2.25	1.50	1.50	1.38	5.01	3.31	4.43	8.28	0.75	6.83	0.25	0.13	
1-1/2	17	15.95	2.38	1.63	1.62	1.50	5.38	3.62	4.84	9.05	0.81	7.33	0.25	0.13	
1-3/4	25	26.75	2.88	2.00	2.12	1.75	6.38	4.19	5.78	10.97	1.00	9.06	0.25	0.13	
2	35	42.31	3.25	2.25	2.36	2.10	7.25	5.00	6.77	12.74	1.13	10.35	0.25	0.13	
2-1/2	55	71.75	4.12	2.75	2.63	2.63	9.38	5.68	8.07	14.85	1.38	13.00	0.25	0.25	

NOTE: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications. in=25.4mm lbs=0.4536kg

US BOLT TYPE ANCHOR SHACKLE G2130 S2130



US BOLT TYPE ANCHOR SHACKLE G2150 S2150



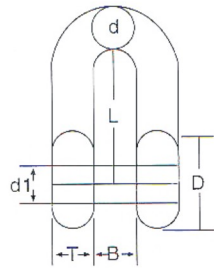
Nominal Size (in.)	Working Load Limit (t)	Weight Each (lbs.)	Dimensions(in.)									Tolerance +/-	
			A	B	C	D	E	F	H	I	N	C	A
3/16	1/3	0.06	0.38	0.25	0.88	0.19	0.60	0.56	1.47	0.98	0.19	0.06	0.06
1/4	1/2	0.11	0.47	0.31	1.13	0.25	0.78	0.61	1.84	1.28	0.25	0.06	0.06
5/16	3/4	0.22	0.53	0.38	1.22	0.31	0.84	0.75	2.09	1.47	0.31	0.06	0.06
3/8	1	0.33	0.66	0.44	1.44	0.38	1.03	0.91	2.49	1.78	0.38	0.13	0.06
7/16	1-1/2	0.49	0.75	0.50	1.69	0.44	1.16	1.06	2.91	2.03	0.44	0.13	0.06
1/2	2	0.79	0.81	0.64	1.88	0.50	1.31	1.19	3.28	2.31	0.50	0.13	0.06
5/8	3-1/4	1.68	1.06	0.77	2.38	0.63	1.69	1.50	4.19	2.94	0.69	0.13	0.06
3/4	4-3/4	2.72	1.25	0.89	2.81	0.75	2.00	1.81	4.97	3.50	0.81	0.25	0.06
7/8	6-1/2	3.95	1.44	1.02	3.31	0.88	2.28	2.09	5.83	4.03	0.97	0.25	0.06
1	8-1/2	5.66	1.69	1.15	3.75	1.00	2.69	2.38	6.56	4.69	1.06	0.25	0.06
1-1/8	9-1/2	8.27	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	1.25	0.25	0.06
1-1/4	12	11.71	2.03	1.40	4.69	1.29	3.25	3.00	8.25	5.75	1.38	0.25	0.06
1-3/8	13-1/2	15.83	2.25	1.53	5.25	1.42	3.63	3.31	9.16	6.38	1.50	0.25	0.13
1-1/2	17	20.80	2.38	1.66	5.75	1.53	3.88	3.63	10.00	6.88	1.62	0.25	0.13
1-3/4	26	33.91	2.88	2.04	7.00	1.84	5.00	4.19	12.34	8.80	2.25	0.25	0.13
2	35	52.25	3.25	2.30	7.75	2.08	5.75	4.81	13.68	10.15	2.40	0.25	0.13
2-1/2	55	98.25	4.13	2.80	10.50	2.71	7.25	5.69	17.90	12.75	3.13	0.25	0.25
3	85	154.00	5.00	3.30	13.00	3.12	7.88	6.50	21.50	14.62	3.62	0.25	0.25
3-1/2	120	265.00	5.25	3.76	14.63	3.62	9.00	8.00	24.88	17.02	4.38	0.25	0.25
4	150	338.00	5.50	4.26	14.50	4.00	10.00	9.00	25.68	18.00	4.56	0.25	0.25

Nominal Size (in.)	Working Load Limit (t)	Weight Each (lbs.)	Dimensions(in.)									Tolerance +/-	
			A	B	D	F	G	K	M	P	R	G	A
1/4	1/2	0.13	0.47	0.31	0.25	0.62	0.91	1.59	0.97	1.56	0.25	0.06	0.06
5/16	3/4	0.23	0.53	0.38	0.31	0.75	1.07	1.91	1.15	1.82	0.31	0.06	0.06
3/8	1	0.33	0.66	0.44	0.38	0.92	1.28	2.31	1.42	2.17	0.38	0.13	0.06
7/16	1-1/2	0.49	0.75	0.50	0.44	1.06	1.48	2.67	1.63	2.51	0.44	0.13	0.06
1/2	2	0.75	0.81	0.64	0.50	1.18	1.66	3.03	1.81	2.80	0.50	0.13	0.06
5/8	3-1/4	1.47	1.06	0.77	0.63	1.50	2.04	3.76	2.32	3.56	0.63	0.13	0.06
3/4	4-3/4	2.52	1.25	0.89	0.75	1.81	2.40	4.53	2.75	4.15	0.81	0.25	0.06
7/8	6-1/2	3.85	1.44	1.02	0.88	2.10	2.86	5.33	3.20	4.82	0.97	0.25	0.06
1	8-1/2	5.55	1.69	1.15	1.00	2.38	3.24	5.94	3.69	5.39	1.00	0.25	0.06
1-1/8	9-1/2	7.60	1.81	1.25	1.13	2.68	3.61	6.78	4.07	5.90	1.25	0.25	0.06
1-1/4	12	10.81	2.03	1.40	1.25	3.00	3.97	7.50	4.53	6.69	1.38	0.25	0.06
1-3/8	13-1/2	13.75	2.25	1.53	1.38	3.31	4.43	8.28	5.01	7.21	1.50	0.25	0.13
1-1/2	17	18.50	2.38	1.66	1.50	3.62	4.87	9.05	5.38	7.73	1.62	0.25	0.13
1-3/4	25	31.40	2.88	2.04	1.75	4.19	5.82	10.97	6.38	9.33	2.12	0.25	0.13
2	35	46.75	3.25	2.30	2.10	5.00	6.82	12.74	7.25	10.41	2.36	0.25	0.13
2-1/2	55	85.00	4.12	2.80	2.63	5.68	8.07	14.85	9.38	13.58	2.63	0.25	0.25
3	85	124.25	5.00	3.25	3.00	6.50	8.56	16.87	11.00	15.13	3.50	0.25	0.25

NOTE: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications. \*Individually Proof Tested with certification. \*\*Furnished in Anchor style only and furnished with Round Head Bolts with welded handles. In=25.4mm Lbs=0.4536kg

