ROMA ENTERPRISES

YOUR TRUSTED PARTNER IN SAFE LIFTING



www.romaent.com

ABOUT US

Roma Enterprises was established in 1978 as a supplier in marine equipment and rigging hardware. In the early 1980's various specialized products were imported from suppliers based in United Kingdom, South Africa, India, Pakistan, Taiwan, and Hong Kong.

Today, Roma Enterprises is a lead supplier and stockiest in the Middle East. We provide marine equipment, lifting equipment, drilling equipment and rigging hardware. Roma Enterprises aims to expand the business both internationally and in the Middle East as well as ensure customer satisfaction by guaranteeing high quality certified products.

OUR VALUES

We reflect who we are and we stand together as a company to ensure customer commitment, product quality, integrity, teamwork, and personal accountability.



OUR MISSION

To be a trusted global leader in marine offshore and oilfield supply solutions, recognized for quality reliability and long term partnerships across the Middle East and international markets.

OUR VISION

To deliver certified high quality marine construction offshore and oilfield equipment that meets international standards, while building strong customer relationships through integrity service excellence and decades of industry.



OUR GOAL

To expand our presence across the Middle East and global markets.
To consistently supply reliable certified and high performance proucts. To ensure complete customer satisfaction through quality sevice and commitment. To strengthen long term partnerships with clients and suppliers worldwide. To uphold our core values of integrity teamwork accountability and excellence.

ROMA ENTERPRISES

BOLT TYPE ANCHOR SHACKLES

TECHNICAL FEATURES

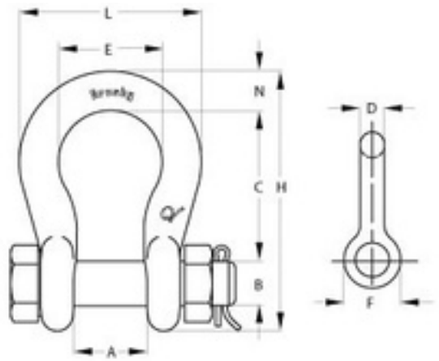
- Hot - dipped galvanized body.
- All Shackles are individually inspected and tested with proof load.
- Embossed forged marking for WLL, size, CE and KF.
- Standard: BS EN 13889
- Material: Body - forged carbon steel, pin-Alloy steel
- FOS: 6:1
- Heat treatment: Quenched and Tempered
- Proof load: At 200 % of WLL
- Colour code: Body - Silver, Pin - Green

BOLT TYPE ANCHOR SHACKLE SPECIFICATIONS

Nominal Size (in)	Working Load Limit (t)	Weight Each (kg)	Dimensions (mm)										Tolerance (+ / - mm)	
			A	B	C	D	E	F	H	L	M	N	C	A
3/16	0.33 ‡	.03	9.7	6.4	22.4	4.9	15.2	14.2	37.3	24.9	32.8	4.85		1.50
1/4	0.5	.05	11.9	7.9	28.7	6.4	19.8	15.5	46.7	32.5	39.6	6.35	1.50	1.50
5/16	0.75	.10	13.5	9.7	31.0	7.9	21.3	19.1	53.0	37.3	46.2	7.85	1.50	1.50
3/8	1	.15	16.8	11.2	36.6	9.7	26.2	23.1	63.0	45.2	55.1	9.65	1.50	1.50
7/16	1.5	.22	19.1	12.7	42.9	11.2	29.5	26.9	74.0	51.5	63.8	11.2	3.30	1.50
1/2	2	.36	20.6	16.0	47.8	12.7	33.3	30.2	83.5	58.5	71.1	12.7	3.30	1.50
5/8	3.25	.62	26.9	19.1	60.5	16.0	42.9	38.1	106	74.5	90.4	17.5	3.30	1.50
3/4	4.75	1.23	31.8	22.4	71.5	19.1	51.0	46.0	126	89.0	105	20.6	3.30	1.50
7/8	6.5	1.79	36.6	25.4	84.0	22.4	58.0	53.0	148	102	122	24.6	6.35	1.50
1	8.5	2.28	42.9	28.7	95.5	25.4	68.5	60.5	167	119	137	26.9	6.35	1.50
1-1/8	9.5	3.75	46.0	31.8	108	28.7	74.0	68.5	190	131	150	31.8	6.35	1.50
1-1/4	12	5.31	51.5	35.1	119	31.8	82.5	76.0	210	146	170	35.1	6.35	1.50
1-3/8	13.5	7.18	57.0	38.1	133	35.1	92.0	84.0	233	162	183	38.1	6.35	3.30
1-1/2	17	8.62	60.5	41.4	146	38.1	98.5	92.0	254	175	196	41.1	6.35	3.30
1-3/4	25	15.4	73.0	51.0	178	44.5	127	106	313	225	246	57.0	6.35	3.30
2	35	23.7	82.5	57.0	197	51.0	146	122	348	253	275	61.0	6.35	3.30
2-1/2	55	44.6	105	70.0	267	66.5	184	145	453	327	345	79.5	6.35	6.35
3	† 85	70	127	82.5	330	76.0	200	165	546	365	384	92.0	6.35	6.35
3-1/2	† 120 ‡	120	133	95.5	372	92.0	229	203	626	419	432	105	6.35	6.35
4	† 150 ‡	153	140	108	368	104	254	229	653	468	451	116	6.35	6.35







ALLOY SCREW ANCHOR PIN SHACKLES

TECHNICAL FEATURES

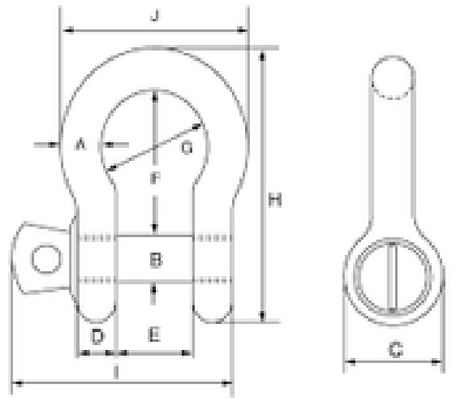
- Hot - dipped galvanized body.
- All Shackles are individually inspected and tested with proof load.
- Embossed forged marking for WLL, size, CE and KF.
- Standard: BS EN 13889
- Material: Body - forged carbon steel, pin-Alloy steel
- FOS: 6:1
- Heat treatment: Quenched and Tempered
- Proof load: At 200 % of WLL
- Colour code: Body - Silver, Pin - Green

ALLOY SCREW ANCHOR PIN SHACKLES SPECIFICATIONS

Nominal Size (in)	Working Load Limit (t)	Weight Each (kg)	Dimensions (mm)											Tolerance (+ / - mm)	
			A	B	C	D	E	F	G	H	L	M	P	C	A
3/8	2	.14	16.8	11.2	36.6	9.65	26.2	23.1	45.2	63.5	6.35	51.5	9.65	3.30	1.50
7/16	2.67	.17	19.1	12.7	42.9	11.2	29.5	26.9	51.5	74.0	7.85	60.5	11.2	3.30	1.50
1/2	3.33	.29	20.6	16.0	47.8	12.7	23.3	30.2	58.5	83.5	9.65	68.5	12.7	3.30	1.50
5/8	5	.63	26.9	19.1	60.5	16.0	42.9	38.1	74.5	106	11.2	85.0	17.5	3.30	1.50
3/4	7	1.02	31.8	22.4	71.5	19.1	51.0	46.0	89.0	126	12.7	101	20.6	6.35	1.50
7/8	9.5	1.53	36.6	25.4	84.0	22.4	58.0	53.0	102	148	12.7	114	24.6	6.35	1.50
1	12.5	2.41	42.9	28.7	95.5	25.4	68.5	60.5	119	167	14.2	129	26.9	6.35	1.50
1-1/8	15	3.09	46.0	31.8	108	29.5	74.0	68.5	131	190	16.0	142	31.8	6.35	1.50
1-1/4	18	4.31	51.5	35.1	119	32.8	82.5	76.0	146	210	17.5	156	35.1	6.35	1.50
1-3/8	21	6.01	57.0	38.1	133	36.1	92.0	84.0	162	233	19.1	174	38.1	6.35	3.30







SCREW PIN CHAIN SHACKLES

TECHNICAL FEATURES

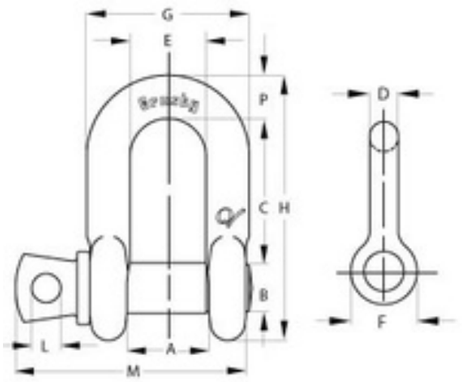
- Hot - dipped galvanized body.
- All Shackles are individually inspected and tested with proof load.
- Embossed forged marking for WLL, size, CE and KF.
- Standard: BS EN 13889
- Material: Body - forged carbon steel, pin-Alloy steel
- FOS: 6:1
- Heat treatment: Quenched and Tempered
- Proof load: At 200 % of WLL
- Colour code: Body - Silver, Pin - Green

SCREW PIN CHAIN SHACKLE SPECIFICATIONS

Nominal Size (in)	Working Load Limit (t)	Weight Each (kg)	Dimensions (mm)										Tolerance (+ / - mm)	
			A	B	C	D	E	F	G	K	L	M	G	A
1/4	0.5	.05	11.9	7.85	6.35	6.35	24.6	15.5	22.4	40.4	4.85	35.1	1.50	1.50
5/16	0.75	.08	13.5	9.65	7.85	7.85	29.5	19.1	26.2	48.5	5.60	42.2	1.50	1.50
3/8	1	.13	16.8	11.2	9.65	9.65	35.8	23.1	31.8	58.5	6.35	51.5	3.30	1.50
7/16	1.5	.20	19.1	12.7	11.2	11.2	41.4	26.9	36.6	67.5	7.85	60.5	3.30	1.50
1/2	2	.27	20.6	16.0	12.7	12.7	46.0	30.2	41.4	77.0	9.65	68.5	3.30	1.50
5/8	3.25	.57	26.9	19.1	15.7	16.0	58.5	38.1	51.0	95.5	11.2	85.0	3.30	1.50
3/4	4.75	1.20	31.8	22.4	20.6	19.1	70.0	46.0	60.5	115	12.7	101	6.35	1.50
7/8	6.5	1.43	36.6	25.4	24.6	22.4	81.0	53.0	71.5	135	12.7	114	6.35	1.50
1	8.5	2.15	42.9	28.7	25.4	25.4	93.5	60.5	81.0	151	14.2	129	6.35	1.50
1-1/8	9.5	3.06	46.0	31.8	31.8	28.7	103	68.5	91.0	172	16.0	142	6.35	1.50
1-1/4	12	4.11	51.5	35.1	35.1	31.8	115	76.0	100	191	17.5	156	6.35	3.30
1-3/8	13.5	5.28	57.0	38.1	38.1	35.1	127	84.0	111	210	19.1	174	6.35	3.30
1-1/2	17	7.23	60.5	41.4	41.1	38.1	137	92.0	122	230	20.6	187	6.35	3.30
1-3/4	25	12.1	73.0	51.0	54.0	44.5	162	106	146	279	25.4	231	6.35	3.30
2	35	19.2	82.5	57.0	60.0	51.0	184	122	172	312	31.0	263	6.35	3.30
2-1/2	55	32.5	105	70.0	66.5	66.5	238	145	203	377	35.1	330	6.35	6.35







BOLT TYPE CHAIN SHACKLES

TECHNICAL FEATURES

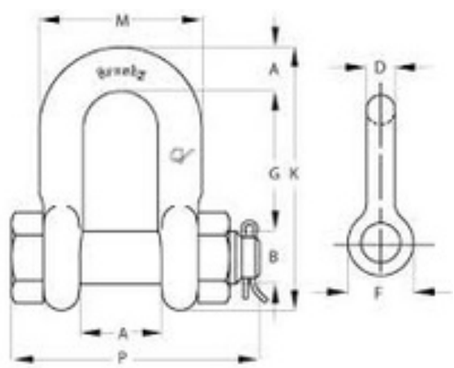
- Hot - dipped galvanized body.
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- Standard: BS EN 13889
- Material: Body - forged carbon steel, pin-Alloy steel
- FOS: 6:1
- Heat treatment: Quenched and Tempered
- Proof load: At 200 % of WLL
- Colour code: Body - Silver, Pin - Green

BOLT TYPE CHAIN SHACKLES SPECIFICATIONS

Nominal Size (in)	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)									Tolerance (+ / - mm)	
			A	B	D	F	G	K	M	P	R	G	A
1/4	0.5	.06	11.9	7.9	6.4	15.5	19.1	40.4	24.6	39.6	6.35	1.50	1.50
5/16	0.75	.10	13.5	9.7	7.9	19.1	25.4	48.5	29.5	46.2	7.85	1.50	1.50
3/8	1	.15	16.8	11.2	9.7	23.1	31.0	58.5	35.8	55.0	9.65	3.30	1.50
7/16	1.5	.22	19.1	12.7	11.2	26.9	36.1	67.5	41.1	63.5	11.2	3.30	1.50
1/2	2	.34	20.6	16.0	12.7	30.2	41.4	77.0	46.0	71.0	12.7	3.30	1.50
5/8	3.25	.67	26.9	19.1	16.0	38.1	51.0	95.5	58.5	89.5	16.0	3.30	1.50
3/4	4.75	1.14	31.8	22.4	19.1	46.0	60.5	115	70.0	103	20.6	6.35	1.50
7/8	6.5	1.74	36.6	25.4	22.4	53.0	71.5	135	81.0	120	24.6	6.35	1.50
1	8.5	2.52	42.9	28.7	25.4	60.5	81.0	151	93.5	135	25.4	6.35	1.50
1-1/8	9.5	3.45	46.0	31.8	28.7	68.5	91.0	172	103	150	31.8	6.35	1.50
1-1/4	12	4.90	51.5	35.1	31.8	76.0	100	191	115	165	35.1	6.35	1.50
1-3/8	13.5	6.24	57.0	38.1	35.1	84.0	111	210	127	183	38.1	6.35	3.30
1-1/2	17	7.72	60.5	41.4	38.1	92.0	122	230	137	196	41.1	6.35	3.30
1-3/4	25	14.2	73.0	51.0	44.5	106	146	279	162	230	54.0	6.35	3.30
2	35	21.2	82.5	57.0	51.0	122	172	312	184	264	60.0	6.35	3.30
2-1/2	55	38.6	105	70.0	66.5	145	203	377	238	344	66.5	6.35	6.35
3	† 85	56	127	82.5	76.0	165	216	429	279	419	89.0	6.35	6.35







HEAVY DUTY THIMBLE

TECHNICAL FEATURES

- Material: Conforms to Federal Specifications QQ-S698 - Steel, Sheet and Strip, Low Carbon.
- Manufacturing: Thimbles are made of Hot-Rolled or Cold-Rolled steel process only.
- Finish: Galvanized







HEAVY DUTY THIMBLE CLASSICIFICATIONS:

- Hot - dipped galvanized body.
- All Shackles are individually inspected and tested with



1 Thimbles with Steel Ferules

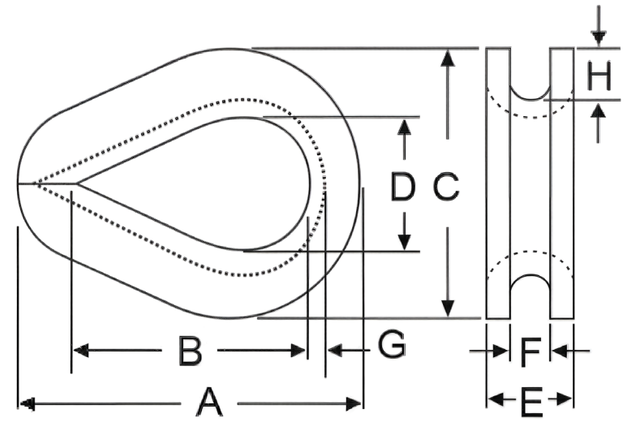
2 Thimbles with Aluminium Ferules

3 Thimbles with T-LOC for High Performance Ropes

4 Thimbles with Non-Rotating Ropes

HEAVY DUTY THIMBLE DIAGRAM:





HEAVY DUTY THIMBLE SPECIFICATIONS:

ARTICLE NO.	SIZE(in)	WT/100 PCS (KG)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	E (mm)
01	1/8	2.80	49.53	33.53	28.92	17.78	6.35	4	1.29	3.56
02	3/16	2.80	49.53	33.53	28.92	17.78	6.35	4	1.29	3.56
03	1/4	3.06	55.62	41.40	38.1	22.35	10.41	7.11	1.52	5.84
04	5/16	5.10	63.50	47.75	45.97	26.92	12.7	8.64	2.03	7.11
05	3/8	11.34	73.5	54.10	54.10	28.70	16.00	10.41	2.79	8.64
06	7/16	13.61	82.55	60.45	60.45	31.75	18.29	11.94	3.30	9.65
07	1/2	23.13	92.20	69.85	69.85	38.10	20.57	13.46	3.56	10.41
08	9/16	23.13	92.20	69.85	68.33	38.10	22.35	15.00	3.56	10.41
09	5/8	34.02	107.95	82.55	79.50	44.45	24.64	16.76	4.06	12.70
10	3/4	66.68	127.00	92.25	99.77	50.80	31.00	19.81	5.59	16.76
11	7/8	79.38	139.70	107.95	107.95	57.15	35.05	23.88	5.59	19.05
12	1	124.74	155.70	114.30	125.48	63.50	39.62	26.92	6.35	22.35
13	1 1/8 - 1 1/4	181.44	177.80	130.30	149.35	73.15	45.97	33.27	6.35	28.70
14	1 1/4 - 1 3/8	370.59	230.12	165.1	172.97	88.90	55.63	36.58	9.65	28.70
15	1 3/8 - 1 1/2	532.98	228.60	158.75	181.10	88.90	65.02	39.62	12.70	28.70
16	1 5/8	771.12	285.75	203.20	206.50	101.60	69.09	43.67	12.70	34.03
17	1 3/4	805.14	309.63	228.60	215.90	114.30	72.14	46.74	12.70	35.07
18	1 7/8 - 2	1134.00	384.30	304.80	263.65	152.40	78.49	53.09	12.70	38.10
19	2 1/4	1791.72	435.10	355.60	301.75	177.80	92.20	60.45	16.00	41.40
20	2 3/8	2220.00	457.40	377.90	301.75	177.80	95.92	63.92	16.00	43.00
21	2 1/2	2850.00	522.00	399.10	316.20	187.80	102.60	66.60	16.00	45.50
22	2 3/4	3012.00	496.20	418.20	320.00	187.80	109.65	73.65	18.20	47.90
23	2 7/8	3600.00	522.00	443.00	330.00	196.00	116.00	76.00	19.88	50.83
24	3	3850	540.00	465.00	330.00	196.00	120.00	80.00	19.88	51.64
25	3 1/2	4400	660.00	505.00	380.00	240.00	139.00	95.00	21.88	54.60

EYE HOOK WITH LATCH

EYE HOOK WITH LATCH

TECHNICAL FEATURES

- Colour painted or electric galvanized.
- Working load limit permanently shown on the body.
- Max proof load is 2.5 times of the W.L.L.
- Min. Breaking strength is 4/5 times of the W.L.L.





EYE HOOK WITH LATCH SPECIFICATIONS:

Carbon		Alloy		Dimension (mm)					Weight
WLL/T	B.L./T	WLL/T	B.L./T	Φ	E	H	K	L	(kg/pc)
0.5	2.5	0.75	3.75	16.5	19	17	72	97	0.21
0.75	3.75	1	5	19	22	19	82	110	0.28
1	5	1.5	7.5	23	23	21	93.5	125	0.4
1.5	7.5	2	10	28	24	26	103	140.5	0.65
2	10	3	15	31	27.5	28	119	162	0.95
3	15	5	25	39	33	37	146	201	1.95
5	25	7	35	51	40	46.5	186.5	256	3.77
7.5	37.5	11	55	62	51	57	231.5	317	6.8
10	50	15	75	73	57	67	261	360	9.8
15	75	22	110	89	75	76	318	434	16.25
20	100	30	135	90	82	91	360	495.5	27.2

SWIVEL HOOK WITH LATCH

SWIVEL HOOK WITH LATCH

TECHNICAL FEATURES

- Colour painted or electric galvanized.
- Working load limit permanently shown on the body.
- Max proof load is 2.5 times of the W.L.L.
- Min. Breaking strength is 4/5 times of the W.L.L.





