

Hendrik Veder Group

A full-page photograph with a blue color overlay. It depicts a worker in a white hard hat and safety glasses, wearing a dark t-shirt and light-colored overalls, operating a large industrial cable reel. The reel is mounted on a structure, and the worker is pulling a thick cable. In the background, other workers in white uniforms and hard hats are visible near a piece of equipment labeled 'ACE 1.1.4'. The scene is set on the deck of a ship or a large industrial vessel.

**PRODUCT  
CATALOGUE**

HENDRIK VEDER GROUP NORWAY AS

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## Hendrik Veder Group

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## ABOUT HENDRIK VEDER GROUP NORWAY AS

### HISTORY

Helge R. Myhre established the Norwegian company in 1935 as a ship chandler in Stavanger. From 1993 to 1998, the company joined forces with Tønsberg based Scanrope under the name Myhre Scanrope. After parting ways with Scanrope in 1998, Myhre Maritime AS was born. Having operated from several locations in the Stavanger region through the years, Myhre Maritime moved to Bekhuskaiaen in the central Stavanger harbour area in early 2004. Investments were made in new, heavy wire rope swage and spooling facilities. The company had its main focus on lifting and continued to grow in industry, shipping and offshore markets.

In 2008, Cosalt Plc completed the purchase of Myhre Maritime and the company was named Cosalt Offshore Norway AS. Cosalt Plc sold the shares to NBGI Private Equity in January 2013 and put the company under the flag of the Cosalt Offshore UK based ATR Group. Cosalt Offshore Norway AS was renamed Myhre Rope Services AS after Hendrik Veder Group and ATR Group entered in a strategic partnership in December 2013.

Hendrik Veder Group acquired full ownership of this Norwegian joint venture in March 2015 and renamed the company into Hendrik Veder Group Norway AS, making it a fully integrated business within the parent company Hendrik Veder Group.

### WHY HENDRIK VEDER GROUP

Our Norwegian company has a strong and excellent track record in the Norwegian market. The new organisation will continue to manufacture and supply lifting slings and lifting, towing and mooring equipment from our premises with deep-water quay and yard in Stavanger. We also perform annual inspections, equipment service and re-certification.

## Hendrik Veder Group

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Web: [www.hendrikvedergroup.com](http://www.hendrikvedergroup.com)

Today, Hendrik Veder Group Norway AS is a leading Norwegian supplier of high performance and heavy-duty steel wire ropes and sling assemblies to the Scandinavia. We also stock heavy-duty loose lifting equipment and rope fittings required for any critical lifting or mooring operation, offshore and on the mainland.

From our base on Bekhuskaien, with deepwater quay facilities, located in the middle of Stavanger Harbour, we assemble and deliver custom fibre, chain and wire sling assemblies for all lifting needs. We offer wholesales on multiple types of plain wire rope and can easily add the end termination of your choice before shipping out.

We have a modern and highly capable workshop in Stavanger, supported by Hendrik Veder Group's high capacity production facilities in Rotterdam and Moerdijk in the Netherlands.



## CERTIFIED QUALITY

Hendrik Veder Group shows its commitment to consistent quality through certification of our working processes and materials, tools and product quality control. The production of lifting slings and lifting, towing and mooring equipment conforms to:

- EN standards NS-EN 13414, NS-EN 13411
- DNV 2.22, 2.7-1, 2.7-3
- NORSOK R-002 lifting equipment

### ISO CERTIFIED QUALITY MANAGEMENT SYSTEM

DNV GL has certified that the Management System of Hendrik Veder Group Norway AS has been found to conform to the Quality Management System standards of ISO 9001: 2008.

### ACHILLES JOINT QUALITY SYSTEM

Hendrik Veder Group Norway AS is qualified in the Achilles Joint Quality System for suppliers to the oil industry in Norway and Denmark.

### TEKNOLOGISK INSTITUTT

Teknologisk Institutt Sertifisering has verified that Hendrik Veder Group Norway AS has the necessary expertise to carry our tasks with work equipment including winches, hoists, hand-operated cranes, and all types of lifting equipment.

# CERTIFICATES

1 - GENERAL / CERTIFICATES

**DNV-GL**

## MANAGEMENT SYSTEM CERTIFICATE

Sertifikatnummer: 95-051-A2-4276      Første sertifikat gyldig fra: 07 februar 1999      Gyldig: 26 mai 2015 - 26 mai 2018

Med dette bekreftes at styringssystemet ved

**Hendrik Veder Group Norway AS**

Bekhuskaia 1, 4014 Stavanger

opplyfter kravene i:

**ISO 9001:2008**

Dette sertifikatet er gyldig for følgende områder/tjenester:  
**Kontroll av kraner og løfteutstyr. Salg, produksjon og utleie av løfte, forsynings- og slepeutstyr. Leverandør av komplette logistikk-systemer for drift av klients rigging og utstyrs-pool. Leverandør av maritimt utstyr generelt.**

SMØ og dato: Høvik, 19 mai 2015



NORWEGIAN  
ACCREDITATION  
NORSK

For akkreditert enhet:  
DNV GL - Business Assurance



Jøran Luskheim  
Leders Representant

Brudd på vilkårene fastsett i sertifikatspesifikasjonen, kan gi anledning til opphevelse av sertifikatet og/eller avlysning av sertifisering. DNV-GL, Norske Akkrediterte Enheter AS, Vestrestrand 1, 3322 Hovik, Norge. TEL: +47 57 55 00 00. [www.dnv-gl.no](http://www.dnv-gl.no)



Joint Qualification System

for suppliers to the Oil Industry in Norway and Denmark

## Certificate of Qualification

Awarded to

**HENDRIK VEDER GROUP  
NORWAY AS**

Company Reg.no: 965652442

Achilles Id. 17386

Achilles Information Centre hereby confirms that HENDRIK VEDER GROUP NORWAY AS is qualified in the Achilles Joint Qualification System for suppliers to the Oil Industry in Norway and Denmark. The qualification concerns the product and service categories listed in the appendix.