**SHACKLE COMMERCIAL TYPE JIS STANDARD**

Material: Mild Carbon Steel & Stainless Steel ANSI 304/316

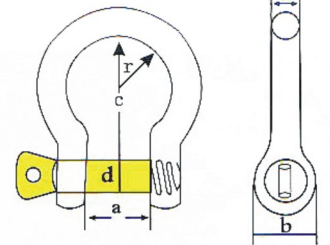


Nominal Size		Dimensions(mm)				SWL	
mm	in	B	D	L	d1	Ton	Kg
4.8	3/16	10	10	18.5	5.0	0.09	0.014
6	1/4	12	11	25	6.5	0.15	0.028
8	5/16	14	15	31	8.5	0.25	0.049
9	3/8	18	17	36	10	0.4	0.049
12	1/2	24	23	46	13	0.6	0.18
16	5/8	30	32	59	17	0.8	0.42
19	1/3	36	37	74	20	1.0	0.72
22	7/8	43	43	86	23	1.5	1.18
25	1	47	50	95	27	2.0	1.8
28	1-1/8	55	56	110	30	2.5	2.5
32	1-1/4	64	64	130	34	3.2	3.7
38	1-1/2	76	76	145	40	4.2	6.1
44	1-3/4	80	90	160	47	6.5	-
50	2	100	100	185	53	8	-
65	2-1/2	110	130	240	68	15	-
75	2	120	150	300	78	20	-

**EUROPEAN TYPE LARGE BOW SHACKLE**

SAME SIZE DIAMETER PIN WITH BODY

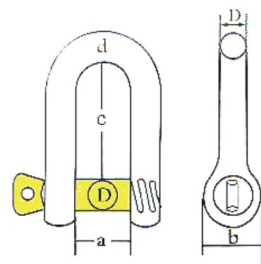
Material: Mild Carbon Steel & Stainless Steel ANSI 304/316



SWL(Kg)	Dimensions(mm)						Approx 100pcs/WT(Kg)
	D	d	a	c	r	b	
80	5	5	10	19	8	11	1.9
100	6	6	13	25	10	14	34
200	8	8	16	32	12	18	7
320	10	10	19	38	16	20	13
520	12	12	25	51	19	26	26
800	16	16	32	64	28	33	50
1100	20	20	38	76	33	40	80
1500	22	22	44	89	37	50	130
2100	25	25	51	100	40	57	200
3000	28	28	57	115	47	68	310
3500	32	32	64	127	52	73	430
5000	38	38	76	152	63	85	700
7000	45	45	90	180	75	96	1250
8000	50	50	102	200	78	108	1750

**EUROPEAN TYPE LARGE DEE SHACKLE**

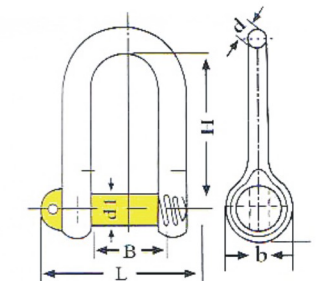
SAME SIZE DIAMETER PIN WITH BODY



SWL(Kg)	Dimensions(mm)					Weight per 100pcs(Kg)
	D	d	a	c	b	
80	5	5	10	19	11	1.9
100	6	6	13	25	14	3.4
200	8	8	16	32	18	7
320	10	10	19	38	20	13
520	12	12	25	51	26	24
800	16	16	32	64	33	50
1100	20	20	38	76	40	80
1500	22	22	44	89	50	130
2100	25	25	51	100	57	200
3000	28	28	57	115	68	300
3500	32	32	64	127	73	430
5000	38	38	76	152	85	675
7000	45	45	90	180	96	1250
8000	50	50	102	200	108	1750

**HEAVY SHACKLE**

Shackle No.	SWL(Kg)	Max. Wire Rope Dia. (mm)	Dimensions(mm)				
			d1	d	L	B	H
0.2	200	4.7	M8	6	35	12	35
0.3	330	6.5	M10	8	44	16	45
0.5	500	8.5	M12	10	55	20	50
0.9	930	9.5	M16	12	65	65	60
1.4	1450	13	M20	16	86	32	80
2.1	2100	15	M24	20	101	36	90
2.7	2700	17.5	M27	22	111	40	100
3.3	3300	19.5	M30	24	123	45	110
4.1	4400	22	M33	27	137	50	120
4.9	4900	26	M36	30	153	58	130
6.8	6800	28	M42	36	176	64	150
9.0	9800	31	M48	42	197	70	170
10.7	10700	34	M52	45	218	80	190
16.0	16000	43.5	M64	52	262	100	235
21.0	24000	43.5	M76	65	321	99	256



# TURNBUCKLE

Turnbuckles to U.S.Federal Specification(FF-T-791b)



Hook & Hook



EYE & EYE



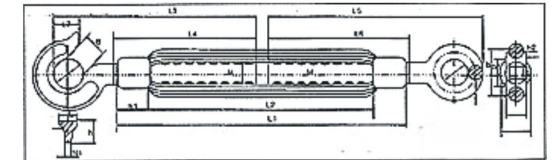
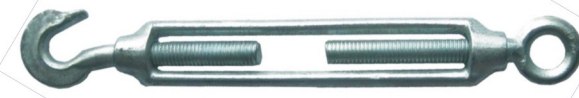
EYE & JAW