SWIVEL HOOK WITH LATCH SPECIFICATIONS:

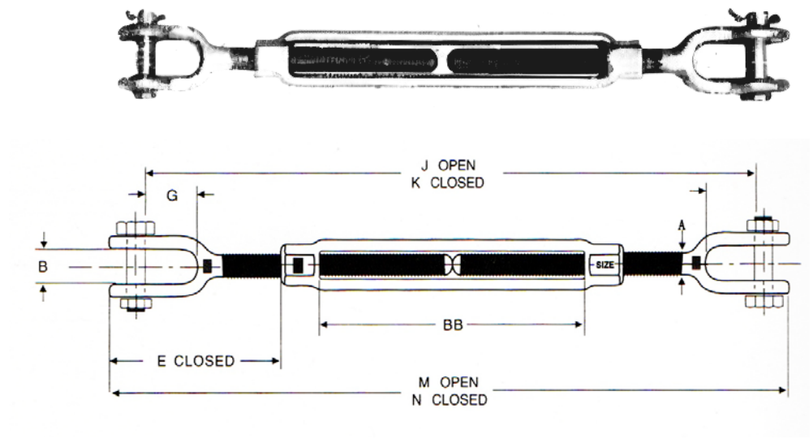
Carbon		Alloy		Dimension (mm)						Weight
WLL/T	B.L./T	WLL/T	B.L./T	A	E	B	H	K	L	(kg/pc)
Size	W.L.L. (t)	B.L (t)	Dimension (mm)							Weight (kg/pc)
			E	B	H	Φ	R			
6-8	1.12	4.48	29	8.5	19.5	34	95.5			0.5
7/8-8	2	8	34	9.5	24	46	121			0.8
10-8	3.15	12.8	44	12	28.5	56	146			1.5
13-8	5.3	21.2	52	15	40	69	182			2.8
16-8	8	32	60	18	50.5	86	218			5.6
20-8	12.5	50	83	25	55	100	240			7.5
22-8	15	60	88	25.5	67	98	276.5			11.5
26-8	21.2	84.8	95.5	30	75	110	310.5			18.5

KETTEN FORGE UK LTD

TURNBUCKLES JAW & JAW

TECHNICAL FEATURES

- Hot dip galvanized
- End fittings are Quenched and Tempered bodies are normalized
- Proof Load is 2.5 times of the W.L.L.
- Ultimate Load is 5 times of the W.L.L.



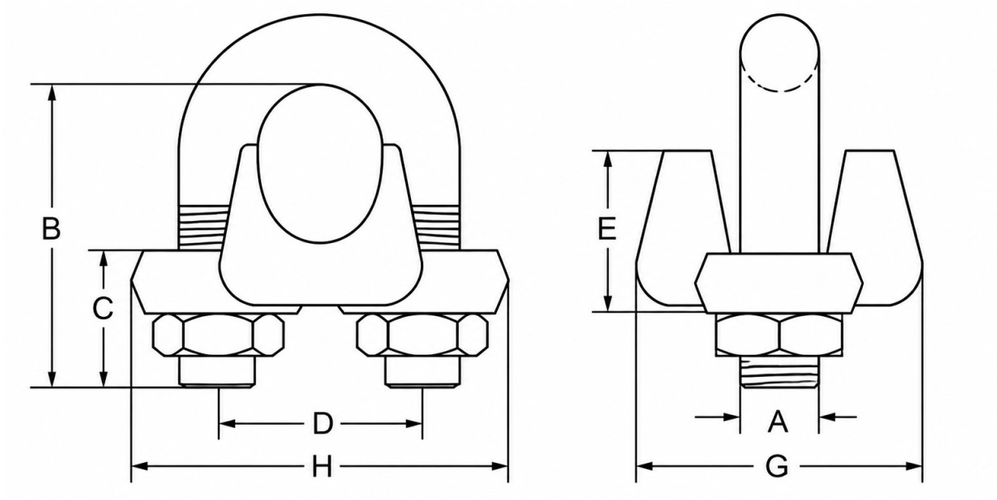
TURNBUCKLE JAW & JAW SPECIFICATIONS:

THREAD DIA & TAKE UP (IN.)	WORKING LOAD LIMIT (LBS.)	WEIGHT EACH (LBS.)	DIMENSIONS(IN.)								
			A	B	E CLOSED	G	J OPEN	K CLOSED	M OPEN	N CLOSED	BB
1/4X4	500	0.36	0.25	0.45	1.58	0.62	10.90	6.90	11.90	7.90	4.00
5/16X4–1/2	800	0.52	0.31	0.50	1.98	0.87	12.36	8.36	13.90	9.40	4.50
3/8X6	1200	0.81	0.38	0.54	2.12	0.87	16.14	10.14	17.38	11.38	6.00
1/2X6	2200	1.56	0.50	0.55	2.75	1.06	18.50	11.50	20.00	13.00	6.00
1/2X9	2200	1.74	0.50	0.55	2.75	1.06	24.50	14.50	26.00	16.00	9.00
1/2X12	2200	2.40	0.50	0.55	2.75	1.06	30.50	17.50	32.00	19.00	12.00
5/8X6	3500	2.72	0.63	0.82	3.50	1.31	20.05	12.80	22.13	14.88	6.00
5/8X9	3500	3.43	0.63	0.82	3.50	1.31	26.05	15.80	28.13	17.88	9.00
5/8X12	3500	3.91	0.63	0.82	3.50	1.31	32.05	18.80	34.13	20.88	12.00
3/4X6	5200	4.11	0.75	1.03	4.18	1.50	21.50	14.00	24.10	16.60	6.00
3/4X9	5200	5.46	0.75	1.03	4.18	1.50	27.50	17.00	30.10	19.60	9.00
3/4X12	5200	6.43	0.75	1.03	4.18	1.50	33.50	20.00	36.10	22.60	12.00
3/4X18	5200	8.07	0.75	1.03	4.18	1.50	45.50	26.00	48.10	28.60	18.00
7/8X12	7200	8.17	0.88	1.23	4.85	1.75	35.11	21.36	38.07	24.32	12.00
7/8X18	7200	10.78	0.88	1.23	4.85	1.75	47.11	27.36	50.07	30.32	18.00
1X6	10000	10.18	1.00	1.31	5.53	2.06	24.72	16.72	28.06	20.06	6.00
1X12	10000	12.52	1.00	1.31	5.53	2.06	36.72	22.72	40.06	26.06	12.00
1X18	10000	15.14	1.00	1.31	5.53	2.06	48.72	28.72	52.06	32.06	18.00
1X24	10000	18.08	1.00	1.31	5.53	2.06	60.72	34.72	64.06	38.06	24.00
1–1/4X12	15200	20.59	1.25	1.86	7.21	2.81	39.84	25.34	44.04	29.54	12.00
1–1/4X18	15200	24.68	1.25	1.86	7.21	2.81	51.84	31.34	56.04	35.54	18.00
1–1/4X24	15200	28.20	1.25	1.86	7.21	2.81	63.84	37.34	68.04	41.54	24.00
1–1/2X12	21400	30.69	1.50	2.25	7.88	2.81	41.50	26.50	46.50	31.50	12.00
1–1/2X18	21400	36.75	1.50	2.25	7.88	2.81	53.50	32.50	58.50	37.50	18.00
1–1/2X24	21400	40.67	1.50	2.25	7.88	2.81	65.50	38.50	70.50	43.50	24.00
1–3/4X18	28000	54.00	1.75	2.60	9.40	3.38	53.38	35.38	59.18	41.18	18.00
1–3/4X24	28000	63.36	1.75	2.60	9.40	3.38	65.38	41.38	71.18	47.18	24.00
2X24	37000	94.25	2.00	2.62	11.86	3.69	69.54	45.54	76.72	52.72	24.00
2–1/2X24	60000	165.00	2.50	3.06	13.56	4.44	72.98	48.98	82.18	58.18	24.00
2–3/4X24	75000	198.00	2.75	3.68	15.22	4.19	74.75	50.75	85.50	61.50	24.00

KETTEN FORGE UK LTD

WIRE ROPE CLIP

TECHNICAL FEATURES



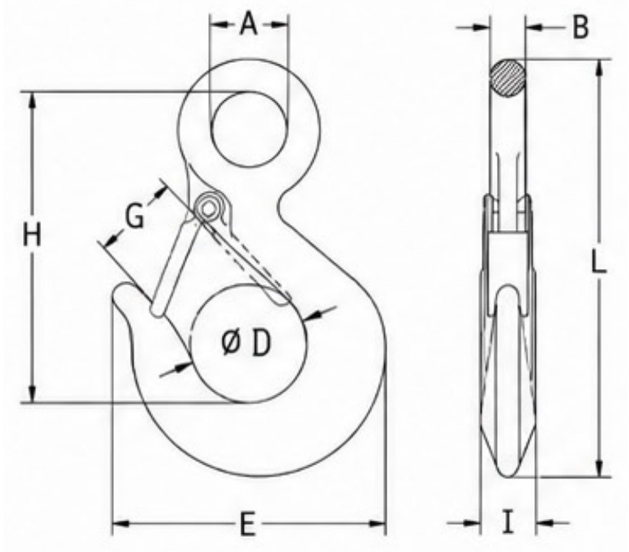
WIRE ROPE CLIP SPECIFICATIONS:

ITEN No.	A	B	C	D	E	G	H			W per 100 pc
	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
1/8"	5.1	18	11	12	11	22	26			3
3/16"	5.9	25	16	15	11.6	24.5	31			5
1/4"	7.4	28	18	19	16.4	30.7	38.5	7.7	13.8	8
5/16"	9.2	37	21	22.6	20.5	33.3	43.2	8.2	17	12
3/8"	10.7	39	25	25	22	40.3	49	10.4	18.8	20
7/16"	12.1	51	26	30.5	28	47.3	58	12	22	33
1/2"	12.1	51	26	30.5	28	47.3	58	12	22	33
9/16"	14	64	38	34	31	51	63	14.8	23.5	45
5/8"	14	64	38	34	31	51	63	14.8	23.5	45
3/4"	15.4	73	42	39	34	57	72	15.5	26.5	65
7/8"	18.7	79	44	44	36	62	80	18.3	31.4	94
1"	18.7	93	52	47	44	66	88	18.3	31.4	111
1-1/8"	18.7	99	54	51	48	69	90	18.3	31.4	125
1-1/4"	21.2	111.5	58.5	58.5	53	78.5	104	21.7	35.5	180
1-3/8"	21.2	118	61	59	56	80	105	21.7	35.5	200
1-1/2"	21.2	124	62	66	60	86	112	21.7	35.5	230
1-5/8"	25	138	62	69	62	90	120	25.5	40	310
1-3/4"	27.8	155	75	78	71	96	134	29	45	390
2"	31.3	163	77	86	80	113	150	30.3	49.5	560
2-1/4"	31.3	180	85	98	84	113	160	30.3	49.5	630
2-1/2"	31.3	183	85	105	87	115	166	30.3	49.5	800

EYE HOIST HOOK

TECHNICAL FEATURES





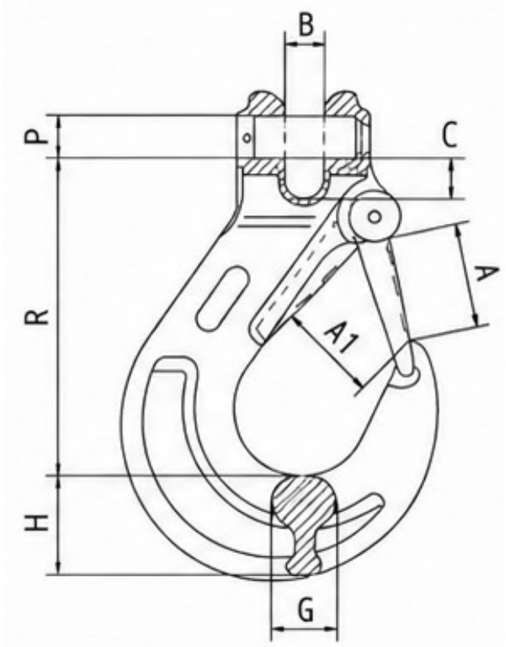
EYE HOIST HOOK SPECIFICATIONS:

W.L.L.		A	G	H	L	Weight
ALLOY	CARBON					
T	T	mm	mm	mm	mm	kg/pc
0.75	0.5	16.5	19	72	97	0.21
1	0.75	19	22	82	110	0.28
1.5	1	23	23	93.5	125	0.40
2	1.5	28	24	103	140.5	0.65
3	2	31	27.5	119	162	0.94
5	3	39	33	146	201	1.95
7	5	51	40	186.5	256	3.77
11	7.5	62	51	231.5	317	6.80
15	10	73	57	261	360	9.80
22	15	89	75	318	434	16.25
30	20	90	82	360	495.5	27.20

G80 CLEVIS SLING HOOK WITH LATCH

TECHNICAL FEATURES





G80 CLEVIS SLING HOOK WITH LATCH SPECIFICATIONS:

Size	W.L.L.	A	A1	B	C	G	H	P	R	Weight
mm	T	mm	mm	mm	mm	mm	mm	mm	mm	kg/pc
6	1.12	25	19	6.7	8.5	14.5	20	7	73	0.24
7/8	2	29.5	24.5	8.7	9.8	19	27	9	86.3	0.53
10	3.15	35.7	29	12.2	13.5	23.5	33	13	105	0.95
13	5.3	43.5	35	15.3	17	28.5	40	16	128.5	1.67
16	8	56	45	18	22	37	48	20	165	3.00
20	12.5	61	53	23	26	51	52	24	183	5.70
22	15	72	62	24.5	29	50	62	27	213	8.80
26	21.2	77	73	30	34	60	75	30	230	13.50

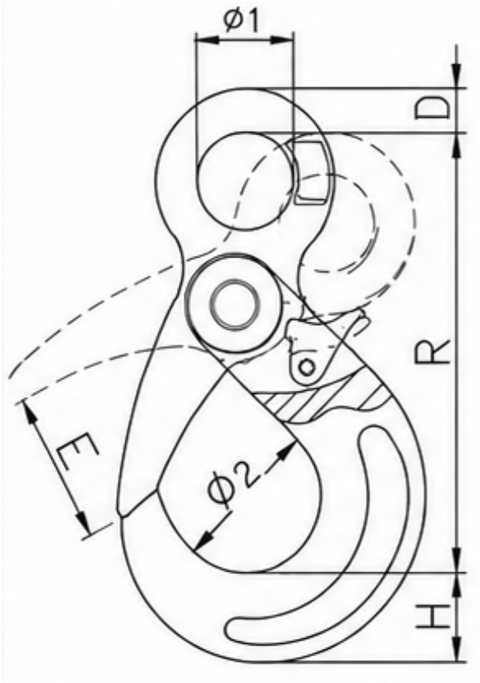
EYE SELF-LOCKING HOOK

G80 EUROPEAN TYPE EYE SELF-LOCKING HOOK

TECHNICAL FEATURES

- Yellow painted, other colour is available as per request.
- Working load limit permanently shown on the body.
- Max Proof Load is 2.5 times of the W.L.L.
- Min. Breaking strength is 4 times of the W.L.L.





EYE SELF-LOCKING HOOK SPECIFICATIONS:

Size (t)	W.L.L. (t)	B.L (t)	Dimension (mm) Φ1	R	D	Φ2	H	E	Weight (kg/pc)
6-8	1.12	4.48	22	110.5	10	34	19.5	28	0.5
7/8-8	2	8	25	136	12	46	24	34	0.8
10-8	3.15	12.6	32	171	15	56	28.5	44	1.55
13-8	5.3	21.2	40.5	208.5	19.5	69	40	52	3.2
16-8	8	32	56	257.5	22	86	50.5	60	5.74
20-8	12.5	50	64.5	275	27	100	55	81	8.5
22-8	15	60	70	320	30	98	67	82	13
26-8	21.2	84.8	80	363	34	110	75	110	18
32-8	31.5	126	105	472	45	166	97	168	44.5

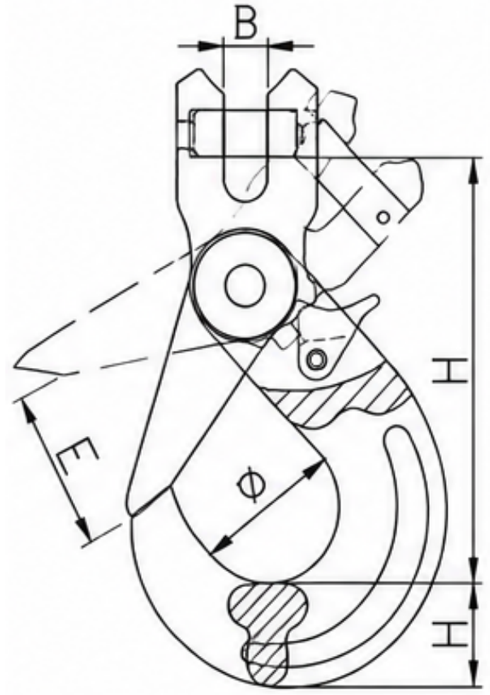
CLEIVS SELF-LOCKING HOOK

G80 EUROPEAN TYPE CLEVIS SELF-LOCKING HOOK

TECHNICAL FEATURES

- Yellow painted, other colour is available as per request.
- Working load limit permanently shown on the body.
- Max Proof Load is 2.5 times of the W.L.L.
- Min. Breaking strength is 4 times of the W.L.L.





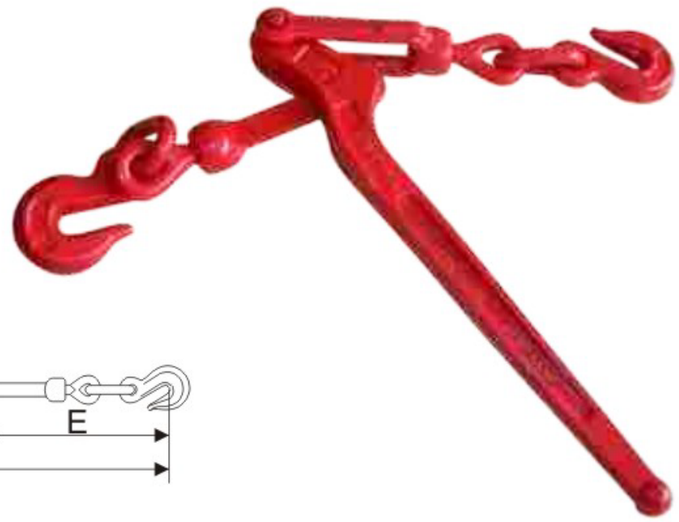
CLEVIS SELF-LOCKING HOOK SPECIFICATIONS:

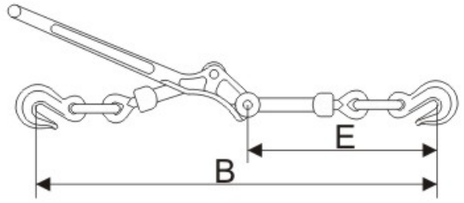
Size (t)	W.L.L. (t)	B.L (t)	Dimension (mm) E	B	H	Φ	R	Weight (kg/pc)
6-8	1.12	4.48	29	8.5	19.5	34	95.5	0.5
7/8-8	2	8	34	9.5	24	46	121	0.8
10-8	3.15	12.8	44	12	28.5	56	146	1.5
13-8	5.3	21.2	52	15	40	69	182	2.8
16-8	8	32	60	18	50.5	86	218	5.6
20-8	12.5	50	83	25	55	100	240	7.5
22-8	15	60	88	25.5	67	98	276.5	11.5
26-8	21.2	84.8	95.5	30	75	110	310.5	18.5

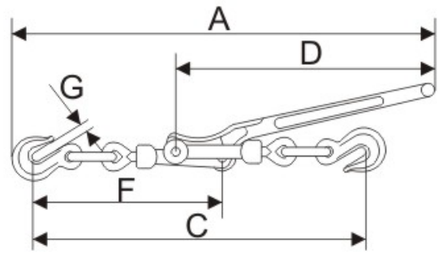
LEVER TYPE LOAD BINDER(HOOK)

TECHNICAL FEATURES

- Safety, durability designed for all heavy duty transport use.
- Drop forged steel, high strength.
- Free 360 degree swivel hooks for easier handling.
- Heat-treated for extra strength.
- Each binder individually proof tested.
- Drop forged or casting is available as requirement.