**Issued Date:**  
26-Jun-2015

**Expiry Date:**  
27-Nov-2015

Alle rettigheter forbeholdt. Dette sertifikatet er utstedt av Achilles JQS AS på vegne av Achilles Information Centre. Dette sertifikatet er utstedt av Achilles JQS AS på vegne av Achilles Information Centre. Dette sertifikatet er utstedt av Achilles JQS AS på vegne av Achilles Information Centre.



Ustedt 1 gang: 07.01.2009      Sertifisering AS      Sertifikat nr.: SV-134  
 Gyldig til: 02.01.2017  
 Ustedt dato: 01.10.2015

## Sertifikat

VI BEKREFTER HERVED AT

**Hendrik Veder Group Norway AS**

Org.nr.: 965 652 442

HAR DOKUMENTERT OG DEMONSTRERT ET STYRINGSSYSTEM SOM TILFREDSTILLER KRAVENE I:

Forskrift om administrative ordninger § 8-6

SERTIFISERT VIRKSOMHETSOMRÅDE:

**Sakkyndig virksomhet for kontroll av følgende arbeidsutstyr:**

**G7 Vinsjer/spilltøler**  
**G10 Håndrevne kraner**  
**RX Alle typer løfteutstyr**

Sertifikatet forutsetter at det dokumenterte styringssystemet opprettholdes av virksomheten



Ole Bergsjø  
Daglig leder



Harald Schjelberg  
Teknisk Leder

Dette sertifikatet er utstedt av et uavhengig tredjeparts sertifiseringsorgan i Norge. Sertifiseringsorganet tilfredstiller kravene til dokumentasjon, kompetanse og gjennomsøring av systemet/teori etter forskriften. Sertifikatet må kun kopieres i sin helhet.



Samarbeidsgruppen av Sertifiseringsorganer

1.6

## KEY SUPPLIERS & BRANDS

Our extensive supplier network contains a large number of the world's best and specialised manufacturers.



## Hendrik Veder Group

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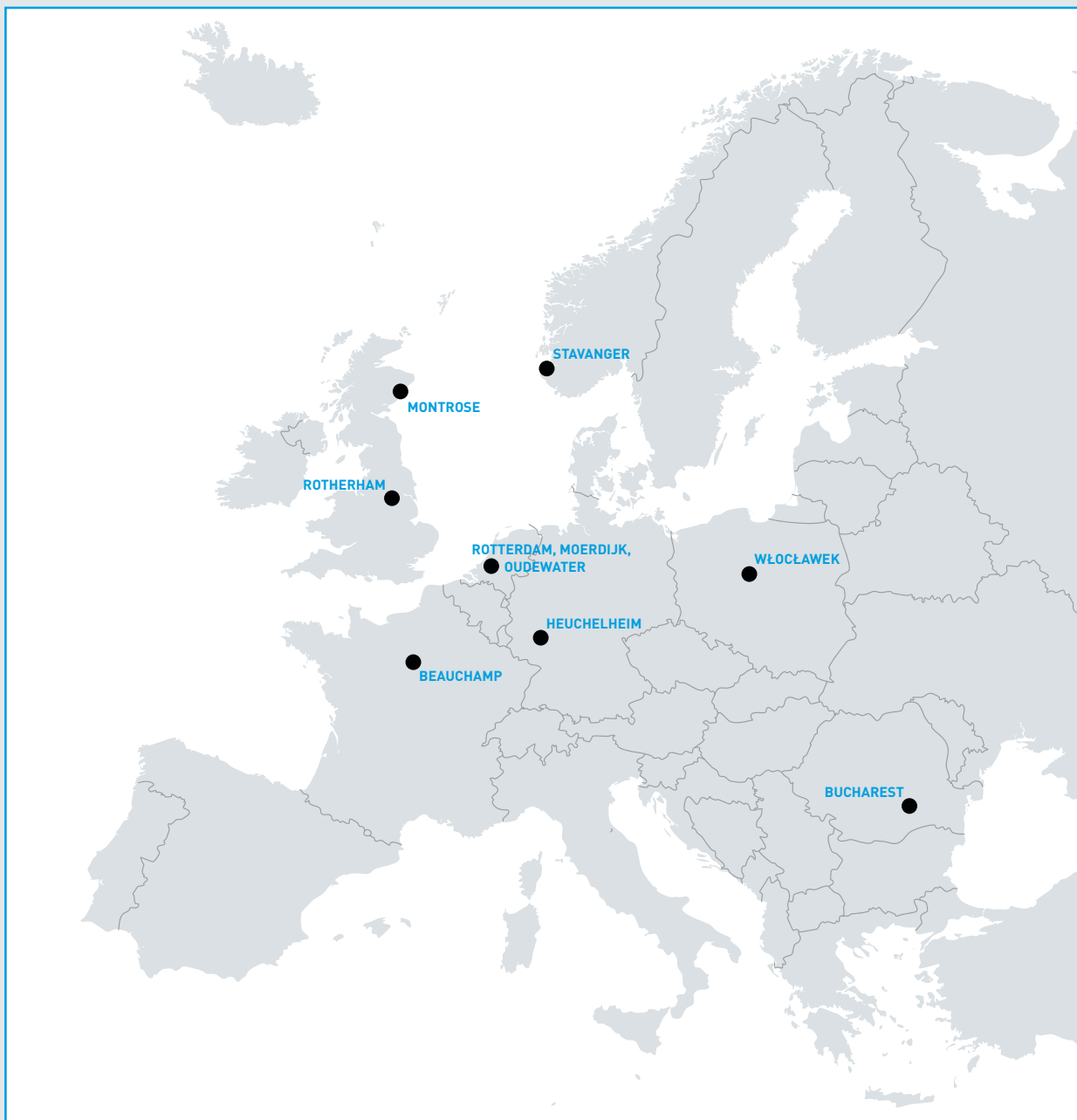
# CONTACT INFORMATION