JAW & JAW

Size (Diameter x Take-Up)	Average Overall Length with Ends in Closed Position	Approx.Weight Each(lbs)					Working Load Limit(lbs)		
		Eyes and / or Hooks	Jaw & Eye	Jaw & Jaw	Stub End	Bodies Only	Hood & Hook Hood & Eye	Eye & Eye; Jaw & Eye Jaw & Jaw; Stub End	
1/4"x4"	8-1/4	0.30	0.30	0.40	0.29	0.17	0.400	0.500	
5/16"x4-1/2"	9-9/16	0.50	0.35	0.58	0.46	0.25	0.700	0.800	
3/8"x6"	11-7/8	0.75	0.82	0.93	0.75	0.30	1.000	1.200	
1/2"x6"	13-5/16	1.50	1.62	1.68	1.36	0.55	1.500	2.200	
1/2"x9"	16-5/16	1.75	1.82	1.85	1.69	0.74	1.500	2.200	
1/2"x12"	19-5/16	2.18	2.19	2.20	2.0	0.93	1.500	2.200	
5/8"x6"	15-1/2	2.63	2.59	2.82	2.15	0.91	2.250	3.500	
5/8"x9"	18-1/2	3.00	3.01	3.25	2.70	1.20	2.250	3.500	
5/8"x12"	21-1/2	3.25	3.50	3.75	3.22	1.50	2.250	3.500	
3/4"x6"	17	3.75	4.25	4.68	3.25	1.30	3.000	5.200	
3/4"x9"	20	4.50	5.00	5.38	4.00	1.70	3.000	5.200	
3/4"x12"	23	5.75	5.75	6.12	4.65	2.12	3.000	5.200	
3/4"x18"	29	7.00	7.25	7.25	6.12	2.93	3.000	5.200	
7/8"x6"	18	-	-	-	4.75	2.00	-	7.200	
7/8"x12"	24-5/8	8.38	8.88	9.36	6.62	3.00	4.000	7.200	
7/8"x18"	30-5/8	10.25	10.60	11.44	8.75	4.12	4.000	7.200	
1"x6"	20-5/8	-	-	-	6.41	2.50	-	10.000	
1"x2"	26-5/8	11.25	12.00	12.88	8.90	3.86	5.000	10.000	
1"x18"	32-5/8	14.00	14.75	16.10	11.70	5.50	5.000	10.000	
1"x24"	38-5/8	17.00	17.75	18.60	14.30	7.00	5.000	10.000	
1-1/4"x6"	20	-	-	-	10.40	4.00	-	15.200	
1-1/4"x12"	29-7/8	19.00	21.20	23.60	14.20	5.93	-	15.200	
1-1/4"x18"	35-7/8	24.10	26.00	28.60	18.00	8.00	-	15.200	
1-1/4"x24"	41-7/8	25.10	28.70	31.20	21.80	10.00	-	15.200	
1-1/2"x6"	22-7/8	-	-	-	15.40	5.80	-	21.400	
1-1/2"x12"	32-3/8	27.00	31.10	35.50	20.50	8.40	-	21.400	
1-1/2"x18"	38-3/8	31.20	36.40	40.70	26.20	11.50	-	21.400	
1-1/2"x24"	44-3/8	38.20	44.20	47.60	31.40	14.10	-	21.400	
1-3/4"x6"	-	-	-	-	22.70	8.75	-	28.000	
1-3/4"x18"	41-3/4	45.00	48.80	52.40	-	-	-	28.000	
1-3/4"x24"	47-3/4	58.00	60.00	64.00	43.90	19.50	-	28.000	
2"x6"	-	-	-	-	31.50	12.50	-	37.000	
2"x24"	51-3/4	90.00	102.00	115.00	60.30	27.50	-	37.000	
2-1/2"x6"	-	-	-	-	60.80	27.00	-	60.000	
2-1/2"x24"	51-1/2	183.00	180.00	200.00	110.00	54.00	-	60.000	
2-3/4"x24"	61-1/2	180.00	214.00	248.00	-	54.00	-	75.000	

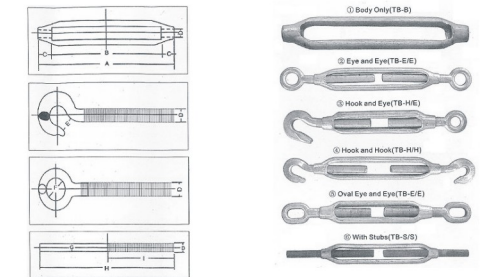
## TURNBUCKLES COMMERCIAL TYPE (MALLEABLE IRON)



WLL(Kg)	Specification	B	C	D	E	F	L	Weight(kg)
100	6x100mm	145	215	12	10	6	100	0.06
200	8x125mm	185	280	14	12	8	125	0.125
300	10x150mm	210	325	16	14	9	150	0.250
500	12x200mm	275	430	19	18	11	200	0.480
1000	16x250mm	345	540	23	24	14	250	0.980
1500	20x300mm	435	670	28	26	18	300	1.650
2200	22x330mm	480	740	34	32	20	330	2.350
3000	24x350mm	555	830	36	36	21	350	2.750



## TURNBUCKLES Frame Type (Forged Steel)

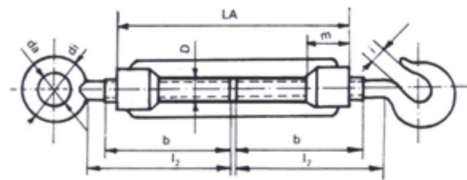
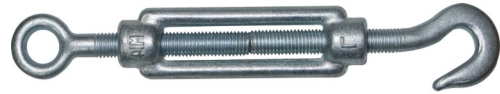


①⑥ Sides and Weights(Approx)

Nominal Size(D)	①Body Only						②Eye and Eye			③Hook and Eye		④Hook and Hook			⑥With Stubs				
	A	B	C	T.L	WPcs	F	T.L	WPcs	T.L	WPcs	E	T.L	WPcs	H	I(Δ)	G	WPcs		
mm	in	mm	in	mm	mm	Ton	Kg	mm	Ton	Kg	Ton	Kg	mm	Ton	Kg	mm	mm	mm	Kg
6	1/4	100	4	78	11	1	0.08	10	0.1	0.116	0.04	0.114	9	0.04	0.112	80	50	5.3	0.112
8	5/16	125	5	100	12.5	1.2	0.15	12	0.2	0.22	0.08	0.218	9	0.08	0.215	100	63	6.9	0.22
9	3/8	150	6	120	12.5	1.5	0.17	16	0.5	0.295	0.15	0.293	11	0.15	0.29	130	75	8.3	0.273
12	1/2	200	8	164	18	2	0.29	20	2	0.6	0.35	0.585	16	0.35	0.57	150	100	11.2	0.51
16	5/8	250	10	202	21.5	3	0.52	22	3	1.07	0.7	1.05	19	0.7	1.03	180	125	14.2	0.95
19	3/4	300	12	250	25	4	0.85	28	4	1.79	1.0	1.78	20	1.0	1.77	220	150	17.2	1.62
22	7/8	325	13	269	28	5	1.17	33	5	2.55	1.5	2.58	21	1.5	2.6	250	165	20.3	2.34
25	1	350	14	285	32.5	6	1.69	35	6	3.8	2.0	3.77	26	2.0	3.73	270	175	23.3	3.27
32	1-1/4	400	16	310	45	8	3.51	36x70	10	7.6	3.0	7.52	34	3.0	7.44	300	200	29	6.52

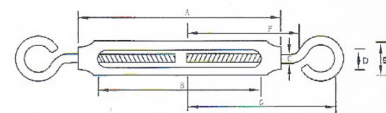
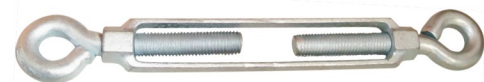
## TURNBUCKLES WITH HOOK AND EYE

September 1975 DIN 1480



Size (mm/in.)	Permissible Load		Weight (Kg/100p- cs)	Dimensions(mm)						
	Kg	N		l1	m	l2	b	di	da	i
M6	230	2250	7.8	110	10	60	53	10	20	4.5
M8	418	4100	14.8	110	14	60	55	12	26	6.5
M10	663	6500	29.4	125	20	65	60	14	30.5	8
M12	948	9300	36.3	125	21	75	70	18	37.5	10
M16	1804	17700	91	170	27	100	90	22	48	13
M20	2752	27000	156	200	34	115	100	25	51	20
M24	3996	39200	325	255	39	140	130	28	66	27
M30	6371	62500	415	255	45	145	130	35	83	31
1-1/4"	6585	64600	595	295	55	160	150	36.5	88	33
M36	9276	91000	745	295	55	160	150	44	104	40
1-1/2"	9572	93900	1076	330	63	185	170	42	104	39