LEVER TYPE LOAD BINDER(HOOK) SPECIFICATIONS:

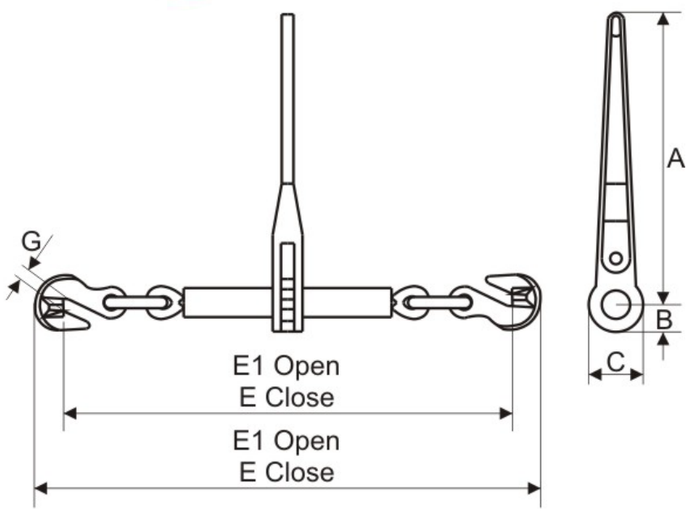
Chain Size (in)	W.L.L.(lbs)	Proof Load(lbs)	Min. Ultimate Load(lbs)	Weight (lbs)	Handle Length (in)	Dimension (in)						
						A	B	C	E	E	F	G
1/4-5/16	2600	5200	7800	3.52	11.42	18.5	17.3	14.17	11.42	8.27	8.07	0.35
5/16-3/8	5400	10800	19000	8.37	15.43	25.2	23.2	19.49	15.55	11.22	11.22	0.51
3/8-1/2	9200	18400	28000	12.11	17.24	28.5	26.38	22.05	17.64	12.99	12.20	0.59
1/2-5/8	11000	22000	44000	19.7	21.00	33.86	30.12	25.78	20.87	14.37	14.37	0.74

RATCHET TYPE LOAD BINDER

TECHNICAL FEATURES

- Safety, reliable design for easy operation.
- No requirement for locking of handle than lever type load binder
- High quality drop forged construction.
- Heat treated for extra strength.
- Each binder individually proof tested.





LEVER TYPE LOAD BINDER(HOOK) SPECIFICATIONS:

Chain Size (in)	W.L.L.(lbs)	Proof Load(lbs)	Min. Ultimate Load(lbs)	Weight (lbs)	Handle Length (in)	Dimension (in)							
						A	B	C	E	E1	F	F1	G
1/4-5/16	2600	5200	7800	3.52	7.16	7.16	0.89	1.77	16.22	21.26	17.79	22.83	0.35
5/16-3/8	5400	10800	19000	10.50	13.42	13.92	1.30	2.60	22.64	30.64	25.24	33.24	0.51
3/8-1/2	9200	18400	33000	12..90	13.92	13.92	1.30	2.60	24.13	32.13	27.04	35.04	0.59
1/2-5/8	13000	26000	46000	14.38	13.92	13.92	1.30	2.60	26.45	34.45	30.07	38.07	0.74

KF
KETTEN FORGE UK LTD

G80 CHAIN

TECHNICAL FEATURES



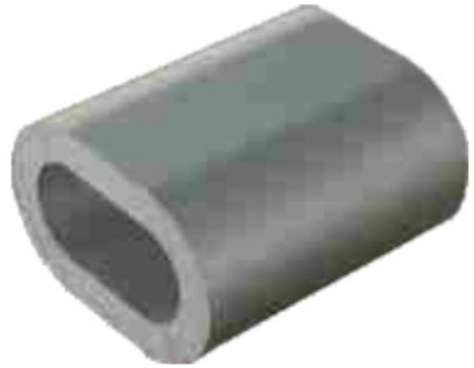
G80 CHAIN SPECIFICATIONS:

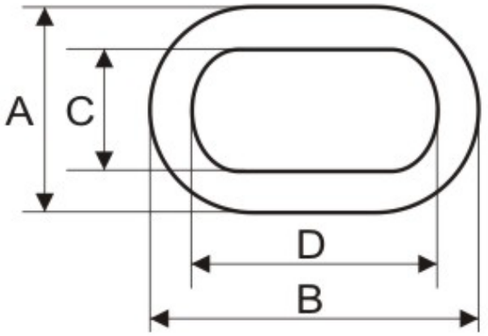
Size MM	IL MM	IW MM	Weight/M KGS	Working Load Ton	TEST LOAD KN	Breaking Load KN
6MM	18	7.5	0.79	1.1	27	45.2
7.1MM	21	9	1.07	1.5	37	61.6
8MM	24	10	1.38	2	48	80.4
9MM	27	10.8	1.75	2.5	62.5	101.7
10MM	30	12.5	2.2	3.2	76	125
11MM	33	12.6	2.33	3.8	92	154
12MM	36	15	3.1	4.6	109	181
13MM	39	16.3	3.8	5	128	214
14MM	42	18	4.13	6.3	150	250
16MM	48	20	5.63	8	192	320
18MM	54	23	6.85	10	246	410
19MM	57	23.7	7.7	11.3	270	450
20MM	60	25	8.6	12.5	300	500
22MM	66	28	10.6	15.3	360	610
25MM	86	35	11.6	18	432	720
26MM	78	35	15	21.3	510	850
28MM	106	42	17.3	24.5	590	980
30MM	108	45	18.3	28.3	678	1130
32MM	116	48	22.1	32.2	772	1286

KF
KETTEN FORGE UK LTD

ALUMINIUM SLEEVE

TECHNICAL FEATURES





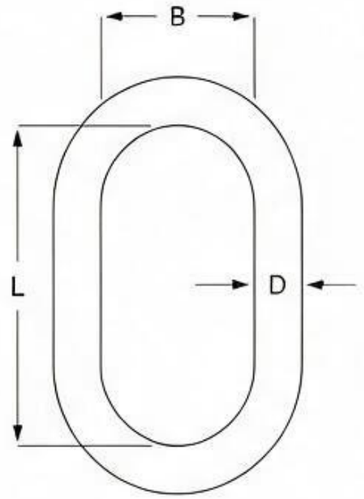
ALUMINIUM SLEEVE SPECIFICATIONS:

Rope Dia. (mm)	Dimension (mm)				Length (mm)	N.W. (g/pc)
	A	B	C	D		
1	3	4.3	1.3	2.6	5	0.11
1. 5	3.5	5.3	1.8	3.6	6	0.21
2	4.5	6.9	2.4	4.8	7	0.24
2. 5	5.1	8.1	3.0	6.0	9	0.50
3	6.1	9.6	3.5	7.0	11	0.84
3. 5	7.0	11.0	4.0	8.0	13	1.32
4	7.9	12.4	4.5	9.0	14	1.81
4. 5	8.9	14.0	5.1	10.2	16	2.61
5	9.8	15.4	5.6	11.2	18	3.57
6	11.6	18.2	6.6	13.2	21	5.86
6. 5	12.6	19.8	7.2	14.4	23	7.85
7	13.6	21.4	7.8	15.6	25	9.53
8	15.4	24.2	8.8	17.6	28	13.7
9	17.3	27.2	9.9	19.8	32	19.8
10	19.1	30.0	10.9	21.8	35	26.4
11	21.1	33.2	12.1	24.2	39	35.6
12	23.0	36.2	13.2	26.4	42	45.8
13	25.0	39.2	14.2	28.4	46	59.7
14	26.0	42.2	15.3	30.5	49	73.5

Rope Dia. (mm)	Dimension (mm)				Length (mm)	N.W. (g/pc)
	A	B	C	D		
16	30.9	48.4	17.5	35.0	56	111
18	34.8	54.4	19.6	39.2	63	159
20	38.5	60.2	21.7	43.4	70	217
22	42.7	67.0	24.3	48.6	77	292
24	46.4	72.8	26.4	52.8	84	376
26	50.3	78.8	28.5	57.0	91	481
28	54.5	85.4	31.0	62.0	98	603
30	58.1	91.2	33.0	66.2	105	735
32	62.0	97.5	35.2	70.4	112	897
34	66.2	104	37.8	75.6	119	1082
36	69.8	109.6	39.8	79.6	126	1275
38	73.5	115.4	41.9	83.8	133	1503
40	77.2	121.2	44.0	88.0	140	1734
42	81.2	127.4	46.2	92.4	147	2024
44	85	133.4	48.4	96.8	154	2600
46	89	139.6	50.6	101.2	161	2662
48	92.8	145.6	52.8	105.6	168	3010
52	100.4	157.6	57.2	114.4	182	3960
54	104.4	163.8	59.4	118.8	189	4293
56	108.2	169.8	61.6	132.2	196	6120

GRADE 8 MASTER LINKS

TECHNICAL FEATURES

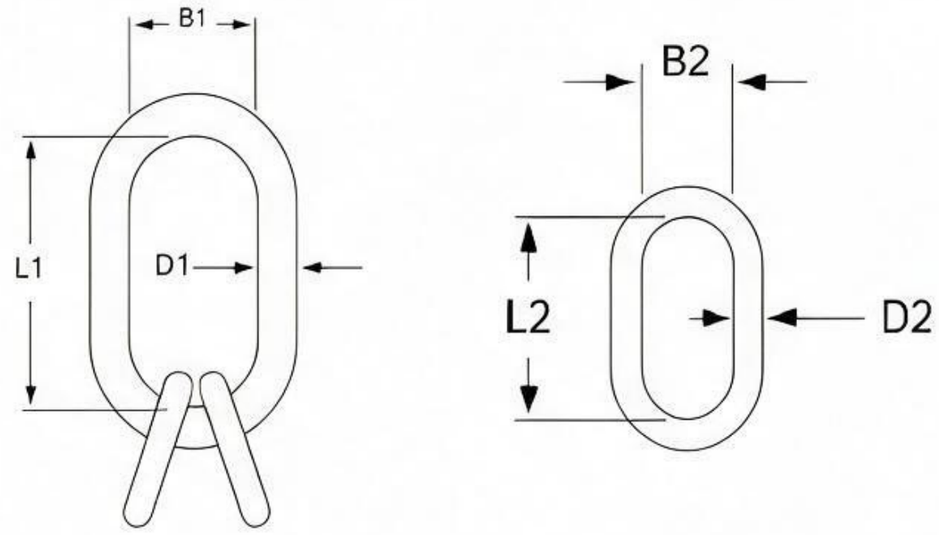


GRADE 8 MASTER LINKS SPECIFICATIONS:

Part No.	D (mm)	L (mm)	B (mm)	W.L.L.(Tonnes)	Minimum Factor of Safety	Weight (Kgs/each)
11B4	11	83	40	2.1	4	0.2
13B5	13	95	54	2.7	4	0.3
13B6	13	115	60	2.7	4	0.4
16B6	16	190	70	4.1	4	0.6
16B7	16	190	100	5.4	4	0.9
20B6	20	150	82	6.7	4	1.1
20B7	20	170	90	8.2	4	1.3
22B6	22	170	90	8.2	4	1.6
22B7	22	190	100	9.5	4	1.9
22B8	22	210	110	11.5	4	2.5
25B6	25	200	103	10.7	4	2.7
25B7	25	220	110	12.9	4	3.2
28B6	28	210	112.5	12.9	4	3.2
28B7	28	240	120	15.4	4	4
32B6	32	240	140	18	4	5.5
32B7	32	270	140	21.4	4	6.3
38B6	38	270	140	28.1	4	7.6
38B7	38	290	170	32.4	4	9.3
45B6	45	320	170	38.3	4	12.5
45B7	45	370	200	45	4	17.5
50B6	50	380	200	45	4	18
50B7	50	400	200	56.3	4	23
60B6	60	450	250	70.4	4	29
70B6	70	500	250	84.4	4	43.2

GRADE 8 QUAD ASSEMBLIES

TECHNICAL FEATURES



GRADE 8 QUAD ASSEMBLIES SPECIFICATIONS:

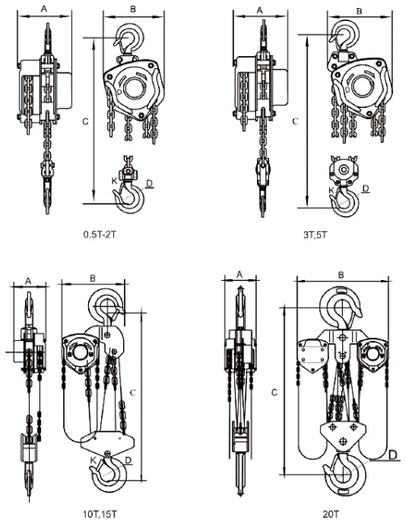
Part No.	D 1 mm	L 1 mm	B 1 mm	D 2 mm	L 2 mm	B 2 mm	W.L.L. Tonnes	Minimum Factor of Safety	Weight Kgs/each
Q16B	16	120	70	13	95	51	**4.1**	4.0	1.2
Q20B	20	170	90	16	120	70	**6.5**	4.0	2.5
Q22B	22	170	90	20	150	80	**8.2**	4.0	2.8
Q22B8	22	270	140	16	120	70	**5.8**	4.0	3.5
Q25B	25	190	100	20	150	80	**10.7**	4.0	4.9
Q28B	28	210	110	22	170	90	**12.9**	4.0	6.4
Q32B	32	270	140	25	190	100	**17.1**	4.0	10.0
Q38B	39	270	140	32	270	140	**28.1**	4.0	18.2
Q45B	45	320	170	38	270	140	**38.3**	4.0	27.7
Q50B	50	380	200	38	270	140	**45.0**	4.0	33.2
Q60B	60	430	220	50	380	200	**65.3**	4.0	54.0
Q70B	70	500	250	60	430	220	**84.4**	4.0	101.2

TOYAMA

CHAIN BLOCK

TECHNICAL FEATURES

- Alloy steel components with special heat treatment, avoiding sudden break.
- Automatic Double Pawl Breaking System.
- Asbestos Free Friction Disc.
- Industrial Powder Coating meet RoHS requirement.
- 1500 Cycles life test, Meet JBT7334, EN13157, ANSI B30. 16, AS 1418 Standards.





CHAIN BLOCK SPECIFICATIONS:

Model		622A-0.5	622A-1	622A-1.5		622A-2		622A-3		622A-5		622A-7.5	622A-10		622A-15	622A-20		622A-30
Capacity	tons	0.5	1	1.5	1.5	2	2	3	3	5	5	7.5	10	10	15	20	20	30
Standard lift	m	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Running test load	KN	7.5	15	22.5	22.5	30	30	45	45	75	75	112.5	150	150	225	300	300	450
Effort required to lift rated load	N	225	300	310	350	300	310	350	370	400	415	415	410	415	420	410*2	410*2	410*2
Diameter of load chain	mm	5	6	7.1	8	6	8	7.1	8	9	10	10	9	10	10	9	10	10
Strands of load chain		1	1	1	1	2	1	2	2	2	2	3	4	4	6	8	8	12
Dimensions (mm)	A	132	152	152	155	152	185	152	155	185	189	189	185	189	194	220	224	274
	B	152	157	180	180	170	207	207	207	267	267	380	380	380	400	440	440	649
	C	315	355	375	375	405	430	500	500	680	680	650	750	750	880	940	940	1100
	D	34	38	48	48	48	48	50	50	57	57	72	80	80	85	106	106	120
	K	27	27	36	36	36	36	38	38	48	48	47	51	51	58	70	70	80
Net weight	kg	8.5	11	13.5	14.5	14.5	17.5	20.5	23	36.5	39.5	44	60	65	102	146	156	246
Packing measurement	cm	24.5x19x18	26x19x19	30.5x21x19		31x20x19	30x23.5x23	34x24x19		49x29x23		47x42x23	47x42x22		97x48x23	80x70x24	80x70x23	80x70x37
Extra weight per metre of Extra lift	kg	1.3	1.6	2	2.3	2.2	2.3	3.2	3.7	4.5	5.3	7.5	8.1	9.7	14	16.2	19.3	28.2

CITECH
CITECH KNITTED BELT PROD. CORP LTD. KOREA

WEBBING SLINGS

TECHNICAL FEATURES

- **Type:** Double Ply Polyester Webbing Sing with Reinforced Lifting Eyes.
- **Technical Specifications:** Colour coded according to EN 1492-1
- Safety Factor (SF) 7:1
- **Characteristics:** Low Elongation
- **Norms:** According to Machinery Directive 2006/42/EC and EN 1492-1

LIFTING EYE TYPES



1. Flat Eye
2. Reversed Eye
3. Folded Eye 1/2 Width from 1 Side
4. Folded Eye 1/2 Width from 2 Sides
5. Folded Eye 1/3 Width





WEBBING SLINGS SPECIFICATIONS:



REF. NO.	COLOR	W.L.L. (Kgs)	WIDTH (mm)	WORKING LOAD LIMIT IN Kgs WITH ONE WEBBING SLING: STRAIGHT LIFT 1.0	CHOKED LIFT 0.8	LIFTING AT AN ANGLE β 0°- 7° 2.0	7°- 45° 1.4	45°- 60° 1.0
DP71/RE/1		1,000	25	1,000	800	2,000	1,400	1,000
DP71/RE/2		2,000	50	2,000	1,600	4,000	2,800	2,000
DP71/RE/3		3,000	75	3,000	2,400	6,000	4,200	3,000
DP71/RE/4		4,000	100	4,000	3,200	8,000	5,600	4,000
DP71/RE/5		5,000	125	5,000	4,000	10,000	7,000	5,000
DP71/RE/6		6,000	150	6,000	4,800	12,000	8,400	6,000
DP71/RE/8		8,000	200	8,000	6,400	16,000	11,200	8,000
DP71/RE/10		10,000	250	10,000	8,000	20,000	14,000	10,000
DP71/RE/12		12,000	300	12,000	9,600	24,000	16,800	12,000

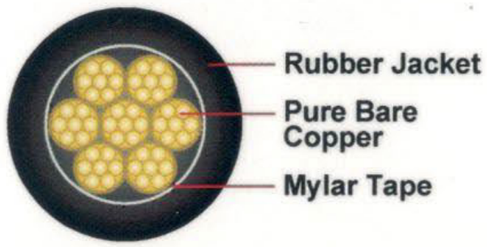
WELDING CABLE

RUBBER WELDING CABLE BLACK

TECHNICAL FEATURES

- **Kuwes Brand** - Made in Taiwan
- **Rubber Welding Cable** - Regular Quality
- **Single Insulation:** Black Color
- **Pure Copper Conductor**





WELDING CABLE SPECIFICATIONS:

Specification		25mm	35mm	50mm	70mm	95mm	120mm
1. Construction							
(1) Markings		Kuwes No.0250 Welding Cable 25mm (35/50/70/95/120mm) Made In Taiwan www.kuwescable.com.tw					
(2) Overall Diameter		10.5mm	12.0mm	13.7mm	16.0mm	18.0mm	20.0mm
(3) Thickness Of Sheath	Material	Nature Rubber (NR)	Nature Rubber (NR)	Nature Rubber (NR)	Nature Rubber (NR)	Nature Rubber (NR)	Nature Rubber (NR)
	Average	Min. 2.88mm	Min. 3.15mm	Min. 3.42mm	Min. 3.96mm	Min. 4.41mm	Min. 4.77mm
	Min. At Any Point	Min. 2.53mm	Min. 2.80mm	Min. 3.02mm	Min. 3.52mm	Min. 3.92mm	Min. 4.24mm
(4) Thickness Of Separator		Mylar Tape 0.025mm	Mylar Tape 0.025mm	Mylar Tape 0.025mm	Mylar Tape 0.025mm	Mylar Tape 0.025mm	Mylar Tape 0.025mm
(5) Construction Of Annealed Copper Wire		390/0.18mm Pure Copper	553/0.18mm Pure Copper	791/0.18mm Pure Copper	1106/0.18mm Pure Copper	1501/0.18mm Pure Copper	1887/0.18mm Pure Copper
2. Electrical Properties (At 20°C)							
(1) Voltage Test		Ac 1kv/1 Min.	Ac 1kv/1 Min.	Ac 1kv/1 Min.	Ac 1kv/1 Min.	Ac 1kv/1 Min.	Ac 1kv/1 Min.
(2) Conductor Resistance		Max. 1.878 Ohm/km	Max. 1.324 Ohm/km	Max. 0.926 Ohm/km	Max. 0.662 Ohm/km	Max. 0.488 Ohm/km	Max. 0.388 Ohm/km
3. Physical Properties							
(1) Tensile Strength Min. 0.8 Kg/mm²		0.85	0.85	0.85	0.85	0.85	0.85
(2) Elongation Min. 250%		320	320	320	320	320	320
(3) Air Oven	Condition	At 90°C x 96 hrs	At 90°C x 96 hrs	At 90°C x 96 hrs	At 90°C x 96 hrs	At 90°C x 96 hrs	At 90°C x 96 hrs
	Tensile Strength Min. 50% Unaged	88.7	85.1	84.9	85.6	86.0	86.0
	Elongation Min. 50% Unaged	55.3	58.2	54.7	60.1	58.7	60.0
4. Safety Current	Load Continue	55 A	80 A	95 A	120 A	150 A	170 A
	Load 50%	80 A	100 A	135 A	175 A	220 A	250 A
5. Max. Temperature		- 30°C~ 60°C	- 30°C~ 60°C	- 30°C~ 60°C	- 30°C~ 60°C	- 30°C~ 60°C	- 30°C~ 60°C