### HENDRIK VEDER GROUP NORWAY AS

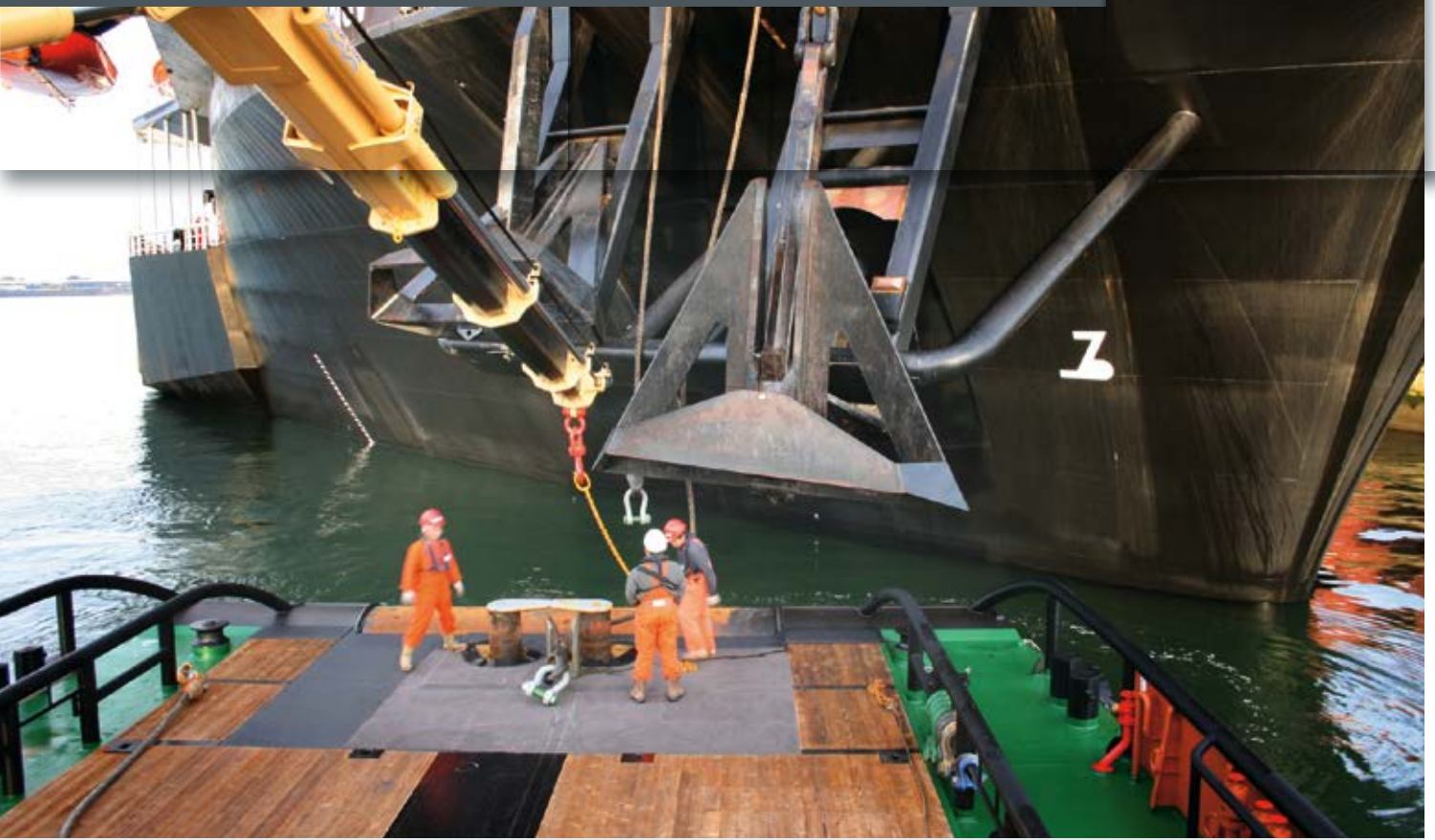
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## SERVICES

Hendrik Veder Group is well aware of the complex regulations regarding lifting-, towing-, mooring-, rigging-, and lashing-equipment. In addition to providing superior quality products, we provide services that guarantee your safety. Our service- and fault-clearing service is available 24/7 in order to get you running again in no time. Have a closer look at the services we provide.

- [Inspection & \(re-\)certification](#)
- [Proofload and breakload tests](#)
- [Reeving and unreeving of cranes and winches](#)
- [Reconditioning and overhaul](#)
- [Complete annual and quadrennial lifeboat surveys](#)

## INSPECTION & (RE-)CERTIFICATION

As an owner of steel wire ropes, or lifting-, towing-, rigging-, mooring and lashing-equipment, you must maintain equipment safety, which means that an annual inspection is mandatory. These inspections should be done by a certified expert and reported in writing. In addition, mandatory inspections for other equipment are also necessary. Hendrik Veder Group performs maintenance inspections and equipment certification on site and in-house. An approved product receives a proof (re)certification or an inspection report. Please contact us to make an inventory of all necessary certifications.