## SOUTH KOREAN-STYLE MALLEABLE TURNBUCKLE

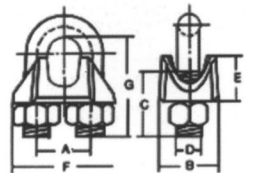


Specification (in.)	Dimensions(mm)							Weight(g)
	A	B	C	D	E	F	G	
5/16	90	70	8	11	22	65	95	145
3/8	160	130	9	17	30	85	130	345
1/2	190	155	10	20	30	95	150	560
1/2(L)	255	215	10	30	35	140	190	790
5/8	250	200	15	25	45	130	190	1120
5/8(L)	350	300	15	30	45	180	240	1540
3/4	250	200	20	35	45	140	210	1670
3/4(L)	300	245	20	40	55	170	240	2050
7/8	330	260	22	31	62	170	240	2565
1	350	280	25	36	66	180	250	3655

## CLIP

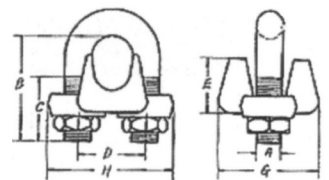
US TYPE CLIP

Size (in.)	Dimensions(mm/in.)							100/WT(Kg)
	A	B	C	D	E	F	G	
1/8	11	14	14	10/24	10.8	22	20	1.5
3/16	13.5	15	16	1/4-20	13	26	24	3
1/4	17	18.5	20	5/16-18	15	32	31.5	5.16
5/16	18.3	20	22	5/16-18	16	35	34	5.95
3/8	22.5	22	27	3/8-16	22	40.5	41.8	10.01
7/16	24	23	30	3/8-16	22	43	42.8	11.43
1/2	27	26	35	7/16-14	23.3	49	53.9	17.42
9/16	30	26.5	40	1/2-13	27	52.5	54.7	22.56
5/8	33	28.5	40	1/2-13	28	57.5	59.2	24.84
3/4	34.5	32	42	9/16-12	34	61	68.7	36.53
7/8	41	37	46	5/8-11	38	71	78	53.23
1	45.5	42	55	5/8-11	43	77.5	87.5	68.32



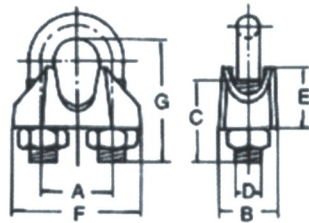
## FORGED WIRE ROPE CLIP G-450 CLIP

Rope Size (in.)	Weight Per 100(lbs)	Dimensions(in)							
		A	B	C	D	E	F	G	H
*1/8	6	0.22	0.72	0.44	0.47	0.37	0.38	0.81	0.99
*3/16	10	0.25	0.97	0.56	0.59	0.50	0.44	0.94	1.18
1/4	19	0.31	1.03	0.50	0.75	0.66	0.56	1.19	1.43
5/16	28	0.38	1.38	0.75	0.88	0.73	0.69	1.31	1.66
3/8	48	0.44	1.50	0.75	1.00	0.91	0.75	1.63	1.94
7/16	78	0.50	1.88	1.00	1.19	1.13	0.88	1.91	2.28
1/2	80	0.50	1.88	1.00	1.19	1.13	0.88	1.91	2.28
9/16	109	0.56	2.25	1.25	1.31	1.34	0.94	2.06	2.50
5/8	110	0.56	2.25	1.25	1.31	1.34	0.94	2.06	2.50
3/4	142	0.62	2.75	1.44	1.50	1.39	1.06	2.25	2.84
7/8	212	0.75	3.12	1.62	1.75	1.58	1.25	2.44	3.16
1	252	0.75	3.50	1.81	1.88	1.77	1.25	2.63	3.47
1-1/8	283	0.75	3.88	2.00	2.00	1.91	1.25	2.81	3.59
1-1/4	438	0.88	4.44	2.22	2.31	2.17	1.44	3.13	4.13
1-3/8	442	0.88	4.44	2.22	2.38	2.31	1.44	3.13	4.19
1-1/2	544	0.88	4.94	2.38	2.59	2.44	1.44	3.41	4.44
1-5/8	704	1.00	5.31	2.62	2.75	2.66	1.63	3.63	4.75
1-3/4	934	1.13	5.75	2.75	3.06	2.92	1.81	3.81	5.24
2	1300	1.25	6.44	3.00	3.38	3.28	2.00	4.44	5.88
2-1/4	1600	1.25	7.13	3.19	3.88	3.19	2.00	4.56	6.38
2-1/2	1900	1.25	7.69	3.44	4.13	3.69	2.00	4.05	6.63
**2-3/4	2300	1.25	8.31	3.56	4.38	4.88	2.00	5.00	6.88
3	3100	1.50	9.19	3.88	4.75	4.44	2.38	5.31	7.61
**3-1/2	4000	1.50	10.75	4.50	5.50	6.00	2.38	6.19	8.38



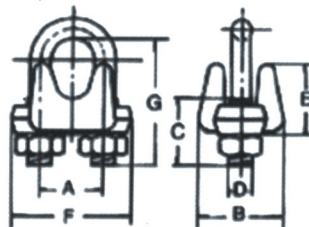
\*Electro-plated U-Bolt and Nuts. \*\*2-3/4" and 3-1/2" base is made of cast steel.in=25.4mm lbs=0.4536Kg

**DIN741 CLIP**



Size		Dimensions (mm)							100/WT(Kg)
mm	in	A	B	C	D	E	F	G	
3	1/8	9	10	12	4	10	21	16	1.4
5	3/16	11	11	13	5	10	23	19	1.5
6.5	1/4	13	12	15	5	11	26	23	2.1
8	5/16	16	14	19	6	15	30	28	4.1
10	3/8	19	18	22	8	17	34	34	6.8
11	7/16	20	19	22	8	18	36	36	7.2
13	1/2	24	23	30	10	21	42	45	13
14	9/16	25	23	30	10	22	44	47	13.5
16	5/8	29	26	33	12	26	50	51	21
19	3/4	32	29	38	12	30	54	63	28
22	7/8	37	33	44	14	34	61	71	40
26	1	41	35	45	14	37	65	81	44
30	11/8	48	37	50	16	43	74	94	66
34	11/4	52	42	55	16	50	80	104	85
40	11/2	58	45	60	16	55	88	124	104