SAFETY LIFT

FULLBODY HARNESS

TECHNICAL FEATURES

- Webbing Made of High quality Dope dyed polyester yarn.
- Fall indicator to stop reuse of harness after a major fall.
- Dual Color scheme for easy identification.
- Adjustable shoulder, chest and thigh straps.
- Ideally positioned sit strap for extended comfort.
- High quality alloy steel, zinc plated metal components, free from any sharp edges.
- Webbing is 44 mm wide with a Breaking strength of 23 kN
- CE Certified to EN 361



ENERGY ABSORBING LANYARD

TECHNICAL FEATURES

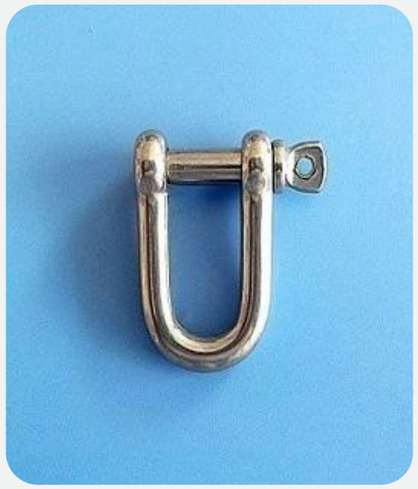
- Webbing Made of High quality Dope dyed polyester yarn.
- Screw locking karabiner at one end and two scaffolding hooks at the other end.
- Webbing is 44 mm wide with a Breaking strength of 23 kN
- Length 1.8 mtr from karabiner to scaffolding hooks.
- CE Certified to EN 354, EN 355 and EN 362

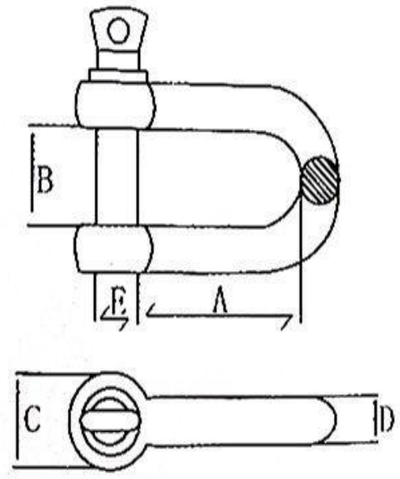




STAINLESS STEEL SHACKLE

TECHNICAL FEATURES





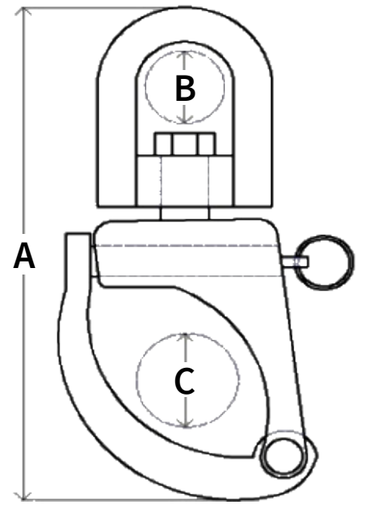
STAINLESS STEEL SHACKLE SPECIFICATIONS:

ITEM NO	SIZE	A		B		C		D		E		W.L.L	K.L.L
	mm	Eu	JIS	Eu	JIS	Eu	JIS	Eu	JIS	Eu	JIS	Ton	Ton
LK0063-A/B0004	4	16	14	8	8	8	8	4	4	4	4	0.15	0.15
LK0063-A/B0005	5	20	16	10	10	10	10	5	5	5	5	0.24	0.24
LK0063-A/B0006	6	24	22	12	12	12	12	6	6	6	6	0.346	0.346
LK0063-A/B0008	8	32	27	16	16	16	16	8	8	8	8	0.6	0.6
LK0063-A/B0010	10	40	31	20	20	20	20	10	10	10	10	1.16	1.16
LK0063-A/B0012	12	48	40	24	24	24	24	12	12	12	12	1.40	1.40
LK0063-A/B0014	14	56	46	28	28	28	28	14	14	14	14	2.00	2.00
LK0063-A/B0016	16	64	52	32	32	32	32	16	16	16	16	2.65	2.65
LK0063-A/B0018	18	72	58	36	36	36	36	18	18	18	18	3.00	3.00
LK0063-A/B0020	20	76	64	40	40	40	40	20	20	20	20	3.50	3.50
LK0063-A/B0022	22	88	75	44	44	44	44	22	22	22	22	4.05	4.05
LK0063-A/B0025	25	100	83	50	50	50	50	25	25	25	25	5.00	5.00
LK0063-A/B0028	28	112	96	56	56	56	56	28	28	28	28	7.00	7.00
LK0063-A/B0032	32	128	114	64	64	64	64	32	32	32	32	8.00	8.00
LK0063-A/B0036	36	144	116	72	72	72	72	36	36	36	36	8.00	8.50
LK0063-A/B0038	38	152	152	76	76	76	76	38	38	38	38		10.00

STAINLESS STEEL EYE SWIVEL SNAP SHACKLE

TECHNICAL FEATURES

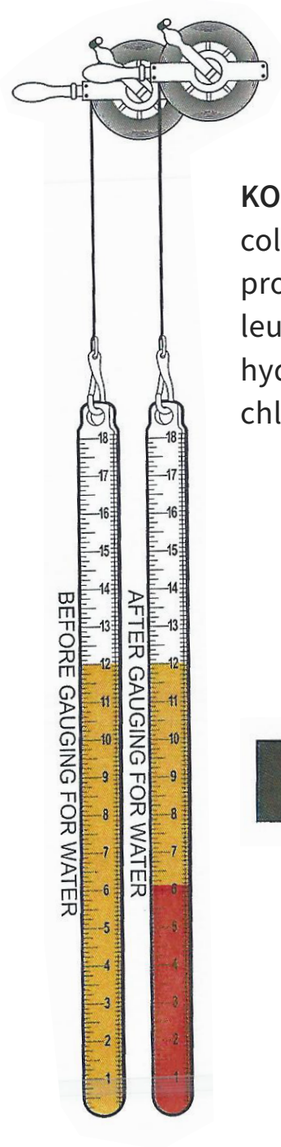




EYE SWIVEL SNAP SHACKLE SPECIFICATIONS:

ITEM NO	A	B	C	WLL	WT
	mm	mm	mm	mm	KGS
LK0039-A/B0012	70	12	12	0.45	0.064
LK0039-A/B0016	87	16	16	0.65	0.12
LK0039-A/B0022	128	22	22	0.95	0.34

WATER FINDING PASTE



KOLOR KUT WATER FINDING PASTE is golden brown in color and turns brilliant red upon contact with water. This product will successfully gauge water content in all petroleum and hydrocarbons as well as sulfuric acid, nitric acid, hydrochloric acid, ammonia, soap solutions, salt and other chlonde solutions.



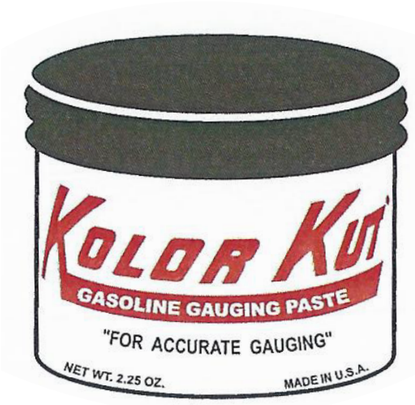
DIRECTIONS FOR USE

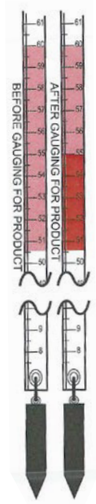
Place a thin film of KOLOR KUT WATER FINDING PASTE on a clean gauge line or rod approximately where water level is expected to appear. Lower tape into tank until bottom is reached. Level will appear by positive contrast of colors, instantaneous in gasoline, diesel, kerosene and gas oils. Heavy oils require a few seconds.

GASOLINE GAUGING PASTE

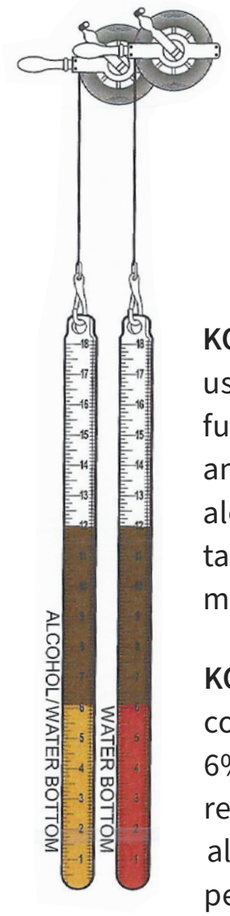
KOLOR KUT GASOLINE GAUGING PASTE is light pink in colour and turns red upon contact with gasoline, diesel, naphtha, kerosene, gas oil, crude oil, jet fuels, and other hydrocarbons. A most effective product level indicator.

Store at temperature range of 35° F to 115° F for preservation of product.





MODIFIED WATER FINDING PASTE



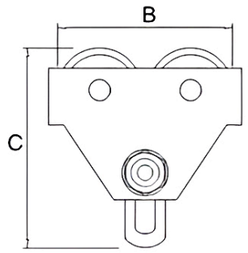


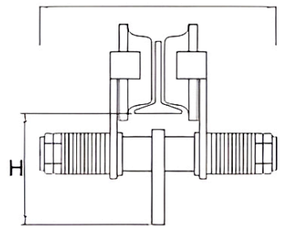
KOLOR KUT MODIFIED WATER FINDING PASTE has been designed for use in Methanol, Ethanol enriched fuel systems. Alcohols are soluble in fuels in all proportions when they are water-free but relatively small amounts of water can cause separation of
alcohol from the fuel. The mixture settling to the bottom of the storage tank contains a high concentration of alcohol and cannot be detected by most water detection pastes.

KOLOR KUT MODIFIED WATER FINDING PASTE color to bright red on contact with water. Phase separated alcohol solutions with as little as 6% water will turn the paste yellow. This product is designed for use in reformulated and oxygenated fuel systems. After testing, it seems that alcohol or deicing agents in fuels have very little effect on the performance of the product.

PLAIN TROLLEY





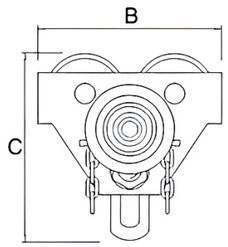


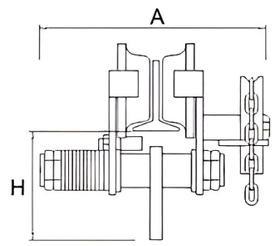
PLAIN TROLLEY SPECIFICATIONS:

Capacity t	I-beam Width mm	Min. turning radius m	Weight mm	A mm	B mm	C mm	H mm
0.5	68-126	0.9	6	208	212	190	108
1.0	80-146	1.0	9.5	246	239	214	120
2.0	80-168	1.1	14.6	280	270	248	145
3.0	88-168	1.3	24	300	319	323	200
5.0	100-170	1.4	36	316	346	357	210
10	122-203	1.7	83	343	475	400	230
20	136-203	5.0	235	475	642	622	315

GEARED TROLLEY







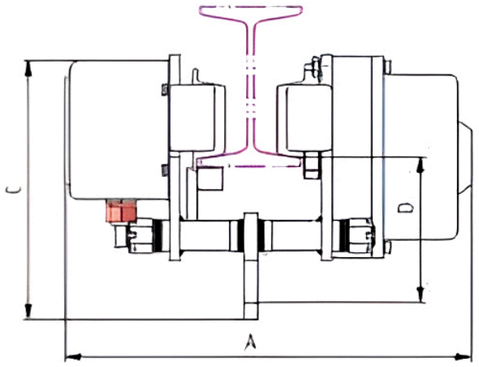
GEARED TROLLEY SPECIFICATIONS:

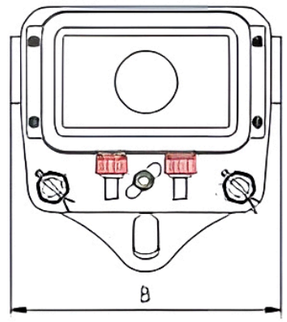
Capacity t	I-beam Width mm	Min. turning radius m	Weight mm	A mm	B mm	C mm	H mm
0.5	68-126	0.9	10	280	212	190	108
1.0	80-146	1.0	13.5	280	239	214	120
2.0	80-168	1.1	19	310	270	248	145
3.0	88-168	1.3	29	365	319	323	200
5.0	100-170	1.4	40	400	346	357	210
10	122-203	1.7	90	400	475	400	230
20	122-203	5.0	215	475	798	575	300

ELECTRIC TROLLEY









Model		DC-A025/05	DC-A10	DC-A20	DC-A30	DC-50A/100A
Dimension (mm)	A	396	396	296	442	442
	B	266	266	270	330	334
	C	264	264	264	340	342
	D	145	145	180	180	182

3-phase, 380V, 50Hz / 1-phase, 220V, 50Hz

Model	Capacity ton	Motor power W	Trolley speed m/min	I-beam mm	Min.distance between two hooks mm	Min.radius of curve m	Net weight kg
DC-A025/05	0.5	200	20	74-124	520	1.1	33
DC-A10	1.0	200	20	74-124	520	1.1	33
DC-A20	2.0	300	20	74-124	520	1.1	35
DC-A30	3.0	400	18	102-152	630	1.3	63
DC-A50	5.0	400	18	102-152	710	1.3	68

TOYAMA

HAND PULLER







Description	Model	Rated Pull (kn)	Cable Size Dia. (mm)	Cable Size Length (m)	Effective Distance (mm)	Surface	Qty./ctn (pcs)	Weight (kg)	Dimension (cm)
1T 2-hook&single wheel puller	QSS1TA1	4.9	ϕ4.5	1.8	0.5	Galvanized	6	14	56x21x24
1T 2-hook&double-wheel puller	QSS1TA2	4.9	ϕ4.5	1.8	0.5	Galvanized	6	15	56x21x24
1.5T 2-hook&single-wheel puller	QSS1.5TA1	7.4	ϕ4.5	2.2	0.7	Galvanized	6	16.5	58x25x22
1.5T 2-hook&double-wheel puller	QSS1.5TA2	7.4	ϕ4.5	2.2	0.7	Galvanized	6	18	58x25x22
2T 2-hook&single-wheel puller	QSS2TA1	9.8	ϕ4.8	3.0	1.1	Galvanized	6	19.5	61x26x22
2T 2-hook&double-wheel puller	QSS2TA2	9.8	ϕ4.8	3.0	1.1	Galvanized	6	21	61x27x22
2T top grade of 2-hook&double wheel puller	QSS2TC2	14.7	ϕ5.1	3.0	1.1	Chromed	6	21	61x26x22
2T top grade coloured ribben of 2-hook&double wheel puller	QSS2TE2	14.7	ϕ5.1	4.5	2.1	Chromed	6	21	61x26x22
3-hook & single wheel puller	QSS3TA1	14.7	ϕ5.1	3.3	1.2	Galvanized	4	19	71x21x27
3T 2-hook & double wheel puller	QSS3TA2	14.7	ϕ5.1	3.3	1.2	Galvanized	4	20	71x21x27
3T 3-hook & single wheel puller	QSS3TB1	14.7	ϕ5.1	3.3	2.4	Galvanized	4	20	71x21x27
3T 3-hook & double wheel puller	QSS3TB2	14.7	ϕ5.1	3.3	2.4	Galvanized	4	21	71x21x27
4T easy model of 2-hook&single wheel puller	QSS4TA1E	19.6	ϕ5.5	3.3	1.2	Galvanized	4	21	70X21X29
4T easy model of 2-hook&double wheel puller	QSS4TA2E	19.6	ϕ5.5	3.3	1.2	Galvanized	4	22	70X21X29
4T easy model of 3-hook&single wheel puller	QSS4TB1E	19.6	ϕ5.5	3.3	2.4	Galvanized	4	22.5	70x21x29
4T easy model of 3-hook&double wheel puller	QSS4TB2E	19.6	ϕ5.5	3.3	2.4	Galvanized	4	23.5	70x21x29
4T top grade of 2-hook&single wheel puller	QSS4TA1	19.6	ϕ6	3.6	1.35	Chromed	2	12	74x23x14.5
4T top grade of 2-hook&double wheel puller (Al-alloy)	QSS4TC2	19.6	ϕ6	3.6	1.35	Chromed	2	13	74x23x14.5
4T top grade of 3-hook&double wheel puller (Al-alloy)	QSS4TD2	19.6	ϕ6	3.6	2.7	Chromed	2	13.5	74x23x14.5

WIRE ROPE WINCH

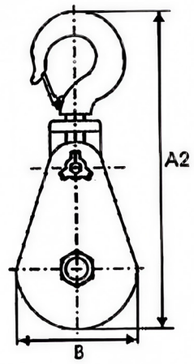


Model		NHSS0.8	NHSS1.6	NHSS3.2	NHSS5.4
Rated Capacity	tons	0.8	1.6	3.2	5.4
Pulling Capacity	tons	1.2	2.4	4.8	8.1
Rated Forward Travel	mm	≧52	≧55	≧28	≧25
Efficient Length of Forward handle	mm	825	1200	1200	1200
Drive Step		1	1	2	2
Rope Diameter	mm	8.3	11	16	20
Standard Length of Rope	m	20	20	20	20
Net Weight	Kg	16	24	32	90
Rated Forward Hand Power	N	≧341	≧400	≧438	≧550
Max.Overall Size	mm	426x64x238	545x97x284	660x98x325	930x390x150

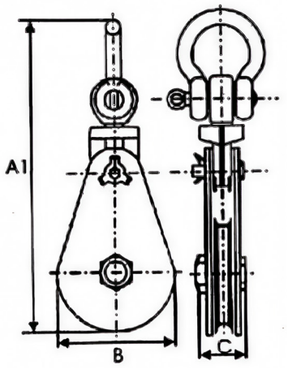
TOYAMA

HEAVY DUTY SNATCH BOX









Type	S.W.L. (t)	Sheave Dia. D(mm)	Dimension (mm) A2(LH)	A2(LS)	B	C	For Wire Dia (mm)	N.W. (kg)
LH(LS)3"x1	2	75	292	286	82	70	7-9	4
LH(LS)4-1/2"x1	4	115	358	345	120	70	10-12	6.1
LH(LS)6"x1	4	150	412	399	160	70	16-18	13.8
LH(LS)6"x1	8	150	498	475	160	93	20-22	14.4
LH(LS)8"x1	8	200	549	528	210	93	20-22	16
LH(LS)8"x1	15	200	672	663	230	102	22-24	24
LH(LS)10"x1	10	250	695	679	260	115	24-26	37.5
LH(LS)10"x1	12	250	701	679	260	115	24-26	42
LH(LS)12"x1	12	300	797	767	310	133	24-26	56
LH(LS)12"x1	15	300	797	884	310	133	26-28	65
LH(LS)14"x1	22	355	960	952	365	140	28-32	90
LH(LS)16"x1	22	400	1027	1019	415	140	28-32	108
LH(LS)16"x1	30	400	1085	1126	415	155	32-35	135
LH(LS)20"x1	30	500	1177	1256	514	162	32-35	210
LH(LS)24"x1	50	600	1445	1525	625	240	46-50	408

DRUM LIFTER



Up-rightLifting lidded	Side angle lifting	Dump	Double Leg
			

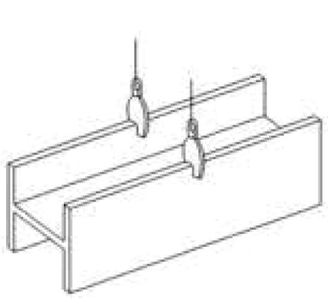
Capacity (kg)	Chain Size (mm)	Length of lift chain (mm)	Net weight (kg)
1000	6x18	500	3.6

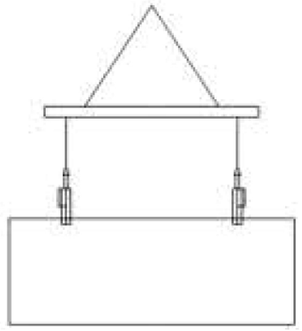
VERTICAL LIFTING CLAMPS

TECHNICAL FEATURES

- Japan model.
- Suitable for vertical lifting of steel plates and steel structures.
- Capacity: 0.8-20T.
- Made of high-quality low-carbon alloy steel.
- It is fitted with a locking device for both open and closed positions, which ensures complete safety.
- High-frequency quenching of die-forged special alloy steels enhance the strength and durability of the tooth plate.
- The working load is the capacity of one piece. It may be used singly or pairs of clamp used together.
- Do not crash the lifted cargos during the lifting and transfer period.