## OPERATIONS OVERVIEW

### FACILITIES

- Located in the middle of Stavanger harbour with deep water quay and 4,800 sqm yard
- Office, manufacturing and warehouse space
- Additional group manufacturing facilities in The Netherlands (Rotterdam and Moerdijk) and Scotland (Aberdeen)

### WORKSHOP EQUIPMENT

- Hydraulic wire rope swaging presses from 50 to 2,000 tons
- Spooling machines taking up to 250 tons unit weight
- Coiling tables, hydraulic rigging table, annealer/fuser
- Within the group: test beds from 800 to 12,250 kN; push and pull

### MANUFACTURING STRENGTHS

- Wire rope slings up to 18"
- Manufactured in accordance with EN 13414, EN 13411; DNV 2.22, 2.7-1, 2.7-3; NORSOK R-002 lifting equipment
- Within the group:
  - Cable-laid slings from 250 to 7,700 tons CRBL<sup>1</sup>
  - Cable-laid grommet slings (endless) from 250 – 6,800 CGBL<sup>2</sup>
  - Manufactured in accordance with IMCA M 179; EN 13414-1, 13414-3; ISO 7531

<sup>1</sup> Calculated Rope Breaking Load

<sup>2</sup> Calculated Grommet Breaking Load



Hydraulic wire rope swaging press 3,000 tons



Pull and push testbed 12,250 kN



Cable-laid splice

## SINGLE LAID SLINGS

Single laid slings are used for a wide variety of purposes. They are available in all required constructions, lengths and diameters with soft eyes or thimbles. The single laid slings can be supplied either swaged with aluminium ferrules (Talurit) up to 83 mm (2½") wire rope diameter or swaged with steel ferrules (Supersplice) up to 128 mm (5") wire rope diameter.

SINGLE LAID SLINGS				
NOMINAL DIAMETER	RECOMMENDED EYE SIZE		MINIMUM BREAKING LOAD	
	MM	LENGTH (CM)	WIDTH (CM)	METRIC TON
44	72	36	138	1,354
51	86	43	184	1,805
57	101	51	230	2,256
58	101	51	240	2,354
64	112	55	291	2,855
71	127	63	359	3,522
76	152	76	411	4,032
77	152	76	425	4,169
92	214	106	600	5,886
103	254	127	800	7,848
114	280	140	939	9,212
128	300	150	1,138	11,164

## PROOFLOAD AND BREAKLOAD TESTS

All materials, both new and assembled, can be inspected according to a customer's requirements and (re)certified by all international classification authorities. The breaking load of hauling and lifting equipment can be tested in the test-beds facility. We also have several in-house draw-benches with a capacity of up to 12,250 kN for the destructive testing and test loading of lifting equipment.



### CLASS 1 TESTING MACHINE

Accuracy	± 1.0%
Capacity	12,250 kN pull & push
Max. length test items	7.5 meter

## REEVING AND UNREEVING OF CRANES AND WINCHES

Hendrik Veder Group is an excellent choice for reeving and unreeving of cranes and winches. We currently have 4 spooling machines with a capacity of up to 250 tons unit weight. We also have a hydraulic wire rope tensiing machine with a back tensiing capacity of 45 tons. The machine is available for rental, with or without an operator.



### DIESEL HYDRAULIC SPOOLER 250T

Max. back tension:	52T
Drum speed:	Max. 11 rpm
Max. reel weight:	250T (working load reel capacity)
Max. reel dimensions:	4,500mm diameter x 4,500mm wide
Support shafts:	5" (reel max. 20T), 7" (50T), 9" (75T), 12" (250T)
Weight of unit:	23T excluding steel reel
Dimension of unit:	8,000mm long x 3,000mm wide x 3,885mm high



### TENSIONING MACHINE HV 7

Max. cable tension:	45T
Rope speed:	Max. 9.75 M/min
Max. cable diameter:	4"
Drum rotation:	3.65 M
Weight of unit:	14T
Dimension of unit:	4,630mm long x 2,470mm wide x 2,320mm high

## RECONDITIONING AND OVERHAUL

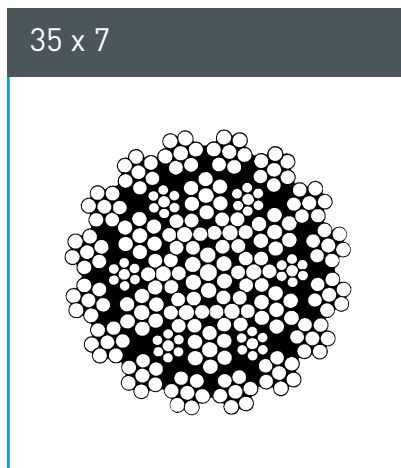
We also recondition and overhaul blocks, swivels, chain and other lifting gear. Repair steps include: disassembly, cleaning, inspection, parts renewal, assembly, load testing, NDE inspection, and coating.

## RECONDITIONING AND OVERHAUL, LIFEBOAT SURVEYS

It is mandatory to test lifeboats on a regular basis. With the help of water bags we test both lifeboats and related equipment. Any possible defect to the boat or the ropes is repaired immediately. An approved lifeboat receives a proof of (re)certification.