**GALV MALLEABLE WIRE ROPE CLIP TYPE A**

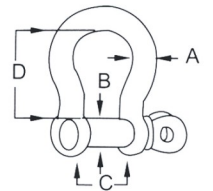


Size (in)	Dimensions (mm)							100/WT(Kg)
	A	B	C	D	E	F	G	
6	12	17	14	5	14	23	24	2.5
8	15	21	16	6	17	28	30	4.5
10	19	28	20	8	21	38	37	9
12	24	34	25	10	27	45	47	18
15	29	40	30	12	32	52	56	28
20	36	47	36	14	38	62	70	47
22	40	52	39	16	43	69	77	62
25	43	56	44	18	50	76	85	85
28	48	62	48	20	57	85	95	120
32	55	67	51	22	61	93	108	157
40	64	81	62	24	73	111	120	261
45	72	88	70	27	85	123	137	363
50	80	95	80	30	95	135	154	480

**STAINLESS STEEL, SHACKLE, TURNBUCKLE, CLIP**

**BOW SHACKLE** AISI316 & AISI 304 Stainless Steel Screw Pin JIS Type

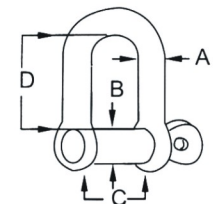
Code No.	A (mm)	B (mm)	C (mm)	D (mm)	WLL (T)	WT (Kg)
HL0107-0004	4	4	8	14	0.09	0.013
HL0107-0005	5	5	10	18	0.10	0.015
HL0107-0006	6	6	13	21	0.15	0.027
HL0107-0008	8	8	16	28	0.25	0.061
HL0107-0010	10	10	19	35	0.50	0.107
HL0107-0012	12	12	25	42	0.60	0.21
HL0107-0016	16	16	32	56	1.10	0.46
HL0107-0020	20	20	38	70	1.60	0.90
HL0107-0022	22	22	44	77	2.50	1.26
HL0107-0025	25	25	51	88	3.00	1.78
HL0107-0028	28	28	57	98	3.50	2.65
HL0107-0032	32	32	65	112	4.50	3.90



**D SHACKLE**

AISI316 & AISI 304 Stainless Steel Screw Pin JIS Type

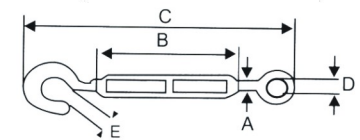
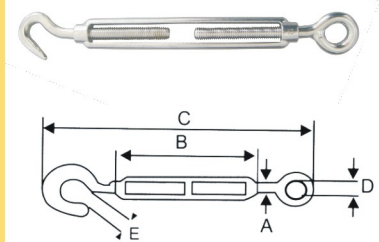
Code No.	A (mm)	B (mm)	C (mm)	D (mm)	WLL (T)	WT (Kg)
HL0108-0004	4	4	8	14	0.09	0.008
HL0108-0005	5	5	10	18	0.10	0.01
HL0108-0006	6	6	12	21	0.15	0.023
HL0108-0008	8	8	16	28	0.25	0.052
HL0108-0010	10	10	20	35	0.50	0.095
HL0108-0012	12	12	25	42	0.60	0.19
HL0108-0016	16	16	32	56	1.10	0.44
HL0108-0020	20	20	40	70	1.60	0.80
HL0108-0022	22	22	44	77	2.50	1.20
HL0108-0025	25	25	50	88	3.00	1.72
HL0108-0028	28	28	56	98	3.50	2.50
HL0108-0032	32	32	64	112	4.50	3.70



**TURNBUCKLE FRAME TYPE**

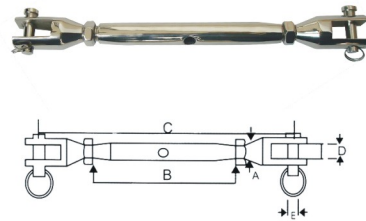
AISI316 & AISI 304 Stainless Steel Hook & Eye precision Cast

Code No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	WLL (T)	WT (Kg)
HL0233-0005	5	70	130	8	9	0.10	0.08
HL0233-0006	6	100	160	10	9	0.25	0.11
HL0233-0008	8	125	200	12	10	0.35	0.21
HL0233-0010	10	150	245	16	11	0.50	0.34
HL0233-0012	12	200	300	20	14	1.00	0.65
HL0233-0016	16	250	400	22	18	1.50	1.30
HL0233-0020	20	300	480	28	20	2.30	2.50
HL0233-0022	22	325	520	33	22	3.20	3.93
HL0233-0025	25	350	560	35	26	4.50	5.89



**RIGGING SCREWS**

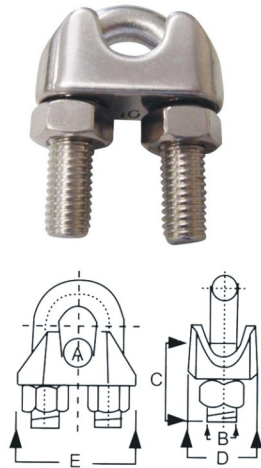
AISI316 & AISI 304 Stainless Steel Jaw & Jaw Formed & Machined



Code No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	WLL (T)	WT (Kg)
HL0251-0004	4	65	120	4	4	0.15	0.07
HL0251-0005	5	70	130	5	5	0.25	0.08
HL0251-0006	6	80	145	6	5	0.35	0.08
HL0251-0008	8	90	175	8	6	0.70	0.15
HL0251-0010	10	100	200	10	8	1.00	0.23
HL0251-0012	12	140	280	12	8	1.50	0.45
HL0251-0014	14	150	290	14	10	1.60	0.50
HL0251-0016	16	170	340	16	12	2.30	1.08
HL0251-0020	20	230	470	20	14	3.00	2.35

**WIRE ROPE CLIP DIN741 TYPE**

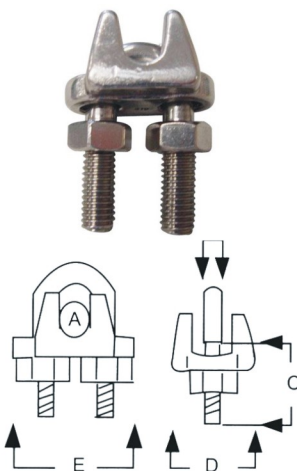
AISI316 & AISI 304 Stainless Steel precision Cast



Code No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	WT (Kg)
HL0301-0003	3	4	12	10	21	0.014
HL0301-0005	5	5	13	11	23	0.015
HL0301-0006	6	5	15	12	26	0.021
HL0301-0008	8	6	19	14	30	0.041
HL0301-0010	10	8	22	18	34	0.068
HL0301-0011	11	8	22	19	36	0.072
HL0301-0013	13	10	30	23	42	0.130
HL0301-0014	14	10	30	23	44	0.135
HL0301-0016	16	12	33	26	50	0.210
HL0301-0019	19	12	38	29	54	0.280
HL0301-0022	22	14	44	33	61	0.400
HL0301-0025	25	14	45	35	65	0.440