VERTICAL LIFTING CLAMPS SPECIFICATIONS:

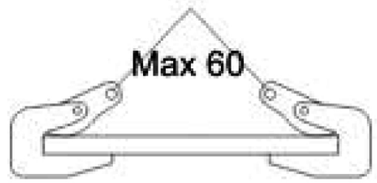
Model	Working Load (kg)	Test Load (kg)	Opening Size (mm)	Net Weight (kg)
JCD-0.8	800	1600	0-16	2.8
JCD-1.0	1000	2000	0-22	4.2
JCD-2.0	2000	4000	0-25	5.5
JCD-3.2	3200	6400	0-35	9.5
JCD-5.0	5000	10000	0-50	16
JCD-8.0	8000	16000	0-60	23
JCD-10	10000	15000	0-80	33
JCD-12	12000	18000	20-90	37
JCD-16	16000	24000	40-100	46
JCD-20	20000	30000	60-120	76

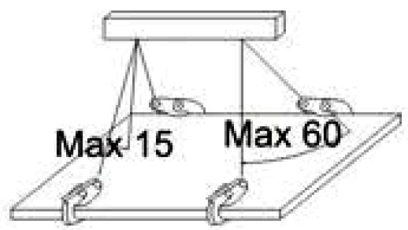
HORIZONTAL LIFTING CLAMPS

TECHNICAL FEATURES

- Europe model.
- Suitable for lifting and horizontal transfer of steel plates and steel structures.
- Capacity: 0.8-16T.
- Made of high-quality low-carbon alloy steel.
- The working load limit is the maximum load when the clamp are used in pairs with a lift of 60°. In lifting operation should be used in pairs or multiples.







HORIZONTAL LIFTING CLAMPS SPECIFICATIONS:

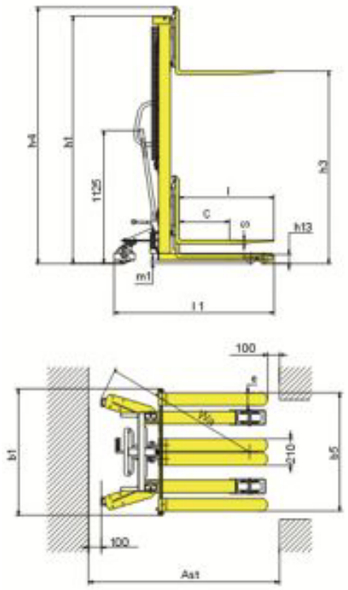
Model	Capacity/pair (kg)	Test Load (kg)	Opening Size (mm)	Net Weight (kg)
PPD-0.8	800	1600	0-25	2.5
PPD-1.0	1000	2000	0-30	3.5
PPD-1.6	1600	3200	0-30	4.0
PPD-2.0	2000	4000	0-40	5.0
PPD-3.2	3200	6400	0-45	6.0
PPD-4.0	4000	8000	0-50	6.5
PPD-5.0	5000	10000	0-55	7.5
PPD-6.0	6000	12000	0-65	10.5
PPD-6.0A	6000	12000	0-130	22
PPD-8.0	8000	12000	0-100	25
PPD-10	10000	15000	0-125	33
PPD-16	16000	24000	0-150	52

MANUAL STACKER

TECHNICAL FEATURES

- Rubust steel construction.
- Sturdy and compact enough to fit enough standard doors and to operate in congested areas.
- Regardless of loading weight, lifting speed always smoothly as same, no impact, safe to use.
- The stacker can be lifted by handle or foot pedal.
- Set the active safety valve to prevent overloading of use.
- Conform to CN 1757-2, CE/GS/TUV, 1S09001:2000





MANUAL STACKER SPECIFICATIONS:

ITEM	UNIT	MSC500	MSC1000	MSC1500	MSC2000
CAPACITY	KG	500	1000	1500	2000
MAX.LIFTING HEIGHT	MM	1600	1600/2000/2500	1600	1600
HEIGHT, FORK LOWERED	MM	80	90		
FORK LENGTH	MM	800	900/1070		
FORK WIDTH	MM	320-695			
LOAD CENTER	MM	400			
TURNING RADIUS	MM	1250	1400		
OVERALL LENGTH	MM	1234	1325		
OVERALL WIDTH	MM	820	1000/790	1000	
OVERALL HEIGHT	MM	1980	2080/1580/1830	2080	2080
WHEEL TYPE		NYLON			

SEMI-ELECTRIC STACKER

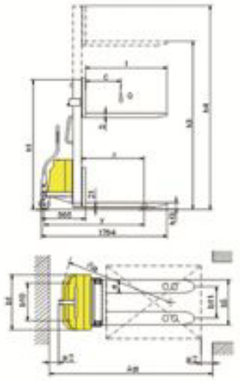
TECHNICAL FEATURES

- Handle-castor chain assist steering system make turning more easier.
- Over-discharge protection device greatly prolongs the battery use time.
- Equipped with explosion-proof valve, ensure no sharp drop of platform and prevent operator from harm.
- Easy operating foot brake.
- Conform to CN 1757-2, CE/GS/TUV, ISO9001:2000



Chain Assist Steering System

Conforms to EN ISO3691-5:2009
Based on Directive 2006/42/EC





SMEI-ELECTRIC STACKER SPECIFICATIONS:

ITEM	UNIT	ESB10	ESB15
MOVEING TYPE		MANUAL	
LIFTING TYPE		ELECTRIC MOTOR	
LOAD CAPACITY		1000	1500
MAX.LIFTING HEIGHT		1600/2000/2500/3000	1600/2000/2500
FORKS WIDTH		320-695	
FORKS LENGTH		1000	
MIN.FORK HEIGHT, LOWERED		90	90
LOAD CENTER DISTANCE		450	450
WHEELBASE		1185	1260
OVERALL LENGTH		1660	1660
OVERALL WIDTH		850	850
OVERALL HEIGHT		2040/1580/1835/2090	2080/1630/1875
TURNING RADIUS		1350	1450
LIFTING SPEED, LOAD/UNLOAD		10/15	10/15
LOWERING SPEED, LOAD/UNLOAD		15/12	15/12
SERVICE BRAKE		Mechanical	Mechanical
BATTERY VOLTAGE		12/120	12/120
BATTERY WEIGHT		25	25/30
WHEEL TYPE		Nylon	Nylon
WHEEL SIZE, FRONT		Φ 80x60	Φ 80x60
WHEEL SIZE, REAR		Φ 180x50	Φ 180x50
SERVICE WEIGHT		400/430/450/470	430/480/510

Stallion
LIFTING EQUIPMENT

HAND PALLET TRUCK - CBG-I

TECHNICAL FEATURES



- Economic design, but big load capacity 3000 kgs.
- Complete pump design with reliable leak-proof pump eliminating maintenance and extending the service time.
- 3 position hand control - raise, lower, neutral.
- Fork lowering speed is controllable. Operated by hand control and foot pedal.
- Entry/exit roller, more freely travel.
- Conform to CN 1757-2, CE/GS/TUV, ISO9001:2000
- Wheel type option: nylon, pu, rubber.

HAND PALLET TRUCK SPECIFICATIONS:

ITEM	UNIT	CBG-I 20	CBG-I 25	CBG-I 30
CAPACITY	KG	2000	2500	3000
OVERALL FORK WIDTH	MM	520/550/685		
OVERALL FORK LENGTH	MM	915/1100/1150/1220		
LOWERED FORK HEIGHT	MM	85		
MAX.FORK HEIGHT	MM	200		
STEERING WHEEL SIZE	MM	Φ180X50		
FORK WHEEL SIZE SINGLE	MM	Φ80X84		
FORK WHEEL SIZE TANDEM	MM	Φ80X60		
TURNING RADIUS	MM	1210/1260/1330		
SERVICE WEIGHT	KG	65-80		
WHEEL TYPE		NYLON / PU / RUBBER		

HAND PALLET TRUCK - HPW

TECHNICAL FEATURES



- High reliability and long service life of 5 years.
- Double lifting speed when loads under 600 kg, which turns back to regular speed when above it.
- The lifting system is equipped with overloading protection valve to ensure the safe operation.
- The utilized structural design guarantees the convenience of assembling and disassembling.
- High - weight fork frame, made from high rigidity steel plate.
- Compact appearance, innovative separated rock arm, ensure the whole truck evenly pressed.
- There is a finger hole in the connection of handle and pump, which os easy to assembly.
- Conform to EN 1757-2.

HAND PALLET TRUCK SPECIFICATIONS:

Conforms to EN ISO3691-5:2009
Based on Directive 2006/42/EC

ITEM	UNIT	HPW
CAPACITY	KG	5000
OVERALL FORK WIDTH	MM	550/685
OVERALL FORK LENGTH	MM	1150/1220
LOWERED FORK HEIGHT	MM	77
MAX.FORK HEIGHT	MM	195
STEERING WHEEL SIZE	MM	Φ180
LOAD ROLLER SIZE TANDEM WHEELS	MM	Φ75X80
TURNING RADIUS	MM	1370
SERVICE WEIGHT	KG	103
WHEEL TYPE		NYLON

Stallion
LIFTING EQUIPMENT

TABLE LIFT TRUCK

TECHNICAL FEATURES

- 1 year warranty.
- Easy action foot operated hydraulic lift for raising table top to desired level.
- Hand operated table descent control.
- Regenerative braking function to reduce the operation cost.
- Valuable material handling equipment for use as a feeding table on assembly line.



Model: **GTF**



Model: **GFTS**

TABLE LIFT TRUCK SPECIFICATIONS:

ITEM	UNIT	GTF	GTFB	GTFS
CAPACITY	KG	300 / 500	750 / 1000	350 / 680
MAX.LIFTING HEIGHT	MM	900	1000	1300
MIN.TABLE HEIGHT	MM	290	390	360
TABLE SIZE	MM	815X510X50	1000X510X55	910X510X50
OVERALL LENGTH	MM	885	1060	980
WHEEL TYPE		PU		
WHEEL SIZE	MM	Φ125X50	Φ150X50	Φ125X50
PEDAL CYCLES TO MAX HEIGHT		⩽40	⩽55	⩽60
SERVICE WEIGHT	KG	75 / 85	115	105 / 185
QTY./20'CONTAINER	PCS	120	115	110
CARTON SIZE	MM	960X530X420	1190X630X460	1010X530X390

Stallion
LIFTING EQUIPMENT

SEMI-ELECTRIC ORDER PICKER

TECHNICAL FEATURES

- Rated load capacity: 300kg; Max lift height: 3500mm, usually used in warehouse, library, supermarket rack etc;
- The secure brake and bolt protective device, to ensure the safe operation
- Our range of Semi-automatic High Level Order Picker is fabricated by a team do dexterous professionals using the finest grade factor inputs and latest technology in compliance with the international standards.
- This product is broadly accepted by our clients due to their superior finish durability, high load bearing capacity and longer service life without any hassies. Offered in various technical specifications, this range of order picker is available at the most reasonable prices.



Model: **EOP-B**

ALUMINIUM SLEEVE SPECIFICATIONS:

Conforms to EN ISO3691-5:2009
Based on Directive 2006/42/EC

ITEM	UNIT	EOP-B24	EOP-B30
DRIVE TYPE		HAND	HAND
OPERATION TYPE		STANDING	STANDING
LOAD CAPACITY	kg	300	300
MAX LIFTING HEIGHT	mm	2400	3000
HEIGHT·MAST LOWERED	mm	1690	1990
MIN.HEIGHT-PLATFORM	mm	540	540
MIN.HEIGHT-STAND PLATFORM	mm	345	
OVERALL LENGTH	mm	1520	
OVERALL WIDTH	mm	890	
WHEEL BASE	mm	1025	
BODY WIDTH	mm	600	
FRONT WHEEL	mm	Φ150X50	
REAR WHEEL	mm	Φ180X50	
TURNING RADIUS	mm	1380	
LOAD PLATFORM SIZE	mm	600X600	
STAND PLATFORM SIZE	mm	450X600	
LIFTING SPEED	mm/s	85	
LIFT MOTOR	kw	1.5	
BATTERY	V/ah	12/120	

TOYAMA

HHB ELECTRIC CHAIN HOIST

TECHNICAL FEATURES

- Japan Tech.
- Dual braking system ensure for more safe and reliable operation.
- Compact design with light weight
- Dual-geared driven system enable smoothly driven with low noise.
- High-strength alloy steel components with special heat treatment, avoiding sudden break.



Limit switch ensure safety and reliable operation



Electro magnetic brake system



Strong water-proof control handle



OPTIONAL FEATURES WITH EXTRA COST

- Dual Speed
- Over protection
- Different power supply and frequency
- Schneider electric parts
- FEC Chain & Thermal protection

3-phase, 380V, 50Hz (single speed/dual speed)

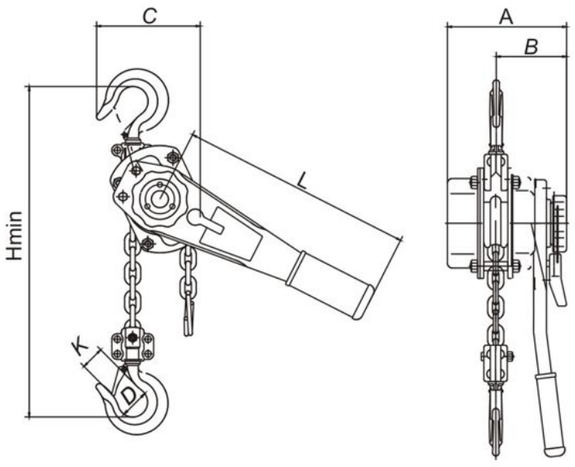
Model 型号	Capacity 额定载荷 t	Standard lift 标准起升高度 m	Test load 试验载荷 kN	Motor Power(kw) 电机功率 Single/Dual 单速/双速	No.of Chain 链条行数	Dia of Chain 链条直径 mm	Lifting Speed (m/min) 起升速度 Single/Dual 单速/双速	Net weight 净重 kg	Extra weight per meter of extra lift 起升高度增加1米增加的重量 kg
HHB-0.5AF	0.5	3	6.25	0.75,0.8/0.27	1	6.3	6.8,6.9/2.3	47	0.81
HHB-1.0AF	1.0	3	12.5	1.5,1.8/0.6	1	7.1	6.6,6.9/2.3	61	1.1
HHB-1.0BF	1.0	3	12.5	0.75,0.8/0.27	2	6.3	3.4,3.5/1.2	52	1.62
HHB-2.0AF	2.0	3	25	3.0,3.0/1.0	1	10	6.6,6.8/2.3	115	2.3
HHB-2.0BF	2.0	3	25	1.5,1.8/0.6	2	7.1	3.3,3.3/1.1	73	2.2
HHB-3.0AF	3.0	3	37.5	3.0,3.0/1.0	1	11.2	5.4,5.4/1.8	122	2.8
HHB-3.0BF	3.0	3	37.5	3.0,3.0/1.0	2	10	4.4,4.5/1.5	131	4.7
HHB-5.0F	5.0	3	62.5	3.0,3.0/1.0	2	11.2	2.8,2.7/0.9	151	5.6
HHB-7.5F	7.5	3	94	3.0,3.0/1.0	3	11.2	1.8,1.8/0.6	266	8.4
HHB-10F	10	6	125	3.0,3.0x2/1.0x2	4	11.2	2.7,2.7/0.9	335	11.2
HHB-15F	15	6	187.5	3.0X2,3.0x2/1.0x2	6	11.2	1.8,1.8/0.6	451	17
HHB-20F	20	6	250	3.0X2,3.0x2/1.0x2	8	11.2	1.4,1.5/0.6	546	22
HHB-25F	25	6	312.5	3.0X2,3.0x2/1.0x2	10	11.2	1.1,1.2/0.4	624	28
HHB-30F	30	6	375	3.0X2,3.0x2/1.0x2	12	11.2	0.9,1.0/0.3	1143	31
HHB-35F	35	6	437.5	3.0X2,3.0x2/1.0x2	16	11.2	0.7,0.7/0.25	1385	44.8

TOYAMA

LEVER BLOCK

TECHNICAL FEATURES

- Automatic Double Pawl Breaking System.
- Asbestos Free Friction Disc.
- Industrial Powder Coating meet RoHS requirement.
- One step operation for free wheel.
- 1500 Cycles lift test, Meet JBT7334, EN13157, ANSI B30. 16, AS 1418 Standards.





LEVER BLOCK SPECIFICATIONS:

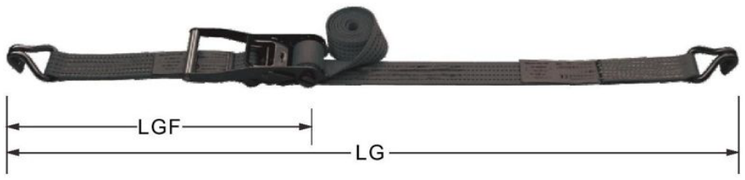
Model			HSH616-0.75	HSH616-1.5	HSH616-3	HSH616-6	HSH616-9
Capacity		tons	0.75	1.5	3.0	6.0	9.0
Standard lift		m	1.5	1.5	1.5	1.5	1.5
Running test load		KN	11.2	22.5	45	75	112.5
Effort required to lift rated load		N	140	220	320	340	360
Strands of load chain			1	1	1	2	3
Diameter of load chain		mm	6	8	10	10	10
Dimensions (mm)	A		145	175	195	195	195
	B		86	100	115	115	115
	C		134	150	190	242	307
	D		38	48	50	65	81
	H		340	380	490	620	700
	L		285	410	410	410	410
	K		27	36	38	48	54
Net weight		kg	9.5	11.5	18.5	27.5	46
Packing measurement		cm	37.5X16X18	52X17X22	55X18.5X22.5	57X21X23	60X42X28
Extra weight per metre of Extra lift		kg	0.8	1.4	2.2	4.4	6.6

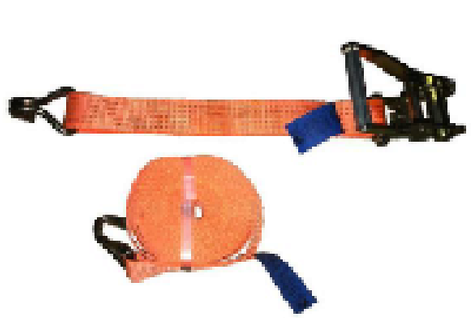
CARGO LASHINGS

TECHNICAL FEATURES

- Produced from high tensile polyester yarns.
- Low elongation, wear-resistant, long-life strap material(100% polyester).
- Various end fittings are available to suit specific lashing needs.
- In accordance with DIN 60060 and EN 12195-2.