## 35 X 7 (NON-ROTATING | NON-COMPACTED)

Minimum breaking force factor: 0.360  
Nominal rope length mass factor: 0.454

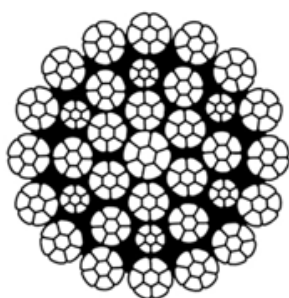


NOMINAL DIAMETER	WEIGHT 100 M	MINIMUM BREAKING LOAD 1,960 N/MM <sup>2</sup>		MINIMUM BREAKING LOAD 2,160 N/MM <sup>2</sup>	
		MM	KG	KN	KG
8	29.10	45.20	4,610	48.40	4,940
9	36.80	57.20	5,830	61.20	6,240
10	45.40	70.60	7,200	75.60	7,710
11	54.90	85.40	8,710	91.50	9,930
12	65.40	102.00	10,400	109.00	11,100
13	76.70	119.00	12,100	128.00	13,100
14	89.00	138.00	14,100	148.00	15,100
16	116.00	181.00	18,500	194.00	19,800
18	147.00	229.00	23,400	245.00	25,000
20	182.00	282.00	28,800	302.00	30,800
22	220.00	342.00	34,900	366.00	37,300
24	262.00	406.00	41,400	435.00	44,400
26	307.00	477.00	48,600	511.00	52,100
28	356.00	553.00	56,400	593.00	60,500
32	465.00	723.00	73,700	774.00	79,000
36	588.00	914.00	93,200	980.00	100,000
38	656.00	1,020.00	104,000	1,090.00	111,000
40	726.00	1,130.00	115,000	1,210.00	123,000



## 35 X 7 (NON-ROTATING | COMPACTED)

35 x 7

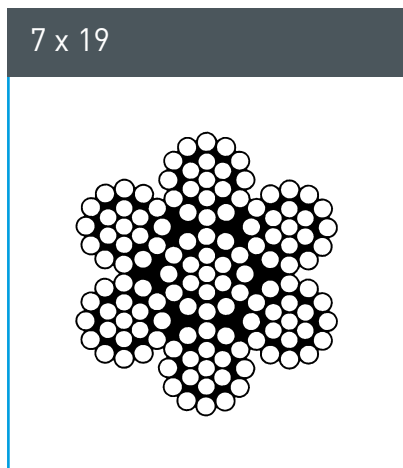


NOMINAL DIAMETER	WEIGHT 100 M	MINIMUM BREAKING LOAD 2,160 N/MM <sup>2</sup>	
		KN	KG
MM	KG		
10	48	96	9,800
11	58	116	11,800
12	68	138	14,100
13	81	162	16,500
14	94	188	19,200
15	108	216	22,000
16	122	245	25,000
17	138	277	28,200
18	155	311	31,700
19	173	346	35,300
20	195	372	37,900
21	215	424	43,200
22	241	474	48,300
23	267	519	52,800
24	284	551	56,100
25	312	606	61,800
26	335	652	66,400
27	360	700	71,300
28	391	760	77,400
29	413	803	81,800
30	446	866	88,200
31	478	929	94,600
32	503	977	99,500
33	536	1,032	105,000
34	574	1,105	113,000
35	606	1,166	119,000
36	642	1,235	126,000
37	674	1,296	132,000
38	718	1,381	141,000
39	753	1,449	148,000
40	793	1,525	155,000
41	828	1,594	162,000
42	870	1,673	170,000
43	913	1,756	179,000
44	948	1,825	190,000
45	993	1,912	195,000
46	1,040	2,007	207,000
47	1,080	2,086	212,000
48	1,140	2,186	223,000

## 7 X 19

Minimum breaking force factor: 0.362

Nominal rope length mass factor: 0.381

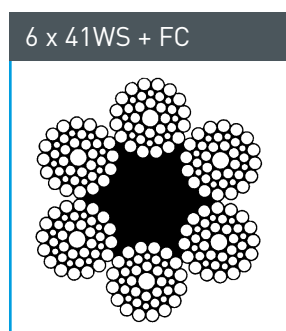
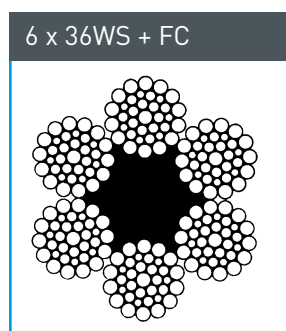
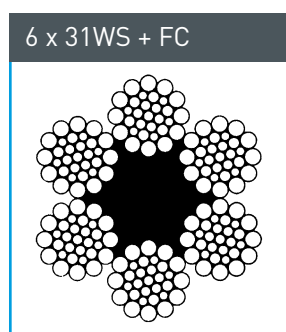


NOMINAL DIAMETER	WEIGHT 100 M	MINIMUM BREAKING LOAD 1,570 N/MM <sup>2</sup>	
		KN	KG
MM	KG		
2.0	1.52	2.27	230
2.5	2.38	3.55	360
3.0	3.43	5.10	520
4.0	6.10	9.10	930
5.0	9.50	14.20	1,450
6.0	13.70	20.50	2,090
8.0	24.40	36.40	3,710
9.0	30.90	46.00	4,700
10.0	38.10	56.80	5,800
12.0	54.90	81.80	8,350