**WIRE ROPE CLIP JIS TYPE**

AISI316 & AISI 304 Stainless Steel precision Cast



Code No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	WT (Kg)
HL0303-0002	2	3	10	14	14	0.008
HL0303-0003	3	4	12	16	17	0.017
HL0303-0004	4	4	13	18	19	0.020
HL0303-0005	5	6	15	20	24	0.035
HL0303-0006	6	6	15	22	28	0.047
HL0303-0008	8	8	20	28	34	0.085
HL0303-0010	10	10	28	35	45	0.164
HL0303-0012	12	12	35	39	51	0.250
HL0303-0014	14	12	40	45	53	0.290
HL0303-0016	16	14	45	48	60	0.400
HL0303-0018	18	14	50	53	62	0.450

**MASTER LINK**

High grade Alloy Steel (Quenched and Tempered) material  
Design Factor of 4:1 for chain and 5:1 for wire rope.  
Individually Proof Tested to 2.5 times the Working Load Limit (4:1), unless otherwise noted, with certification.  
Each link has a Product Identification Code (PIC) for material traceability, along with the size and the manufacture mark  
Larger inside width and length for use with thimble  
Fatigue rated at 1.5 times the WLL with 20,000 cyclic test



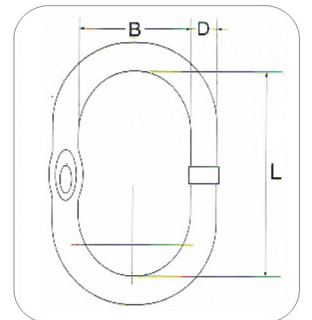
Type: MLA



Type: MLW

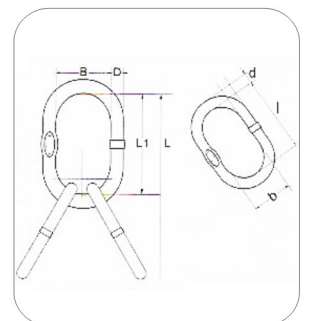
**Alloy Master Link Grade 80 Welding Type: MLW**

Product Code	Size D (mm)	Dimensions(mm) L	B	WLL 4:1 (t)	Weight (kg)
MLW-8-13	13	115	60	2.50	0.4
MLW-8-16	16	120	70	4.25	0.6
MLW-8-16A	16	170	100	4.25	0.80
MLW-8-20	20	170	90	6.70	1.30
MLW-8-22	22	170	90	8.20	1.60
MLW-8-22A	22	210	110	8.20	1.65
MLW-8-25	25	190	103	10.70	2.30
MLW-8-28	28	270	140	11.80	4.00
MLW-8-32	32	270	140	17.10	5.30
MLW-8-38	38	270	140	28.10	7.50
MLW-8-45	45	320	170	39.3	12.3



**Alloy Master Link Assembly Grade 80 Welding Type: MLA**

Product Code	Size D (mm)	L	L1	Dimensions(mm) B	d	b	l	WLL 4:1 (t)	Weight (kg)
MLA-8-16	16	214	120	70	13	60	115	4.1	1.4
MLA-8-20	20	267	170	90	16	70	120	6.5	2.5
MLA-8-22	22	310	170	90	20	90	170	8.2	4.2
MLA-8-25	25	329	190	100	20	90	170	10.7	4.5
MLA-8-28	28	407	270	140	22	90	170	12.9	6.4
MLA-8-32	32	424	270	140	25	100	190	17.1	9.9
MLA-8-38	38	493	270	140	32	140	270	28.1	18.2
MLA-8-45	45	540	320	170	38	140	270	39.3	27.7





## ALLOY STEELCONNECTING LINK

The C Link's simple design allows instant assembly, dismantling and reassembly of dependably safe slings. Assembly only one chain or fitting to each C link body half. When reassembly a C link, we recommend you use a new pin and stud assembly. These are inexpensive and readily available.

### Technical Specialities

1. Material is high grade alloy steel (quenched and tempered)
2. Rated for alloy chain grade 80 and grade 100 for lifting application
3. Locking system that provides for simple assembly and disassembly-no special tools needed.
4. Marked with traceability, WLL, Batch No. and Size
5. Individually proof load tested at 2.5 times or WLL with Certification
6. Ultimate load is 4 times of capacity
7. Fatigue rated is 1.5 times the WLL at 20,000 cycles
8. Forged Alloy Steel-Quenched and Tempered.

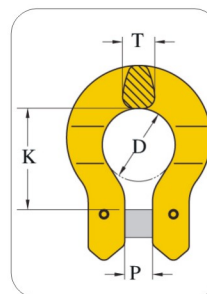
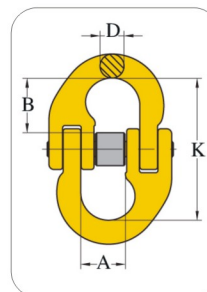
### Connecting Link Omega Link



Type: LTC



Type: LTO



## G80 HOOK&RING



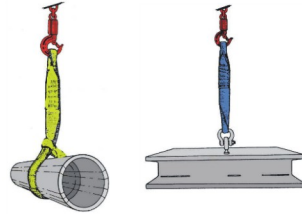
Item No.	Working load limit(t)	Alloy connecting link grade 80 type: LTC					N.W. (kg)
		For grade 80 chain(mm)	K	A	D	B	
LTC006	1.12	6	44	15	7	17	0.1
LTC007	2.0	7,8	59	18	9	22	0.2
LTC010	3.15	10	68	25	13	26	0.3
LTC013	5.3	13	91	30	16	35	0.7
LTC016	8.0	16	100	36	19	38	1.1
LTC018	12.5	18,20	122	42	23	48	1.7
LTC022	15.0	22	152	49	24	60	3.0
LTC026	21.2	36	162	55	31	62	4.6
LTC032	31.5	32	202	69	38	79	8.6

Item No.	Working load limit(t)	Alloy omega link grade 80 type: LTO					N.W. (Kg)
		For grade 80 chain(mm)	K	D	T	P	
LTO006	1.12	6	30	21	9	8	0.1
LTO007	2.0	7,8	36	27	11	9	0.2
LTO010	3.15	10	44	32	15	12	0.4
LTO013	5.3	13	55	42	17	16	1.0
LTO016	8.0	16	69	50	22	18	1.4
LTO018	12.5	18,20	71	58	28	20	2.3

## TEXTILE SLING EB WEBBING SLING

The unique advantages of webbings slings:

1. Can be single ply or double ply, sewing method is different.
2. The specification can be adjusted according to the customers' needs.
3. Loading surface is wide to reduce the weight at each Loading point.
4. No damages to tender objects.
5. Various loading method.
6. High strength/weight ratio.



EB Webbing Sling's lifting method and maximum Safety Working Load parameter.