CARGO LASHINGS SPECIFICATIONS:

Code	Width	LGF	LGL	LG	STF SHF=50 daN	Lashing Capacity	
CLB2/RE/1/0110	25mm	0.5mtr	9.5mtr	10mtr	200 daN	1000 daN	2000 daN
CLB5/RE/2/0210	50mm	0.5mtr	9.5mtr	10mtr	320 daN	2500 daN	5000 daN
CLB5/RE/2/0212	50mm	0.5mtr	11.5mtr	12mtr	320 daN	2500 daN	5000 daN
CLB5/RE/2/0215	50mm	0.5mtr	14.5mtr	15mtr	320 daN	2500 daN	5000 daN
CLB10/RE/3/0310	75mm	0.5mtr	9.5mtr	10mtr	720 daN	5000 daN	10000 daN
CLB10/RE/3/0312	75mm	0.5mtr	11.5mtr	12mtr	720 daN	5000 daN	10000 daN
CLB10/RE/3/0315	75mm	0.5mtr	14.5mtr	15mtr	720 daN	5000 daN	10000 daN
CLB12/RE/4/0410	100mm	0.5mtr	9.5mtr	10mtr	820 daN	6000 daN	12000 daN
CLB12/RE/4/0412	100mm	0.5mtr	11.5mtr	12mtr	820 daN	6000 daN	12000 daN
CLB12/RE/4/0415	100mm	0.5mtr	14.5mtr	15mtr	820 daN	6000 daN	12000 daN

TORO 12 STRAND BRAIDED ROPE

TECHNICAL FEATURES

- High Strength
- Lowest Stretch
- Low Creep
- Soft hand
- Torque-free
- Easy Splicing
- Floats

3 STRAND NYLON ROPE SPECIFICATIONS:

Nominal Diameter		Size (circ in.)	Approximate Weight		Minimum Tensile Strength Spliced Rope		Minimum Tensile Strength ISO Unspliced Rope	
inch	mm		lbs/ 100ft	kg/ 100m	lbs	MT (tonnes)	lbs	MT (tonnes)
1/8	3	3/8	0.69	1.03	2,800	1.27	3,110	1.41
3/16	5	9/16	1.20	1.79	5,500	2.49	6,110	2.77
1/4	6	3/4	1.7	2.6	8,000	3.63	8,880	4.0
5/16	8	15/16	2.6	3.8	11,700	5.31	12,990	5.9
3/8	9	1-1/8	3.6	5.3	17,500	7.94	19,440	8.8
7/16	11	1-1/4	4.8	7.1	22,000	10.0	24,400	11.1
1/2	12	1-1/2	6.1	9.1	30,500	13.8	33,800	15.4
9/16	14	1-3/4	7.6	11.3	36,500	16.6	40,500	18.4
5/8	16	2	9.4	14.1	47,800	21.7	53,100	24.1
3/4	18	2-1/4	13.5	20.1	61,800	28.0	68,600	31.1
13/16	20	2-1/2	15.8	23.5	74,000	33.6	82,200	37.3
7/8	22	2-3/4	18.5	27.5	84,300	38.2	93,600	42.5
1	24	3	23.7	35.3	105,000	47.6	116,600	52.9
1-1/16	26	3-1/4	26.9	40.0	121,600	55.1	135,000	61.3
1-1/8	28	3-1/2	30.3	45.1	137,000	62.1	152,200	69.0
1-1/4	30	3-3/4	37.2	55.4	157,000	71.2	174,400	79.1
1-5/16	32	4	41.1	61.2	176,400	80.0	195,900	88.9
1-1/2	36	4-1/2	53.8	80.1	215,000	97.5	238,800	108.3

POLYPROPYLENE ROPE

3 STRAND POLYPROPYLENE ROPE

TECHNICAL FEATURES

- Specific Gravity: 0.91
- Melting Point: 160° C
- Elongation at break: 30%
- Construction: 3,4 - strand

3 STRAND POLYPROPYLENE ROPE SPECIFICATIONS:

ROPE SIZE IN MM	CIR INCH	WEIGHT KGS/ MTR	POLYPROPYLENE ROPE				
			WEIGHT KGS/ 100 MTR	WEIGHT KGS/ 200 MTR	WEIGHT KGS/ 220 MTR	BREAKING STRENGTH (TONS)	BREAKING STRENGTH (kN)
4	5/32	0.01	0.74	1.48	1.63	0.20	1.99
6	1/4	0.02	1.70	3.40	3.74	0.60	6
8	1	0.03	3.00	6.00	6.60	1.00	9.4
10	1 1/4	0.05	4.55	9.10	10.01	1.40	14
12	1 1/2	0.07	6.59	13.18	14.50	2.00	19.9
14	1 3/4	0.09	9.00	18.00	19.80	2.80	27.4
16	2	0.12	11.59	23.18	25.50	3.50	34.3
18	2 1/4	0.15	14.80	29.60	32.56	4.50	43.6
20	2 1/2	0.18	18.00	36.00	39.60	5.40	52.6
22	2 3/4	0.22	22.00	44.00	48.40	6.50	63.7
24	3	0.26	26.00	52.00	57.20	7.60	74.5
26	3 1/4	0.31	31.00	62.00	68.20	8.90	86.8
28	3 1/2	0.36	35.50	71.00	78.10	10.10	99
30	3 3/4	0.41	41.00	82.00	90.20	11.50	112.7
32	4	0.46	46.00	92.00	101.20	12.80	125.5
36	4 1/2	0.59	58.50	117.00	128.70	16.10	157.8
40	5	0.72	71.82	143.64	158.00	19.40	190.2
44	5 1/2	0.90	90.00	180.00	198.00	23.40	229.4
48	6	1.04	104.00	208.00	228.80	27.20	266.7
52	6 1/2	1.22	122.00	244.00	268.40	31.50	308.8
56	7	1.42	142.00	284.00	312.40	36.00	352.9
60	7 1/2	1.63	163.20	326.40	359.04	41.20	403.9
64	8	1.85	185.00	370.00	407.00	46.60	456.9
68	8 1/2	2.10	210.00	420.00	462.00	52.60	515.7
72	9	2.34	234.00	468.00	514.80	58.50	573.5
80	10	2.90	290.00	580.00	638.00	72.00	705.9

3 STRAND NYLON ROPE

TECHNICAL FEATURES

- Specific Gravity: 1.14
- Melting Point: 210° C
- Elongation at break: 50%
- Construction: 3-strand
- Colour: White

3 STRAND NYLON ROPE SPECIFICATIONS:

ROPE SIZE IN MM	CIR INCH	WEIGHT KGS/ MTR	NYLON ROPE				
			WEIGHT KGS/ 100 MTR	WEIGHT KGS/ 200 MTR	WEIGHT KGS/ 220 MTR	BREAKING STRENGTH (TONS)	BREAKING STRENGTH (kN)
4	5/32	0.01	1.05	2.10	2.31	0.35	3.48
6	1/4	0.02	2.25	4.50	4.95	0.74	7.37
8	1	0.04	4.00	8.00	8.80	1.40	13.2
10	1 1/4	0.06	6.30	12.60	13.86	2.10	20.3
12	1 1/2	0.09	9.00	18.00	19.80	3.00	29.4
14	1 3/4	0.12	12.30	24.60	27.06	4.10	40.2
16	2	0.16	16.00	32.00	35.20	5.30	51.9
18	2 1/4	0.20	20.30	40.60	44.66	6.70	65.6
20	2 1/2	0.25	25.00	50.00	55.00	8.30	81.3
22	2 3/4	0.30	30.30	60.60	66.66	10.00	98
24	3	0.36	36.00	72.00	79.20	12.00	117.6
26	3 1/4	0.42	42.30	84.60	93.06	13.80	135.2
28	3 1/2	0.49	49.00	98.00	107.80	15.80	154.9
30	3 3/4	0.56	56.30	112.60	123.86	17.80	174.5
32	4	0.64	64.00	128.00	140.80	20.00	196
34	4 1/4	0.72	72.30	144.60	159.06	22.30	218.6
36	4.5	0.81	81.00	162.00	178.20	24.80	243.1
38	4 3/4	0.90	90.30	180.60	198.66	27.30	267.6
40	5	1.00	100.00	200.00	220.00	30.00	294.1
44	5 1/2	1.21	121.00	242.00	266.20	35.80	350.9
48	6	1.44	144.00	288.00	316.80	42.00	411.7
52	6 1/2	1.69	169.00	338.00	371.80	48.80	478.4
56	7	1.96	196.00	392.00	431.20	56.00	549
60	7 1/2	2.25	225.00	450.00	495.00	63.80	625.4

NYLON ROPE

MOORTUF FX 8 & 12 STRAND ROPE

TECHNICAL FEATURES

Material	Polyolefins & High Tenacity Polyester
Construction	8 and 12 Strand Plaited
Colour of Rope	White
Approx Spec. Density	0.94 - Floating
Melting Point	165 °c
Elongation at 50 % Load	10% (± 2)
Abrasion Resistance	Excellent, High Durability
U.V. Resistance	Stabilized
Temperature Resistance	70 °c max continuous
Chemical Resistance	Good, solvents and strong oxidisers may have a mild effect
Dry & wet Conditions	Wet strength equals dry strength
Range of use	Fishing, Inland Shipping, Merchant Navy, Industry Mooring
Produced Length	- 5%, measured under tension on machine, eye makes from produced length.
Spliced Strength	± 10% lower
Weight Tolerance	± 5%
Certificate	All ropes and tails are certified & as per MEG4.





MOORTUF FX 8 & 12 STRAND ROPE SPECIFICATIONS:

Size		Weight		Min. Break Load	
Dia	Cir.	100 Mtr	200 Mtr		
mm	Inch	Kgs.	Kgs.	Unspliced	Spliced-LDBF
32	4	48.14	105.90	21.90	19.70
36	4.5	60.86	133.90	27.70	24.90
40	5	75.14	165.30	34.20	30.80
44	5.5	91.18	200.60	40.60	36.50
48	6	108.82	239.40	47.40	42.70
52	6.5	127.39	280.25	55.50	50.00
56	7	148.11	325.85	63.20	56.90
60	7.5	170.57	375.25	72.40	65.20
64	8	193.45	425.60	81.60	73.40
68	8.5	218.07	479.75	91.80	82.60
72	9	244.41	537.70	102.00	91.80
80	10	302.70	665.95	125.00	112.50
88	11	367.05	807.50	148.00	133.20
96	12	434.84	956.65	174.00	156.60
104	13	512.73	1128.00	204.00	183.60
112	14	594.55	1308.00	237.00	213.30
120	15	682.73	1502.00	272.00	244.80
128	16	776.82	1709.00	309.00	278.10
136	17	876.82	1929.00	349.00	314.10
144	18	983.18	2163.00	391.00	351.90
160	20	1213.64	2670.00	483.00	434.70

WELDED LINK CHAIN

ORDINARY MILD STEEL LINK CHAIN

SHORT LINK CHAIN SPECIFICATIONS:

LINK SPECIFICATION				TEST LOAD	BREAKING LOAD	NET WT PER 200FT (KG)	
D		L	W				
IN	MM	MM	MM	KG	KG	B.F.	H.D.G
1/8	3.20	16	12	200	400	11.40	11.74
5/32	4.00	18.5	14.5	300	600	18.60	19.00
3/16	4.70	19	17	400	800	26.20	27.00
7/32	5.50	20	19	550	1100	36.80	38.00
1/4	6.35	22	21	750	1500	50.00	51.50
5/16	7.94	26.5	27.2	1200	2400	80.00	82.40
3/8	9.50	30	32	1700	3400	122.00	125.70
7/16	11.11	34	36	2300	4600	164.00	169.00
1/2	12.70	39	43	3000	6000	210.00	216.00
5/8	15.80	45	53	4700	9400	334.00	344.00
3/4	19.00	55	63	6800	13600	485.00	499.00
7/8	22.20	64	74	9250	18500	656.00	675.00
1	25.40	73	84	12150	24300	870.00	896.00

MEDIUM LINK CHAIN SPECIFICATIONS:

LINK SPECIFICATION				TEST LOAD	BREAKING LOAD	NET WT PER 200FT (KG)	
D		L	W				
IN	MM	MM	MM	KG	KG	B.F.	H.D.G
1/8	3.20	20	12	200	400	10.80	11.00
5/32	4.00	23	15	300	600	17.40	18.00
3/16	4.70	25	18	400	800	24.40	25.00
7/32	5.50	26	19	550	1100	34.00	35.00
1/4	6.35	26	23	750	1500	48.80	50.00
5/16	7.94	32	29	1200	2400	76.00	78.00
3/8	9.50	35	35	1700	3400	111.00	114.00
7/16	11.11	38	38	2300	4600	154.00	158.00
1/2	12.70	50	45.5	3000	6000	194.00	200.00
5/8	15.80	60	56.7	4700	9400	303.00	312.00
3/4	19.00	76	69	6800	13600	432.00	445.00
7/8	22.20	90	80	9250	18500	586.00	603.00
1	25.40	105	95	12150	24300	770.00	792.00

MARUTI DELUXE METER MARKING ROPE

AS PER IS 5175 : 2014

NOMINAL DIA. (MM)	STD. COIL WT. FOR 220 MTR(KGS)	BREAKING STRENGTH (KGF)	NOMINAL DIA. (MM)	STD. COIL WT. FOR 220 MTR(KGS)	BREAKING STRENGTH (KGF)
4	1.63	240	26	67	9410
6	3.67	602	28	78	10700
8	6.6	1060	30	89	12220
10	10	1560	32	101	13500
12	14.5	2210	36	129	16930
14	20	3050	40	158	20510
16	25.5	3770	44	194	24640
18	32.5	4810	48	229	28610
20	40	5800	52	268	33110
22	48.5	6960	56	312	37850
24	57	8130	60	359	43280

AS PER IS 14929 : 2001

NOMINAL DIA. (MM)	STD. COIL WT. FOR 220 MTR(KGS)	BREAKING STRENGTH (KGF)	NOMINAL DIA. (MM)	STD. COIL WT. FOR 220 MTR(KGS)	BREAKING STRENGTH (KGF)
4	1.63	305	26	67	11250
6	3.67	675	28	78	13050
8	6.6	1215	30	89	14850
10	10	1845	32	101	16650
12	14.5	2700	36	129	20970
14	20	3690	40	158	25200
16	25.5	4320	44	194	30350
18	32.5	5490	48	229	35500
20	40	6840	52	268	41150
22	48.5	8370	56	312	46800
24	57	9450	60	359	53550

MARUTI ULTRA

Applications:

- Mooring

Properties:

- High strength at lower weights.
- Highly resistant to chemicals such as acids and alkalies.
- Floats in water, does not absob water.
- Low elongation
- High abrasion resistance.
- Easy to splice
- Certified by DNV GL

DIA. MM	CIR. INCH.	WEIGHT KGS/220M	MINIMUM BREAKING LOAD KGF (KILOGRAM-FORCE)
40	5	158	26300
48	6	229	37500
56	7	312	53100
64	8	407	68700
72	9	515	86000
80	10	638	105800
96	12	917	150200
104	13	1078	175500
112	14	1254	203500

MARUTI ULTRA FLEX

Applications:

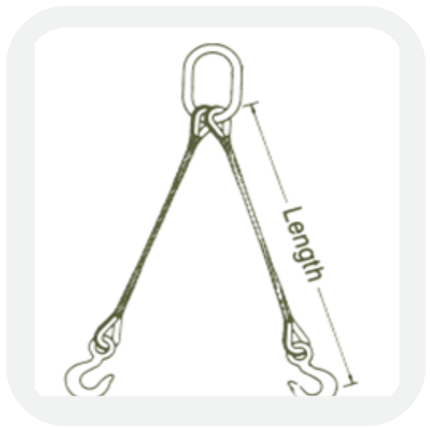
- Towing

Properties:

- Specific gravity equivalent to nylon, hence sinks in water.
- Higher breaking strength than nylon of equivalent weight.
- Excellent abrasion resistance.
- Controlled elongation.
- High energy absorption.
- Wet breaking strength higher than that of nylon as fibers do not absorb moisture.
- Retains flexibility even after prolonged use.
- High UV resistance.

DIA. MM	CIR. INCH.	WEIGHT KGS/220M	MINIMUM BREAKING LOAD KGF (KILOGRAM-FORCE)
40	5	195	30700
48	6	282	46290
56	7	378	62800
64	8	495	82600
72	9	627	102000
80	10	775	125500
96	12	1315	185000

WIRE ROPE SLINGS



2-Leg Bridle



3-Leg Bridle



4-Leg Bridle

WIRE ROPE SLINGS SPECIFICATIONS:

Rope Dia. (in.)	Eye Hook Cap. (tons)	Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.	Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.	Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.
1/4	1	1.1	0.91	0.65	1/2	1.7	1.4	0.97	5/8	2.2	1.8	1.3	5/8
5/16	1 1/2	1.7	1.4	1.0	5/8	2.6	2.1	1.5	3/4	3.5	2.8	2.0	5/8
3/8	2	2.5	2.0	1.4	3/4	3.7	3.0	2.2	7/8	5.0	4.1	2.9	7/8
7/16	3	3.4	2.7	1.9	7/8	5.0	4.1	2.9	1	6.7	5.5	3.9	1
1/2	3	4.4	3.6	2.5	3/4	6.6	5.4	3.8	1	8.8	7.1	5.1	1
9/16	5	5.5	4.5	3.2	7/8	8.3	6.8	4.8	1 1/4	11.0	9.0	6.4	1 3/8
5/8	5	6.8	5.5	3.9	1	10.0	8.3	5.9	1 1/4	14.0	11.0	7.8	1 1/2
3/4	7	9.7	7.9	5.6	1	15.0	12.0	8.4	1 1/2	19.0	16.0	11.0	1 3/4
7/8	11	13.0	11.0	7.6	1 1/4	20.0	16.0	11.0	1 3/4	26.0	21.0	15.0	2
1	10	17.0	14.0	9.8	1 1/2	26.0	21.0	15.0	2	34.0	28.0	20.0	2
1 1/8	15	21.0	17.0	12.0	1 1/2	31.0	26.0	18.0	2 1/4	42.0	34.0	24.0	2 1/4
1 1/4	15	26.0	21.0	15.0	1 3/4	38.0	31.0	22.0	2 1/2	51.0	42.0	30.0	2 1/2
1 1/2	22	37.0	30.00	21.00	2	55.0	45.0	32.0	2 3/4	73.0	60.0	42.0	3

CHAIN SLING ONE LEG

Self Locking Hook - **Grade 80**
Safety Factor 4:1 - Conforms to the EN 818-4 Standard



Ø chain mm	WLL kg	Chain size A X B X Ø d mm	Hook passage mm	Weight 2 m in kg ECH 102	ECH 104	Weight m + kg
6	1 120	100 x 60 x 13	33	2,1	2,3	0,8
7	1 500	100 x 60 x 13	43	3,1	3,4	1,1
8	2 000	120 x 70 x 16	43	3,3	3,6	1,4
10	3 150	135 x 75 x 18	47	6,3	7,1	2,2
13	5 300	150 x 90 x 22	61	11,2	12,8	3,8
16	8 000	170 x 95 x 25	78	17,1	19,6	5,7
19	11 200	200 x 120 x 30	90	37,8	40,8	7,6
20	12 500	200 x 120 x 30	90	39,1	42,1	8,5

CHAIN SLING TWO LEGS

Self Locking Hooks - **Grade 80**
Safety Factor 4:1 - Conforms to the EN 818-4 Standard



Ø chain mm	WLL in kg 0°<β≤45° 0°<α≤90° Factor 1,4	WLL in kg 46°<β≤60° 91°<α≤120° Factor 1	Chain size A X B X Ø d mm	Hook passage mm	Weight 2 m kg ECH 202	ECH 204	Weight m + kg
6	1 600	1 120	120 x 70 x 16	33	4,8	5,2	1,6
7	2 120	1 500	120 x 70 x 16	43	7,2	7,8	2,2
8	2 800	2 000	135 x 75 x 18	43	8,4	9,0	2,8
10	4 250	3 150	150 x 90 x 22	47	13,8	15,4	4,4
13	7 500	5 300	170 x 95 x 25	61	25,6	31,0	7,6
16	11 200	8 000	200 x 120 x 30	78	65,3	70,3	11,4
19	16 000	11 200	250 x 150 x 36	90	87,9	93,9	14,6
20	17 000	12 500	250 x 150 x 38	90	90,3	96,3	17

CHAIN SLING FOUR LEGS

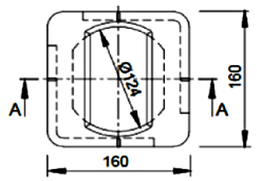
Self Locking Hooks - **Grade 80**
Safety Factor 4:1 - Conforms to the EN 818-4 Standard