## 6 X 31WS + FC / 6 X 36WS + FC / 6 X 41WS + FC

Minimum breaking force factor: 0.330

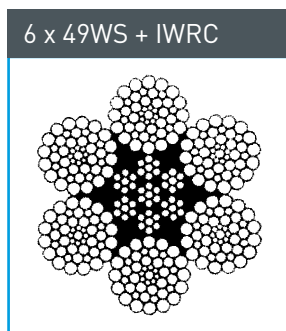
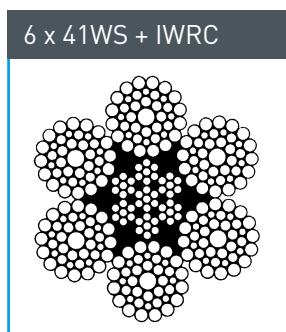
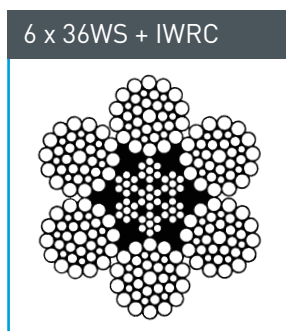
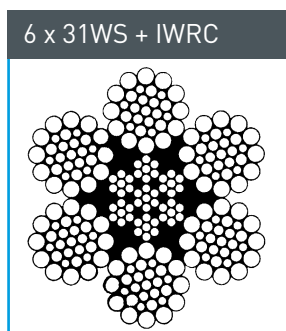
Nominal rope length mass factor: 0.367



NOMINAL DIAMETER	WEIGHT 100 M	MINIMUM BREAKING LOAD 1,770 N/MM <sup>2</sup>		MINIMUM BREAKING LOAD 1,960 N/MM <sup>2</sup>	
		MM	KG	KN	KG
8	23.50	37.40	3,810	41.40	4,220
9	29.70	47.30	4,820	52.40	5,340
10	36.70	58.40	5,960	64.70	6,600
11	44.40	70.70	7,210	78.30	7,990
12	52.80	84.10	8,580	93.10	9,500
13	62.00	98.70	10,100	109.00	11,100
14	71.90	114.00	11,600	127.00	13,000
16	94.00	150.00	15,300	166.00	16,900
18	119.00	189.00	19,300	210.00	21,400
20	147.00	234.00	23,900	259.00	26,400
22	178.00	283.00	28,900	313.00	31,900
24	211.00	336.00	34,300	373.00	38,000
26	248.00	395.00	40,300	437.00	44,600
28	288.00	458.00	46,700	507.00	51,700
30	330.00	526.00	53,600	582.00	59,400
32	376.00	598.00	61,000	662.00	67,500
36	476.00	757.00	77,200	838.00	85,500
38	530.00	843.00	86,000	934.00	95,000
40	587.00	935.00	95,300	1,040.00	106,100
44	711.00	1,130.00	115,000	1,250.00	127,000
48	846.00	1,350.00	138,000	1,490.00	152,000
52	992.00	1,580.00	161,000	1,750.00	178,000
56	1,150.00	1,830.00	187,000	2,030.00	207,000
60	1,320.00	2,100.00	214,000	2,330.00	238,000

# 6 X 31WS + IWRC / 6 X 36WS + IWRC / 6 X 41WS + IWRC / 6 X 49WS + IWRC

Minimum breaking force factor: 0.356  
 Nominal rope length mass factor: 0.409



NOMINAL DIAMETER	WEIGHT 100 M	MINIMUM BREAKING LOAD 1,770 N/MM <sup>2</sup>		MINIMUM BREAKING LOAD 1,960 N/MM <sup>2</sup>	
		MM	KG	KN	KG
8	26.20	40.30	4,110	44.70	4,560
9	33.10	51.00	5,200	56.50	5,760
10	40.90	63.00	6,420	69.80	7,120
11	49.50	76.20	7,770	84.40	8,600
12	58.90	90.70	9,250	100.00	10,200
13	69.10	106.00	10,800	118.00	12,000
14	80.20	124.00	12,600	137.00	14,000
16	105.00	161.00	16,400	179.00	18,300
18	133.00	204.00	20,800	226.00	23,000
19	148.00	227.00	23,200	252.00	25,700
20	164.00	252.00	25,700	279.00	28,500
22	198.00	305.00	31,100	338.00	34,500
24	236.00	363.00	37,000	402.00	41,000
26	276.00	426.00	43,400	472.00	48,100
28	321.00	494.00	50,400	547.00	55,800
30	368.00	567.00	57,800	628.00	64,000
32	419.00	645.00	65,800	715.00	72,900
34	473.00	728.00	74,200	807.00	82,300
36	530.00	817.00	83,300	904.00	92,200
38	591.00	910.00	92,800	1,010.00	103,000
40	654.00	1,010.00	103,000	1,120.00	114,000
42	721.00	1,110.00	113,000	1,230.00	125,000
44	792.00	1,220.00	124,000	1,350.00	138,000
48	942.00	1,450.00	148,000	1,610.00	164,000
51	1,064.00	1,639.00	167,000	1,815.00	185,000
52	1,110.00	1,700.00	173,000	1,890.00	193,000
56	1,280.00	1,980.00	202,000	2,190.00	223,000
57	1,329.00	2,047.00	208,000	2,267.00	231,000
60	1,470.00	2,270.00	232,000	2,510.00	256,000
64	1,675.00	2,580.00	263,000	2,858.00	291,000

NOMINAL DIAMETER	WEIGHT 100 M	MINIMUM BREAKING LOAD 1,770 N/MM <sup>2</sup>		MINIMUM BREAKING LOAD EEIPS / ZZZ-GRADE	
		MM	KG	KN	KG
71	2,080.00	N/A	N/A	3,726.00	380,000
76	2,460.00	N/A	N/A	4,410.00	449,000
83	2,900.00	N/A	N/A	5,994.00	611,000

According EN 12385-4

# PowerMax Rope

**• World best high quality**

Through DSR Wire Corp's unique drawing technique, our wire ropes ensure high ductility, our wire ropes consist of very fine microstructure, due to newest and brand new model of heat treatment equipment and unique technique.