Code	Color	Max. SWL= Mode Coefficient P* Working Load Limit						Max. SWL of Lifting Method						Approx. Width (mm)	Min. Length (m)	Max. Length (m)	
		Single Max. Working Load Limit			2-Leg Max. Working Load Limit			Upright		Choked		5:1	6:1				7:1
		Upright	Choked	β				Upright 45°	Choked 45°	Upright 45° -60°	Choked 45° -60°						
				0° -7°	7° -45°	45° -60°	45°										
EB-01		1000	800	2000	1400	1000	700	1400	1120	1000	800	25	25	30	1	100	
EB-02		2000	1600	4000	2800	2000	1400	2800	2240	2000	1600	50	50	60	1	100	
EB-03		3000	2400	6000	4200	3000	2100	4200	3360	3000	2400	75	75	90	1	100	
EB-04		4000	3200	8000	5600	4000	2800	5600	4480	4000	3200	100	100	120	1	100	
EB-05		5000	4000	10000	7000	5000	3500	7000	5600	5000	4000	125	125	150	1	100	
EB-06		6000	4800	12000	8400	6000	4200	8400	6720	6000	4800	150	150	180	1	100	
EB-08		8000	6400	16000	11200	8000	5600	11200	8960	8000	6400	200	200	240	1	100	
EB-10		10000	8000	20000	14000	10000	7000	14000	11200	10000	8000	250	250	300	1	100	
EB-12		12000	9600	24000	16800	12000	8400	16800	13440	12000	9600	300	300	300	1	100	
EB-15		15000	12000	30000	21000	15000	10500	21000	16800	15000	12000	200	200	240	1	100	
EB-20		20000	16000	40000	28000	20000	14000	28000	22400	20000	16000	250	250	300	1	100	
EB-25		25000	20000	50000	35000	25000	17500	35000	28000	25000	20000	300	300	300	1	100	
EB-30		30000	24000	60000	42000	30000	21000	42000	33600	30000	24000	300	300	300	1	100	
EB-40		40000	32000	80000	56000	40000	28000	56000	44800	40000	32000				1	100	
EB-50		50000	40000	100000	70000	50000	35000	70000	56000	50000	40000				1	100	

## EB-B WEBBING SLING

Webbing sling, very compact design and a new processing technique for the webbings are what give webbing slings good breaking elongation. A specially woven edge protection and reinforced loops all give protection from abrasion and damage. It is that guarantees and extremely long service life.



EB-B Webbing Sling's lifting method and maximum Safety Working Load parameter.

Code	Color	Max. SWL= Mode Coefficient P* Working Load Limit						Max. SWL of Lifting Method						Approx. Width (mm)	Min. Length (m)	Max. Length (m)	
		Single Max. Working Load Limit			2-Leg Max. Working Load Limit			Upright		Choked		5:1	6:1				7:1
		Upright	Choked	β				Upright 45°	Choked 45°	Upright 45° -60°	Choked 45° -60°						
				0° -7°	7° -45°	45° -60°	45°										
EB-B-01		1000	800	2000	1400	1000	700	1400	1120	1000	800	25	25	30	1	100	
EB-B-02		2000	1600	4000	2800	2000	1400	2800	2240	2000	1600	50	50	60	1	100	
EB-B-03		3000	2400	6000	4200	3000	2100	4200	3360	3000	2400	75	75	90	1	100	
EB-B-04		4000	3200	8000	5600	4000	2800	5600	4480	4000	3200	100	100	120	1	100	
EB-B-05		5000	4000	10000	7000	5000	3500	7000	5600	5000	4000	125	125	150	1	100	
EB-B-06		6000	4800	12000	8400	6000	4200	8400	6720	6000	4800	150	150	180	1	100	
EB-B-08		8000	6400	16000	11200	8000	5600	11200	8960	8000	6400	200	200	240	1	100	
EB-B-10		10000	8000	20000	14000	10000	7000	14000	11200	10000	8000	250	250	300	1	100	
EB-B-12		12000	9600	24000	16800	12000	8400	16800	13440	12000	9600	300	300	300	1	100	
EB-B-15		15000	12000	30000	21000	15000	10500	21000	16800	15000	12000	200	200	240	1	100	
EB-B-20		20000	16000	40000	28000	20000	14000	28000	22400	20000	16000	250	250	300	1	100	
EB-B-25		25000	20000	50000	35000	25000	17500	35000	28000	25000	20000	300	300	300	1	100	
EB-B-30		30000	24000	60000	42000	30000	21000	42000	33600	30000	24000	300	300	300	1	100	
EB-B-40		40000	32000	80000	56000	40000	28000	56000	44800	40000	32000				1	100	
EB-B-50		50000	40000	100000	70000	50000	35000	70000	56000	50000	40000				1	100	

**EA ROUND SLING**

Round sling has the maximum load up to 3000T, effective length up to 100m, safety factor adopted is normally 7:1,6:1.

Round sling is made of high tension industrial yarn (100%PES), the strands inside are as a form of endless cycle. The outside sleeve is also made of 100%PES, not for the Loading, but to protect the strands inside. Round slings are the ideal solution for the safe lifting of loads, whether this is to be at your works, for loading and unloading or for use at a building site. The round slings will protect items being lifted, if the sling is damaged badly, the outside sleeve is breakage, and the outside strands will go out, so the sling can not use any more. Their sturdy core and a covering layer will guarantee a long serviceable life, even when in continuous use, round slings are also repairable.



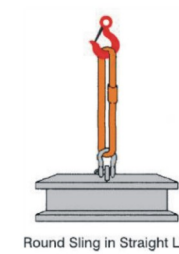
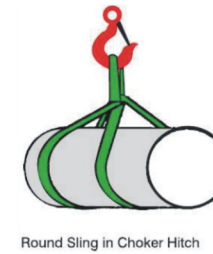
**EA-A ROUND SLING**

The unique advantages of round slings:

1. Especially suitable for loading round object.
2. The surface of round sling is smooth, does not cause damages to tender objects loaded.
3. Various loading methods, including dragging or pulling loaded object.
4. Various loading methods and load is bear evenly, enable the sling's usage life last longer.
5. High strength/weight ratio.
6. Anti-abrasion and anti-incision protection sleeve can be attached.
7. Has special label, working load is differentiated by colors according to international standard. Easy to identify even if the sling has been abraded.
8. Light and soft, can be used in small narrow space.
9. Non-electric conductive, no danger of electric stroke.
10. In compliance with European Standard EN1492-2:2000 and Chinese standard JB/T8521-2007.

EA Round Sling's lifting method and maximum Safety Working Load parameter.