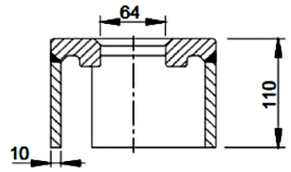


Ø chain mm	WLL in kg 0°<β≤45° 0°<α≤90° Factor 2,1	WLL in kg 46°<β≤60° 91°<α≤120° Factor 1,5	Chain size A X B X Ø d mm	Hook passage mm	Weight 2 m kg ECH 402	ECH 404	Weight m + kg
6	2 360	1 700	120 x 70 x 16	33	8,7	10,4	3,2
7	3 150	2 240	135 x 75 x 18	43	13,0	15,5	4,4
8	4 250	3 000	150 x 90 x 22	43	15,6	18,5	5,6
10	6 700	4 750	170 x 95 x 25	47	25,6	31,5	8,8
13	11 200	8 000	200 x 120 x 30	61	43,6	57,6	15,2
16	17 000	11 800	250 x 150 x 38	78	75,8	99,4	22,8
19	23 600	17 000	300 x 200 x 45	90	159,0	191,1	29,2
20	26 500	19 000	300 x 200 x 45	90	160,0	195,9	34,0

SINGLE RAISED ISO



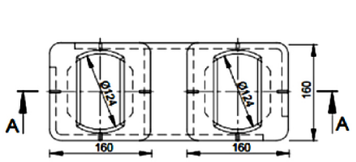


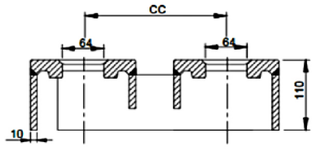


Reference:	DF-41
Description:	SINGLE RAISED ISO DECKSOCKET
Weight [kg]:	6,2
Material:	Steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Weldable primer
Remarks:	Fixed container foundation can be welded on the hatch cover and deck. Other heights are available on request. Topplate of 28mm is also available: DF-41[28]

DOUBLE TRANSVERSAL RAISED ISO



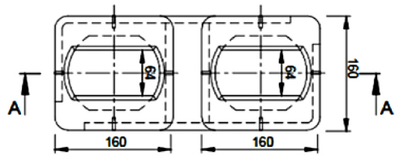


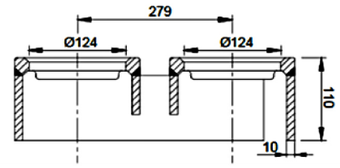


Reference:	DF-42(25)
Description:	DOUBLE TRANSVERSAL RAISED ISO DECKSOCKET – CC=203mm
Weight [kg]:	12,4
Material:	Steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Weldable primer
Remarks:	Fixed container foundation can be welded on the hatch cover and deck. Other socket dimensions are available as well. Plastic plugs for the ISO-holes can also be requested. Model DF-42(38) (CC=216mm) and DF-42(80)-V (CC=258mm) also available. Other CC distances upon request

DOUBLE LONGITUDINAL RAISED ISO



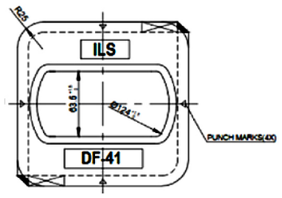


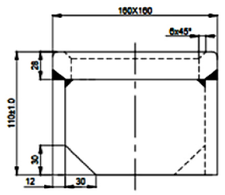


Reference:	DF-43(76)
Description:	DOUBLE LONGITUDINAL RAISED ISO DECKSOCKET – CC=203mm
Weight [kg]:	13,3
Material:	Steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Weldable primer
Remarks:	Fixed container foundation can be welded on the hatch cover and deck. Other socket dimensions are available as well.

LIFTING RAISED ISO



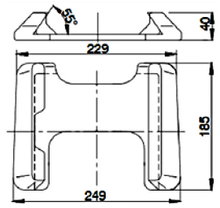




Reference:	DF-41-LIFT
Description:	LIFTING RAISED ISO DECKSOCKET
Weight [kg]:	8,0
Material:	Steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Weldable primer
Remarks:	Lifts the hatch covers.

SINGLE DOVETAIL

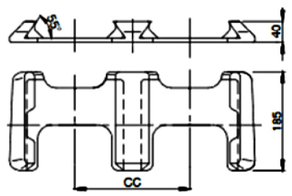




Reference:	DF-31-55
Description:	SINGLE DOVETAIL DECKSOCKET 55°
Weight [kg]:	3,8
Material:	Precision cast steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Weldable primer
Remarks:	Fixed container foundation can be welded on the hatch cover and deck. Elongated types are available as well.

DOUBLE TRANSVERSAL DOVETAIL

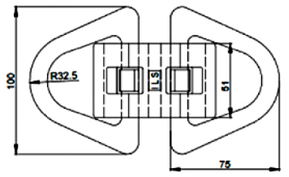


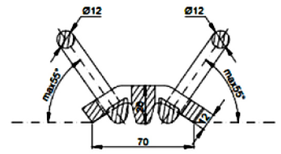


Reference:	DF-32-55(25)
Description:	DOUBLE TRANSVERSAL DOVETAIL DECKSOCKET 55° – CC=203mm
Weight [kg]:	6,2
Material:	Precision cast steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Weldable primer
Remarks:	Fixed container foundation can be welded on the hatch cover and deck. Elongated types are available as well. Model DF-32(80)-V (CC=258mm) also available. Other CC distances upon request.

DOUBLE CARLASHING D-RING



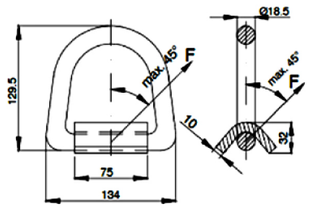




Reference:	LP-09
Description:	DOUBLE CARLASHING D-RING 4T
Weight [kg]:	0,95
Material:	Forged steel
Breaking load Tension [kN]:	2×40
Breaking load Shear [kN]:	420
Finish:	Self-coloured
Remarks:	Foldable lashing point for carlashing.

D-RING 20T

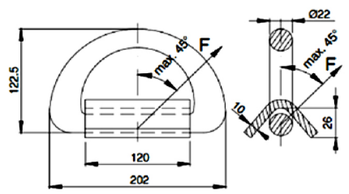




Reference:	LP-13
Description:	D-RING 20T
Weight [kg]:	1,3
Material:	Drop forged ring + Bended steel plates
Breaking load Tension [kN]:	200
Breaking load Shear [kN]:	
Finish:	Self-coloured
Remarks:	Foldable lashing point on deck.

D-RING 36T

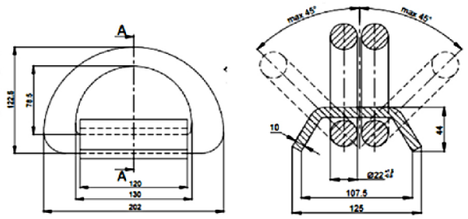




Reference:	LP-11
Description:	**D-RING 36T**
Weight [kg]:	2,7
Material:	Drop forged ring + Bended steel plates
Breaking load Tension [kN]:	360
Breaking load Shear [kN]:	
Finish:	Self-coloured
Remarks:	Foldable lashing point on deck.

DOUBLE D-RING 36T

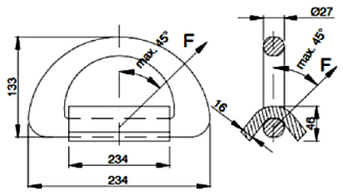




Reference:	LP-17
Description:	**DOUBLE D-RING 36T**
Weight [kg]:	5,03
Material:	Drop forged ring + Bended steel plates
Breaking load Tension [kN]:	360
Breaking load Shear [kN]:	
Finish:	Shot blasted + Weldable primer
Remarks:	Foldable lashing point on deck.

D-RING 50T

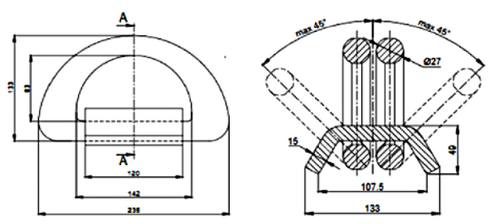




Reference:	LP-14
Description:	**D-RING 50T**
Weight [kg]:	4,3
Material:	Drop forged ring + Bended steel plates
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	
Finish:	Self-coloured
Remarks:	Foldable lashing point on deck.

DOUBLE D-RING 50T

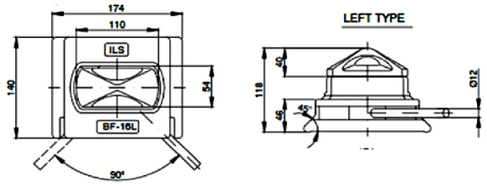




Reference:	LP-18
Description:	**DOUBLE D-RING 50T**
Weight [kg]:	11,14
Material:	Drop forged ring + Bended steel plates
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	
Finish:	Shot blasted + Weldable primer
Remarks:	Foldable lashing point on deck.

TRANSVERSAL DOVETAIL TWISTLOCK 45°

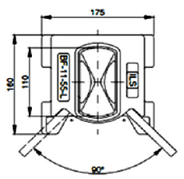


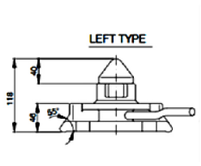


Reference:	BF-16L or R
Description:	**TRANSVERSAL DOVETAIL TWISTLOCK 45°**
Weight [kg]:	6,8
Material:	Cast steel housing + Forged steel cone
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Twistlocks for securing containers on the deck.To be fitted in dovetail sockets of 45°

LONGITUDINAL DOVETAIL TWISTLOCK 55°



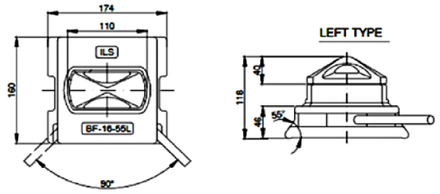




Reference:	BF-11-55L or R
Description:	**LONGITUDINAL DOVETAIL TWISTLOCK 55°**
Weight [kg]:	7,2
Material:	Cast steel housing + Forged steel cone
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Twistlocks for securing containers on the deck.To be fitted in dovetail sockets of 55°

TRANSVERSAL DOVETAIL TWISTLOCK 55°

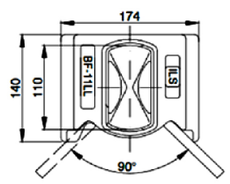


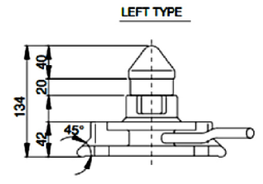


Reference:	BF-16-55L or R
Description:	**TRANSVERSAL DOVETAIL TWISTLOCK 55°**
Weight [kg]:	7,6
Material:	Cast steel housing + Forged steel cone
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Twistlocks for securing containers on the deck.To be fitted in dovetail sockets of 55°.

DOVETAIL LINE LOAD TWISTLOCK 45°



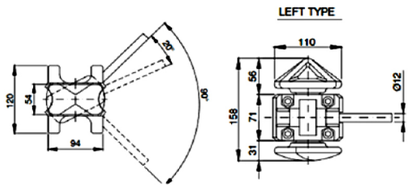




Reference:	BF-11L
Description:	**DOVETAIL LINE LOAD TWISTLOCK 45°**
Weight [kg]:	6,6
Material:	Cast steel housing + Forged steel cone
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Twistlocks for securing containers on the deck. To be fitted in dovetail sockets of 45°.Only for line load stowage.

BIG SURFACE TWISTLOCK

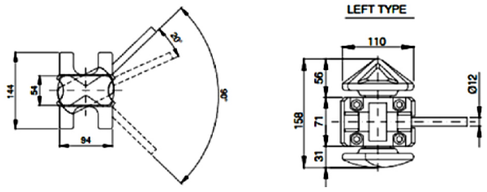




Reference:	IF-51BS-L or R
Description:	**BIG SURFACE TWISTLOCK**
Weight [kg]:	5,3
Material:	Cast steel housing + Forged steel cones
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Standard manual twistlocks with larger flangefor higher pressure forces.

STANDARD INTERMEDIATE TWISTLOCK

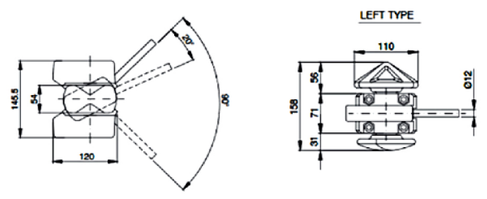




Reference:	IF-51-L or R
Description:	**STANDARD INTERMEDIATE TWISTLOCK**
Weight [kg]:	4,8
Material:	Cast steel housing + Forged steel cones
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Standard manual twistlock.

BIG SURFACE TWISTLOCK

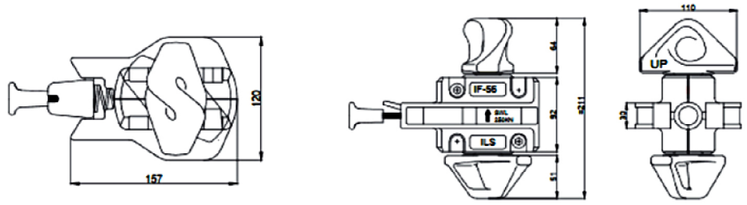




Reference:	IF-51BST-L or R
Description:	**BIG SURFACE TWISTLOCK**
Weight [kg]:	6,2
Material:	Cast steel housing + Forged steel cones
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Standard manual twistlocks with larger flange for higher pressure forces.

SEMI-AUTOMATIC TWISTLOCK





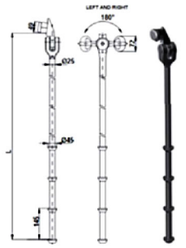
Reference:	IF-56
Description:	**SEMI-AUTOMATIC TWISTLOCK**
Weight [kg]:	5,4
Material:	Cast steel housing + Forged steel cones + Wire handle: stainless steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Dual function semi-automatic twistlock.OSHA compliant.

KNOB LASHING BAR



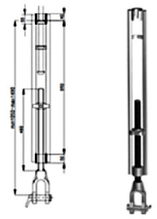
Reference:	LB-44(2400)
Description:	**KNOB LASHING BAR**
Weight [kg]:	12,0
Material:	Forged high-tensile steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Standard lengths of 2,4m/2,5m/4,95m/5,045m are always available in stock. Other lengths upon request. Lashing bars are used together with turnbuckles for securing container stacks on the deck.

VERTICAL KNOB LASHING BAR



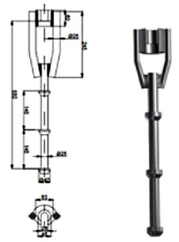
Reference:	LB-44-V(1660)
Description:	**VERTICAL KNOB LASHING BAR**
Weight [kg]:	10,0
Material:	Forged high-tensile steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Standard lengths of 1,66m/4,48m are always available in stock. Other lengths upon request. Lashing bars are used together with turnbuckles for securing container stacks on the deck.

KNOB/JAW TURNBUCKLE



Reference:	ST-4508
Description:	**KNOB/JAW TURNBUCKLE**
Weight [kg]:	13.4
Material:	High tension steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Other lengths upon request.To tighten knot-type lashing bars LB-44.

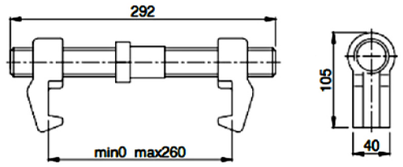
EXTENSION ROD



Reference:	LB-47(550)
Description:	**EXTENSION ROD**
Weight [kg]:	4,95
Material:	Forged high-tensile steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	
Finish:	Shot blasted + Hot dip galvanized
Remarks:	Extension rod to be used with lashing bars LB-44.Standard lengths of 0,55m/1,23m are always available in stock. Other lengths upon request.

TENSION BRIDGE FITTING



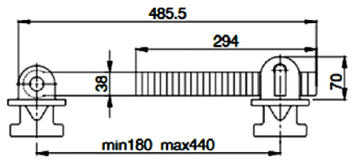


Reference:	SB-1S
Description:	**TENSION BRIDGE FITTING**
Weight [kg]:	2.8
Material:	High tensile steel + Precision casting
Breaking load Tension [kN]:	100
Breaking load Shear [kN]:	
Finish:	Shot blasted + Hot dip galvanized
Remarks:	To interconnect 2 containers standing side by side.

TENSION/COMPRESSION BRIDGE FITTING



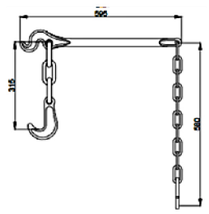




Reference:	SB-7
Description:	**TENSION/COMPRESSION BRIDGE FITTING**
Weight [kg]:	8.6
Material:	High tensile steel + Precision casting
Breaking load Tension [kN]:	200
Breaking load Shear [kN]:	
Finish:	Shot blasted + Hot dip galvanized
Remarks:	To interconnect 2 containers standing side by side.

TENSION LEVER 11MM

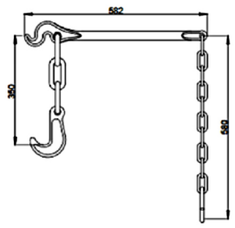




Reference:	LT-615
Description:	**TENSION LEVER 11mm**
Weight [kg]:	4.3
Material:	Forged steel, bended steel wire
Breaking load Tension [kN]:	150
Breaking load Shear [kN]:	
Finish:	Primer painted
Remarks:	To tighten 11mm chain.

TENSION LEVER 13MM

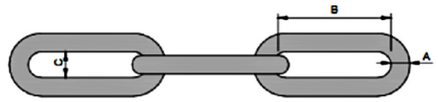




Reference:	LT-620
Description:	**TENSION LEVER 13mm**
Weight [kg]:	5.55
Material:	Forged steel, bended steel wire
Breaking load Tension [kN]:	200
Breaking load Shear [kN]:	
Finish:	Primer painted
Remarks:	To tighten 13mm chain.

CHAIN 13MM





CHAIN REF.	Chain diameter A [mm]	Inside length B [mm]	Inside width C [mm]	Weight per meter [kg]
CL-13	13	81	22	3.00

Reference:	CL-13
Description:	**CHAIN 13mm**
Weight [kg]:	3
Material:	High-tensile steel
Breaking load Tension [kN]:	200
Breaking load Shear [kN]:	
Finish:	Painted
Remarks:	Customized colours and lengths possible.

CHAINLASHING WITHOUT END FITTINGS

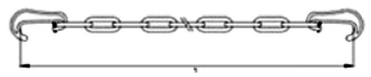




Reference:	LA0 + diam + length
Description:	**CHAINLASHING WITHOUT END FITTINGS**
Weight [kg]:	
Material:	High-tensile steel
Breaking load Tension [kN]:	
Breaking load Shear [kN]:	
Finish:	Painted
Remarks:	Customized colours and lengths possible.

CHAINLASHING HOOK/HOOK

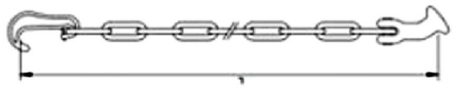




Reference:	LA1 + diam + length
Description:	**CHAINLASHING HOOK/HOOK**
Weight [kg]:	
Material:	High-tensile steel
Breaking load Tension [kN]:	
Breaking load Shear [kN]:	
Finish:	Painted
Remarks:	Customized colours and lengths possible.

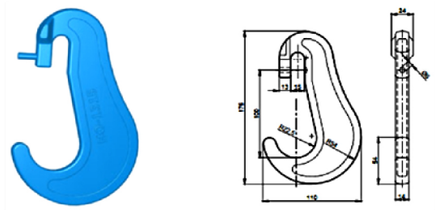
CHAINLASHING HOOK/ELEPHANT FOOT





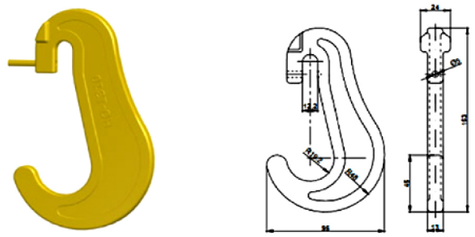
Reference:	LA2 + diam + length
Description:	**CHAINLASHING HOOK/ELEPHANT FOOT**
Weight [kg]:	
Material:	High-tensile steel
Breaking load Tension [kN]:	
Breaking load Shear [kN]:	
Finish:	Painted
Remarks:	Customized colours and lengths possible.

C-HOOK 11MM



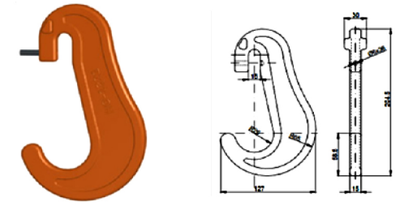
Reference:	HO-1315
Description:	**C-HOOK 11mm**
Weight [kg]:	0,85
Material:	Drop forged steel
Breaking load Tension [kN]:	150
Breaking load Shear [kN]:	
Finish:	Powder coated or dipped
Remarks:	To be used with 11 mm chain.