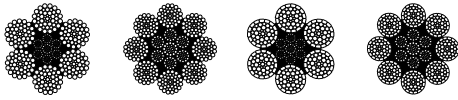
**• Best quality of component wire rope and excellent life time**

DSR wire ropes provide satisfactory quality in anti-fatigue and high breaking strength, therefore our wire ropes which guarantee over 20% longer lifetime will fit to customers' special needs.

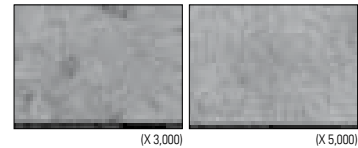
**• High structural stability**

Accumulated experience for Lubrication and Rope Construction.

**PowerMax Rope is the DSR's own brand name for large diameter wire ropes used for offshore industry and various mining applications.**

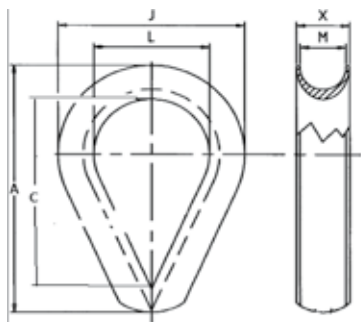


• VERY FINE MICROSTRUCTURE PHOTO



Nominal Dia.	Offshore Powerlift 6, Powerlift 8 (Metric Ton)						Approximate Weight 6×ROPE Kg/m	Approximate Weight 8×ROPE Kg/m	Offshore Powerflex 6, Powerflex 8 (Metric Ton)					Approximate Weight 6×ROPE Kg/m	Approximate Weight 8×ROPE Kg/m
	mm	inch	EIPS	EEIPS	Z GRADE	ZZ GRADE			ZZ GRADE	EIPS	EEIPS	Z GRADE	ZZ GRADE		
50.8	2	180	197	226	234	244	11.3	11.4	199	218	246	259	270	12.1	12.2
52.0		189	206	236	245	258	11.8	11.9	201	220	252	271	283	12.7	12.8
54.0	2-1/8	200	221	243	255	264	12.8	12.8	224	245	269	281	284	13.7	13.8
56.0		215	238	262	274	284	13.7	13.8	241	264	290	326	306	14.7	14.9
57.2	2-1/4	224	247	278	290	302	14.3	14.4	250	275	306	323	326	15.3	15.5
58.0		230	254	285	299	311	14.7	14.8	257	283	315	333	336	15.8	15.9
60.3	2-3/8	249	274	300	315	337	15.9	16.0	281	307	340	349	363	17.1	17.2
63.5	2-1/2	274	301	337	355	369	17.7	17.7	304	336	375	394	398	18.9	19.1
66.7	2-5/8	299	330	371	390	407	19.5	19.6	333	367	413	435	439	20.9	21.1
69.9	2-3/4	333	360	411	430	448	21.4	21.5	364	401	452	475	484	22.9	23.1
71.0		343	372	424	444	463	22.1	22.2	376	414	467	491	500	23.7	23.9
73.0	2-7/8	361	392	449	470	490	23.4	23.5	392	435	497	520	529	25.0	25.3
74.0		371	403	461	483	503	24.0	24.1	403	447	510	534	543	25.7	25.9
76.2	3	389	425	488	516	538	25.4	25.5	423	472	545	574	581	27.3	27.5
77.0		397	434	498	527	549	26.0	26.1	432	482	557	586	593	27.8	28.1
79.4	3-1/8	435	458	523	550	572	27.6	27.7	458	508	579	610	618	29.6	29.8
82.6	3-1/4	470	493	560	587	611	29.8	30.0	494	548	618	652	668	32.0	32.3
83.0		475	498	566	593	618	30.2	30.3	499	554	625	659	676	32.3	32.6
85.7	3-3/8	504	528	607	639	666	32.2	32.3	527	586	674	707	719	34.5	34.8
87.0		519	544	625	658	686	33.1	33.3	543	604	694	728	741	35.5	35.8
88.9	3-1/2	537	563	659	692	723	34.6	34.8	565	627	735	770	781	37.1	37.4
90.0		550	577	675	709	741	35.5	35.6	579	643	753	789	800	38.0	38.4
95.3	3-3/4	610	640	716	752	785	39.7	39.9	642	713	795	836	848	42.6	43.0
96.0		620	650	727	764	797	40.4	40.5	652	724	808	849	861	43.3	43.6
101.6	4	687	720	796	836	874	45.2	45.4	719	799	884	928	943	48.5	48.9
103.0		706	740	818	859	898	46.5	46.7	739	821	909	954	969	-	50.2
108.0	4-1/4	752	788	845	887	928	51.0	51.3	796	884	978	1,027	1,027	-	55.2
109.0		767	803	862	904	946	52.0	52.3	812	901	997	1,047	1,047	-	56.3
114.3	4-1/2	835	876	939	986	1,031	57.2	57.5	874	971	1,074	1,127	1,146	-	61.9
120.7	4-3/4	921	967	1,036	1,088	1,138	63.7	64.0	953	1,059	1,172	1,230	1,250	-	68.9
122.0		942	989	1,059	1,112	1,164	65.2	65.5	974	1,083	1,198	1,258	1,278	-	70.5
127.0	5	1,015	1,063	1,138	1,195	1,250	70.6	70.9	1,034	1,149	1,271	1,334	1,356	-	76.4
128.0		1,031	1,080	1,156	1,214	1,270	71.7	72.1	1,050	1,167	1,291	1,355	1,377	-	77.6
133.4	5-1/4	1,085	1,138	1,219	1,278	1,337	-	78.2	1,140	1,232	1,363	1,431	1,454	-	84.2
135.0		1,112	1,166	1,249	1,310	1,370	-	80.2	-	-	-	-	-	-	-
139.7	5-1/2	1,163	1,223	1,310	1,375	1,437	-	85.8	-	-	-	-	-	-	-
141.0		1,185	1,246	1,334	1,401	1,464	-	87.4	-	-	-	-	-	-	-
146.1	5-3/4	1,250	1,315	1,406	1,477	1,545	-	93.8	-	-	-	-	-	-	-
148.0		1,284	1,350	1,444	1,517	1,587	-	96.3	-	-	-	-	-	-	-
152.4	6	1,339	1,410	1,508	1,583	1,656	-	102.2	-	-	-	-	-	-	-