Type	WLL(T)	Width(mm)	Color	Working Load Limit					Multi-set	
				Vertical	Choker	Basket	7' <b>45' Basket	7' <b>60' Basket	B<45'	B<45'
				100%	80%	200%	140%	100%	140%	112%
EA005	0.5	1" /25		500	400	1000	700	500	700	560
EA010	1	2" /50		1000	800	2000	1400	1000	1400	1120
EA015	1.5	3" /75		1500	1200	3000	2100	1500	2100	1680
EA020	2	4" /100		2000	1600	4000	2800	2000	2800	2240
EA025	2.5	5" /125		2500	2000	5000	3500	2500	3500	2800
EA030	3	6" /150		3000	2400	6000	4200	3000	4200	3360
EA040	4	8" /200		4000	3200	8000	5600	4000	5600	4480
EA050	5	10" /250		5000	4000	10000	7000	5000	7000	5600
EA060	6	12" /300		6000	4800	12000	8400	6000	8400	6720

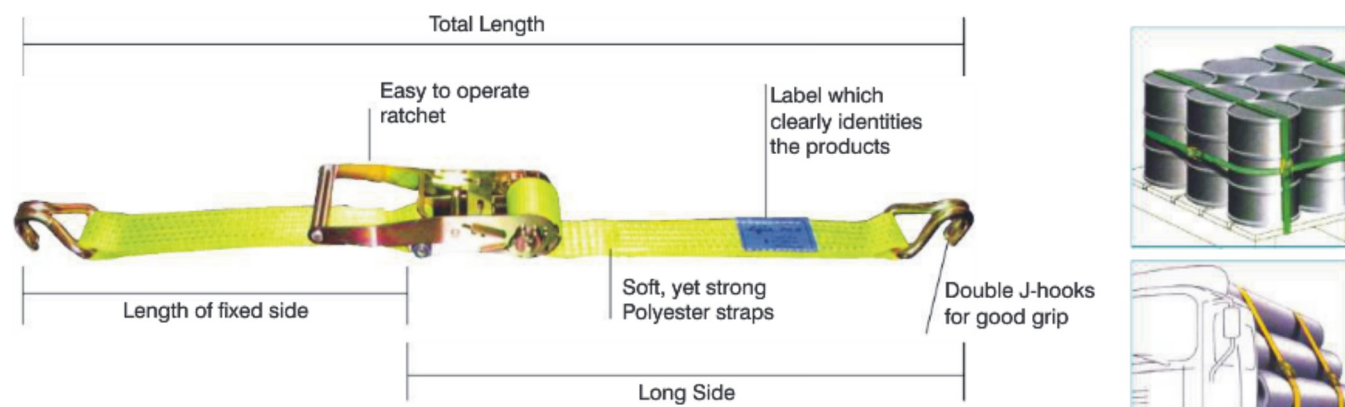


EA-A Round Sling's lifting method and maximum Safety Working Load parameter.

Code	Color	Max. SWL=Mode Coefficient P*Working Load Limit						Max. SWL of Lifting Method				Approx. Width (mm)	Min. Length (m)	Max. Length (m)
		Single Max. Working Load Limit						2-Leg Max. Working Load Limit						
		Upright	Choked	β				Upright 45°	Choked 45°	Upright 45°-60°	Choked 45°-60°			
				0°-7°	7°-45°	45°-60°	45°							
		1.0	0.8	2.0	1.4	1.0	0.7	1.4	1.12	1.0	0.8			
EA-A-01		1000	800	2000	1400	1000	700	1400	1120	1000	800	50	1	100
EA-A-02		2000	1600	4000	2800	2000	1400	2800	2240	2000	1600	60	1	100
EA-A-03		3000	2400	6000	4200	3000	2100	4200	3360	3000	2400	70	1	100
EA-A-04		4000	3200	8000	5600	4000	2800	5600	4480	4000	3200	75	1	100
EA-A-05		5000	4000	10000	7000	5000	3500	7000	5600	5000	4000	80	1	100
EA-A-06		6000	4800	12000	8400	6000	4200	8400	6720	6000	4800	90	1	100
EA-A-08		8000	6400	16000	11200	8000	5600	11200	8960	8000	6400	100	1	100
EA-A-10		10000	8000	20000	14000	10000	7000	14000	11200	10000	8000	110	1	100
EA-A-12		12000	9600	24000	16800	12000	8400	16800	13440	12000	9600	125	1	100
EA-A-15		15000	12000	30000	21000	15000	10500	21000	16800	15000	12000	150	1	100
EA-A-20		20000	16000	40000	28000	20000	14000	28000	22400	20000	16000	180	1	100
EA-A-25		25000	20000	50000	35000	25000	17500	35000	28000	25000	20000	200	1	100
EA-A-30		30000	24000	60000	42000	30000	21000	42000	33600	30000	24000	220	1	100
EA-A-40		40000	32000	80000	56000	40000	28000	56000	44800	40000	32000	250	1	100
EA-A-50		50000	40000	100000	70000	50000	35000	70000	56000	50000	40000	270	1	100
EA-A-60		60000	48000	120000	84000	60000	42000	84000	67200	60000	48000	280	1	100
EA-A-80		80000	64000	160000	112000	80000	56000	112000	89600	80000	64000	300	1	100
EA-A-100		100000	80000	200000	140000	100000	70000	140000	112000	100000	80000	320	1	100

## CARGO LASHING SERIES

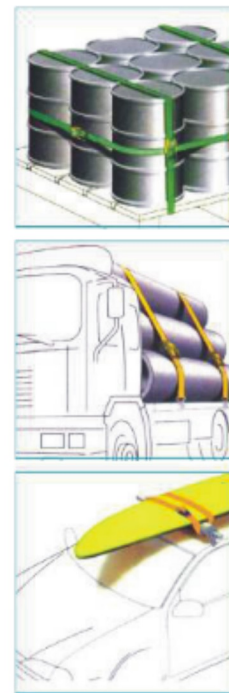
1. Our range of tie downs, are manufactured as well with Ultra high tenacity Yarns, either in Polyester or in Polypropylene.
2. Our Polypropylene tie downs series, are guaranteed to a usage under UV light for 3 years.
3. Our new series of tie downs include, edge cutting resistant tapes, and others as antisliding, properties up to a 100% over other's existent in the market, or in our catalog, also we include the New series of automatic Retractable ratchet 50 and 25.
4. All our manufacturing is automated as possible, to avoid as minimum labor error, i. ex our stitching.
5. Our standard homologation includes CE, ANSI, and others as well for specials Like DNV.



### PRESENTED IN A CASE

#### Model

- 8.5 meters of open-ended belt, 1 unit REF.DGP R50-01
- 8.5 meters of belt +2 open hooks REF.DGP R50-02
- 8.5 meters of belt +2 closed hooks REF.DGP R50-03



### RACHET STRAP

Model	Explanation	Working Load(kg)	Working length(m)	Webbing width(mm)
DL-DL015	1.5 T, 4~8m	1500	4~8	25
DL-DL020	2 T, 4~8m	2000	4~8	50
DL-DL030a	3 T, 4~12 m	3000	4~12	38
DL-DL030b	3 T, 4~12 m	3000	4~12	38
DL-DL050a	5 T, 4~12 m	5000	4~12	50
DL-DL050b	5 T, 4~12m	5000	4~12	50
DL-DL100	10 T, 5~12m	10000	4~12	75

## HARDWARE