C-HOOK 9MM



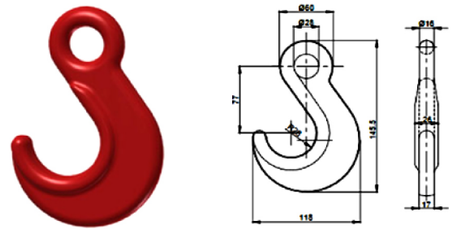
Reference:	HO-1310
Description:	**C-HOOK 9mm**
Weight [kg]:	0,6
Material:	Drop forged steel
Breaking load Tension [kN]:	100
Breaking load Shear [kN]:	
Finish:	Powder coated or dipped
Remarks:	To be used with 9 mm chain.

C-HOOK 13MM



Reference:	HO-1321
Description:	**C-HOOK 13mm**
Weight [kg]:	1.3
Material:	Drop forged steel
Breaking load Tension [kN]:	200
Breaking load Shear [kN]:	
Finish:	Powder coated or dipped
Remarks:	To be used with 13 mm chain.

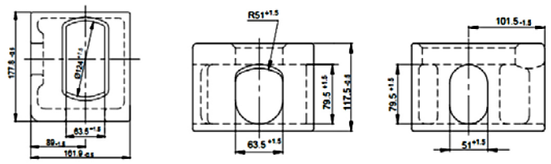
EYE HOOK



Reference:	HO-1220
Description:	**EYE HOOK**
Weight [kg]:	1.3
Material:	Drop forged steel
Breaking load Tension [kN]:	200
Breaking load Shear [kN]:	
Finish:	Powder coated or dipped
Remarks:	To be used with 9/11/13 mm chain.

TOP ISO CORNERCASTING LEFT OR RIGHT

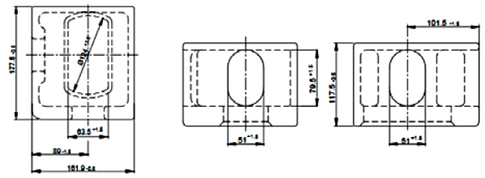




Reference:	CO-TL/CO-TR
Description:	TOP ISO CORNERCASTING LEFT or RIGHT
Weight [kg]:	11
Material:	Cast steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Self-coloured
Remarks:	–

BOTTOM ISO CORNERCASTING LEFT OR RIGHT





Reference:	CO-BL/CO-BR
Description:	BOTTOM ISO CORNERCASTING LEFT or RIGHT
Weight [kg]:	11
Material:	Cast steel
Breaking load Tension [kN]:	500
Breaking load Shear [kN]:	420
Finish:	Self-coloured
Remarks:	–

6x19 +CORE

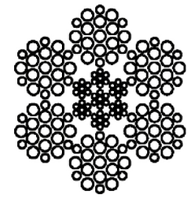
WIRE ROPE WARRINGTON

Applications:

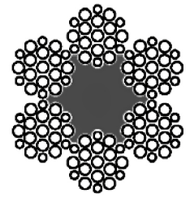
- Hoists, Cranes,
- Running Riggings
- General Engineering Purposes

Standard

- EN 12385



6 (6+1-6-1)+IWRC



6 (6+1-6-1)+FC

Nomin. Rope diam.	Unit weight		Calculated breaking load by a nominal tensile strength of the wire					
	Fiber core	IWRC	1570 N/mm²	1770 N/mm²	1960 N/mm²	1570 N/mm²	1770 N/mm²	1960 N/mm²
			Fibercore			IWRC		
mm	kg/m	kg/m	kN			kN		
6	0.134	0.147	19.5	22.1	24.4	23.2	26.1	28.9
7	0.183	0.201	26.6	30.1	33.3	31.6	35.6	39.5
8	0.238	0.263	34.8	39.2	43.5	40.7	46.6	51.5
9	0.302	0.332	44.0	49.7	55.0	52.3	58.9	65.2
10	0.373	0.410	54.4	61.3	67.9	64.5	72.7	80.5
11	0.451	0.496	65.8	74.2	82.1	78.0	88.0	97.5
12	0.537	0.591	78.3	88.3	97.2	92.9	104.9	115.0
13	0.630	0.693	92	104	114	109	123	135
14	0.730	0.803	106	121	133	126	143	158
15	0.838	0.922	122	138	152	145	164	180
16	0.965	1.050	140	157	174	165	186	206
17	1.080	1.190	158	177	196	187	210	233
18	1.210	1.330	176	190	221	209	236	261
19	1.350	1.490	196	221	245	233	262	290
20	1.490	1.640	218	245	271	258	291	321
22	1.800	1.980	263	297	329	312	351	389
24	2.150	2.370	313	353	391	372	419	463
26	2.520	2.770	367	414	458	436	491	543
28	2.920	3.210	427	481	532	506	570	630
30	3.430	3.710	490	552	611	581	654	725
32	3.820	4.200	557	628	696	661	744	825
34	4.410	4.800	628	708	784	742	840	929
36	4.830	5.310	705	795	879	835	938	1,042

6x24 +7FC

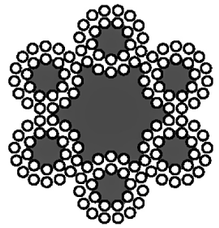
WIRE ROPE STANDARD

Applications:

- Hawsers, Mooring Ropes

Standard

- EN 12385



6 (FC+9+15)+F

Nominal rope diameter	Unit weight of the rope	Calculated Breaking load by a nominal tensile strength of the wire		
		1570 N/mm²	1770 N/mm²	1960 N/mm²
mm	kg/m	kN		
6	0.115	16.7	18.9	20.9
7	0.156	22.8	25.7	28.5
8	0.204	29.8	33.6	37.2
9	0.358	37.7	42.5	47.1
10	0.318	46.6	524.4	58.1
11	0.385	56.3	63.5	70.3
12	0.458	67.0	75.5	83.6
13	0.538	78.6	88.6	98.4
14	0.624	91.2	103.0	114.1
15	0.673	105	118	132
16	0.815	119	133	148
17	0.849	134	151	167
18	1.030	151	170	189
20	1.270	186	210	232
22	1.540	225	254	282
24	1.830	268	302	334
26	2.150	315	354	393
28	2.500	364	410	454
30	3.040	419	472	523
32	3.250	477	537	595
34	3.790	537	605	671
36	4.130	603	679	753
38	4.830	672	757	838
40	5.090	744	839	929
42	5.560	820	924	1,023
44	6.160	901	1,016	1,124

6x36 +CORE

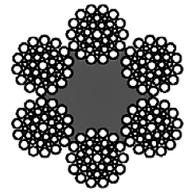
WIRE ROPE WARRINGTON - SEALS

Applications:

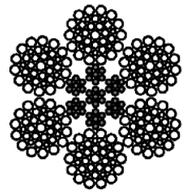
- Cranes, Hoist Ropes for Shafts
- Drag Ropes for Draglines
- Shovels
- Bucket-Wheel Excavators

Standard

- EN 12385; API SPEC 9A



6 (1+7+(7+7)+14)+FC



6 (1+7+(7+7)+14)+IWRC

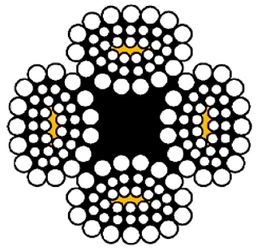
Nomin. Rope diam.	Unit weight		Calculated breaking load by a nominal tensile strength of the wire						
	Fiber core	Steel Core	1570 N/mm²	1770 N/mm²	1960 N/mm²	1570 N/mm²	1770 N/mm²	1960 N/mm²	2160 N/mm²
			Fiber Core			Steel Core			
mm	kg/m	kg/m	kN			kN			
10	0.367	0.409	51.8	58.4	64.7	55.9	63.0	69.8	76.9
11	0.444	0.495	62.7	70.7	78.3	67.6	76.2	84.4	93.0
12	0.528	0.589	74.6	84.1	93.1	80.5	90.7	100.5	110.7
13	0.620	0.691	87.6	98.7	109.3	94.5	106.5	117.9	130.0
14	0.719	0.802	101.5	114.5	126.8	109.5	123.5	136.8	150.7
16	0.940	1.047	132.6	149.5	165.6	143.1	161.3	178.6	196.9
18	1.189	1.325	167.9	189.2	209.6	181.1	204.2	226.1	249.1
19	1.325	1.476	187.0	210.9	233.5	201.8	227.5	251.9	277.6
20	1.468	1.636	207.2	233.6	258.7	223.6	252.0	279.1	307.6
22	1.776	1.980	250.8	282.7	313.1	270.5	305.0	337.7	372.2
24	2.114	2.356	298.4	336.4	372.6	321.9	362.9	401.9	442.9
26	2.481	2.765	350.2	394.9	437.2	377.8	426.0	471.7	519.8
28	2.877	3.207	406.2	457.9	507.1	438.2	494.0	547.0	602.9
30	3.303	3.681	466.3	525.7	582.1	503.0	567.1	628.0	692.1
32	3.758	4.188	530.5	598.1	662.3	572.3	645.2	714.5	787.4
34	4.243	4.728	598.9	675.2	747.7	646.1	728.4	806.6	888.9
36	4.756	5.301	671.5	757.0	838.3	724.4	816.6	904.3	996.6
38	5.299	5.906	748.1	843.4	934.0	807.1	909.9	1007.6	1110.4
40	5.872	6.544	829.0	934.6	1034.9	894.3	1008.2	1116.4	1230.3
42	6.474	7.215	913.9	1030.4	1141.0	985.9	1111.5	1230.8	1356.4
44	7.105	7.918	1003.0	1130.8	1252.2	1082.1	1219.9	1350.9	1488.7
46	7.766	8.654	1096.3	1236.0	1368.6	1182.7	1333.3	1476.5	1627.1
48	8.456	9.423	1193.7	1345.8	1490.2	1287.8	1451.8	1607.6	1771.7
50	9.175	10.225	1295.3	1460.3	1617.0	1397.3	1575.3	1744.4	1922.4
52	9.924	11.059	1400.9	1579.4	1748.9	1511.3	1703.8	1886.7	2079.3
54	10.702	11.926	1510.8	1703.2	1886.1	1629.8	1837.4	2034.7	---
56	11.509	12.826	1624.8	1831.7	2028.4	1752.8	1976.1	2188.2	---
58	12.346	13.759	1742.9	1964.9	2175.8	1880.2	2119.7	2347.3	---
60	13.212	14.724	1865.2	2102.8	2328.5	2012.1	2268.4	2511.9	---
62	14.107	15.722	1991.6	2245.3	2486.3	2148.5	2422.2	2682.2	---
64	15.032	16.753	2122.1	2392.5	2649.3	2289.3	2581.0	2858.0	---

SURE 4x39

Applications:

Cranes

- Deck Crane
- Mobile Crane
- Jib Crane
- Hoist
- Ship Crane



FC+ 4X39 (FC+9/15/15)

Nominal Diameter	Approximate Unit Weight	MINIMUM BREAKING FORCE
	Fiber Core	1960 N/mm²
		Fiber Core
mm	kg/Mtr.	kN
8	0.257	44.3
9	0.326	56.1
10	0.402	69.2
12	0.579	96.5
12.5	0.628	108.9
14	0.788	136.3
16	1.030	177.5
18	1.300	225.6
19	1.450	251.1
20	1.610	277.5
22	1.950	335.4
22.5	2.020	348.1
24	2.320	385.4
25	2.510	432.5
26	2.720	466.8
28	3.150	543.3
30	3.620	623.7
31.5	4.050	687.5
32	4.200	709.0
33.5	4.600	777.7
34	4.790	801.2
35.5	5.200	872.8
36	5.300	897.3
37.5	5.780	973.8
38	5.900	999.3
40	6.600	1078.7

6 x36 +CORE

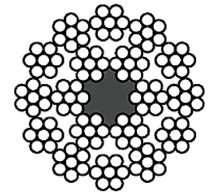
WIRE ROPE WARRINGTON - SEALS

Applications:

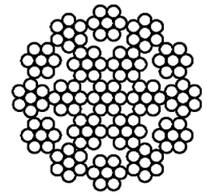
- Cranes, Hoist Ropes for Shafts
- Drag Ropes for Draglines
- Shovels
- Bucket-Wheel Excavators

Standard

- EN 12385; API SPEC 9A

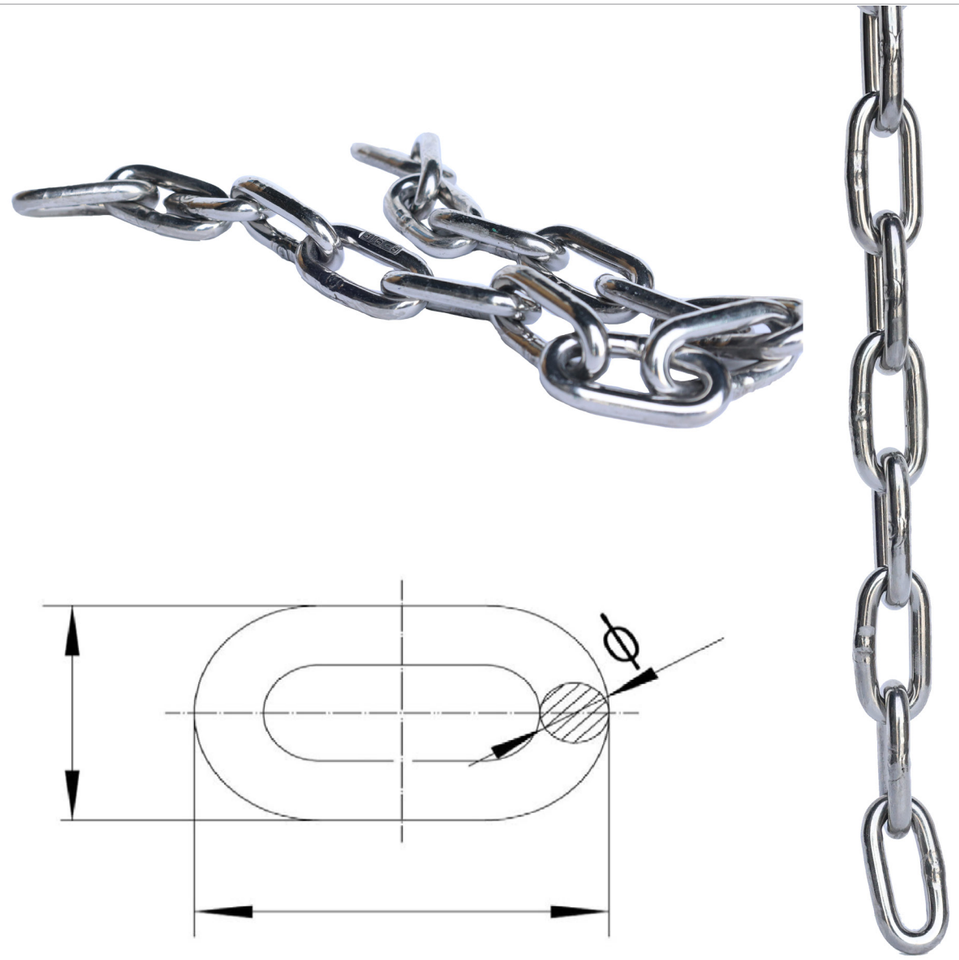


18 X 7 FC

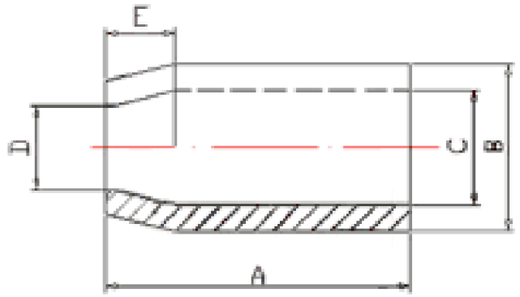


19 X 7

Rope Dia mm	Unit Weight		MINIMUM BREAKING FORCE			
	Fiber Core	Steel Core	1770 N/mm²	1960 N/mm²	1770 N/mm²	1960 N/mm²
	Kg/100 mtr	Kg/100 mtr	Kn		Kn	
10	38.3	40.2	56.4	62.4	58.1	64.3
11	46.3	48.6	68.2	75.6	70.3	77.8
12	55.1	57.9	81.2	89.9	83.6	92.6
13	64.7	67.9	95.3	105.5	98.1	108.7
14	75.0	78.8	110.5	122.4	113.8	126.0
16	98.0	102.9	144.4	159.9	148.7	164.6
18	124.0	130.2	182.7	202.3	188.2	208.4
19	138.2	145.1	203.6	225.4	209.6	232.2
20	153.1	160.8	225.6	249.8	232.3	257.2
22	185.3	194.6	272.9	302.2	281.1	311.2
24	220.5	231.6	324.8	359.7	334.5	370.4
26	258.8	271.8	381.2	422.1	392.6	434.7
28	300.1	315.2	442.1	489.6	455.3	504.2
30	344.5	361.8	507.5	562.0	522.7	578.8
32	392.0	411.6	577.5	639.4	594.7	658.5



SS316 CHAIN						
SIZE	WIRE DIAMETER	INSIDE LENGTH	INSIDE WIDTH	WORKING LOAD	TEST LOAD	BREAKING LOAD
2MM	2MM	12MM	3.5MM	0.75KN	1.5KN	3KN
3MM	3MM	24MM	5MM	1.1KN	2.2KN	4.4KN
4MM	4MM	26MM	6MM	2.3KN	4.6KN	10KN
5MM	5MM	27MM	7MM	4KN	8KN	16KN
6MM	6MM	31MM	9MM	5.5KN	11KN	22KKN
8MM	8MM	38MM	11MM	10KN	20KN	40KN
10MM	10MM	42MM	15MM	16KN	32KN	64KN
12MM	12MM	54MM	20MM	20KN	40KN	80KN
14MM	14MM	58MM	22MM			
16MM	16MM	64MM	24MM			
20MM	20MM	80MM	28MM	68KN	136KN	270KN
24MM	24MM	97MM	38MM	100KN	200KN	390KN



SIZE(inch)	尺寸DIMENSION (inch)					MAX.AFTER SWAG DIMENSIONS	WEIGHT KGS
	A	B	D	E	C	(inch)	100Pcs
1/4"		0.66	0.31	0.28	0.47	0.57	2.27
5/16"	1.5	0.91	0.38	04	0.62	0.75	6.36
3/8"	1.5	0.91	0.47	0.39	0.66	0.75	6.36
7/16"	2	1.22	0.53	0.65	0.85	1.01	15
1/2"	2	1.22	0.63	0.56	0.91	1.01	13
9/16"	2.75	1.47	0.7	0.63	1.03	1.24	29
5/8"	2.75	1.47	0.75	0.63	1.09	1.24	26
3/4"	3.19	1.72	0.91	084	1.28	1.46	40
7/8"	3.56	2.03	1.03	1	1.53	1.68	60
1"	4	2.28	1.16	1.13	1.72	1.93	89
1-1/8"	4.8	2.5	1.28	1.25	1.94	2.13	118
1-1/4"	5.19	2.78	1.44	1.41	2.16	2.32	161
1-3/8"	5.81	3	1.56	1.56	2.38	2.52	192
1-1/2"	6.25	3.25	1.69	1.69	2.63	2.71	227
1-3/4"	7.25	3.84	1.94	1.97	3.13	3.1	366
2"	8.5	4.38	2.25	2.25	3.63	3.56	514
2-1/4"	9.56	5.03	2.5	2.53	4.03	4.12	879
2-1/2"	10.5	5.5	2.75	2.81	4.50	4.5	1068
2-3/4"	11.5	5.75	3	3.09	4.75	4.7	1271
3"	12	6	3.25	3.38	5	4.96	1335
3-1/4"	13	6.5	3.86	3.54	5.43	5.37	1650
3-1/2"	14	7	3.88	3.94	5.84	5.77	2106
3-3/4"	15	7.5	4.06	4.25	6.31	6.23	2497
4"	16	8.13	4.38	4.50	6.81	6.69	3087
4-1/2"	18	9.13	4.88	5.06	7.66	7.45	4540
5"	20	10.52	5.5	5.63	8.73	8.28	6600
6"	24	12.54	6.5	6.75	10.2	9.93	12300