## HEAVY DUTY STUB-END THIMBLE

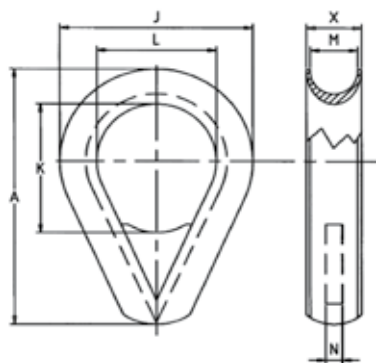


Suitable for wire rope  
Material: Mild steel  
Finish: Galvanized

Special dimensions on request.  
Tolerance 5%

A	J	C	L	M	X	WEIGHT
INCH	MM	MM	MM	MM	MM	KG/100PCS
2"	42	35	22	9	14	8
2 1/2"	50	45	30	11	16	10
3"	50	55	35	13	18	20
3 1/2"	73	65	45	15	20	26
4"	75	75	50	17	22	36
4 1/2"	85	80	53	19	25	50
5"	100	90	60	21	29	60
5 1/2"	110	95	65	23	33	70
6"	115	120	70	25	34	100
7"	135	140	80	30	38	160
8"	155	160	100	33	44	180
9"	175	185	115	38	49	350
10"	190	195	120	41	52	440
11"	210	215	130	46	60	520
12"	225	240	140	52	65	730
14"	240	250	150	60	72	1,100
17"	290	310	180	70	88	1,700

## HEAVY DUTY STUB-END THIMBLE WITH PLATE



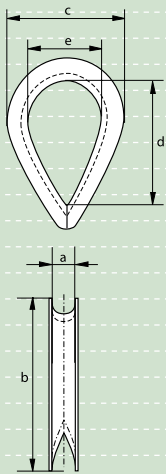
Suitable for wire rope  
Material: Mild steel  
Finish: Galvanized

Special dimensions on request.  
Tolerance 5%

A	J	K	L	M	N	X	WEIGHT
INCH	MM	MM	MM	MM	MM	MM	KG/100PCS
4"	75	50	50	17	5	22	40
4 1/2"	85	50	53	19	5	25	50
5"	100	60	60	21	5	29	80
5 1/2"	110	60	65	23	5	33	90
6"	115	70	70	25	10	34	100
7"	135	75	80	30	10	38	170
8"	155	80	100	33	10	44	250
9"	175	110	115	38	10	49	400
10"	190	120	120	41	15	52	450
11"	210	130	130	46	15	60	700
12"	225	140	140	52	15	65	830
14"	240	150	150	56	20	68	1,260
17"	290	185	180	72	20	88	1,880
19"	340	225	220	82	20	122	3,060
22"	372	280	240	92	20	132	3,700
24"	396	280	250	105	20	145	4,600
26"	445	290	280	135	33	173	5,600
26" special	490	290	308	135	33	173	7,100
30"	490	290	308	135	35	173	8,350



E-6110



## Thimbles

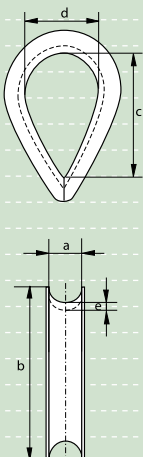
### standard commercial

- **Material** : mild steel
- **Finish** : electro-galvanized
- **Certification** : a works certificate can be supplied upon request

diameter rope	width groove	length	width	length inside	width inside	weight per 100 pcs
mm	a	b	c	d	e	kg
3	3	24	18	15	10	0.4
4	4	25	19	16	11	0.4
5	5	31	22	22	16	0.8
6	6	37	29	26	19	1.4
7	7	44	32	32	22	2
8	8	51	38	34	24	2.8
9	9	57	42	38	29	3
10	10	64	44	42	32	4.8
11	11	70	51	48	35	7.5
12	12	76	57	51	38	8
14	14	82	60	57	40	10
16	16	89	64	60	42	15
18	18	102	69	67	45	22
20	20	115	79	76	51	25
22	22	127	89	83	54	32
24	24	140	102	88	64	46
26	26	152	105	102	68	66
28	28	165	115	110	73	77
30	30	178	121	115	79	80
32	32	203	133	140	93	130



G-6120



## Thimbles

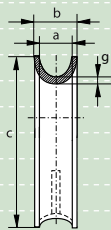
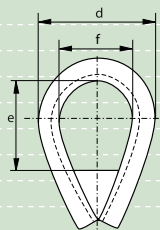
### heavy duty stub-end

- **Material** : mild steel
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

diameter rope	width groove	length	length inside	width inside	thickness back	weight per 100 pcs
mm	a	b	c	d	e	kg
8	8	51	35	22	4	6
10	10	64	47	30	4	7
12	12	76	57	35	5	14
14	14	89	65	45	6	22
16	16	102	76	50	6	24
18	18	114	86	53	8	43
20	20	127	94	60	9	65
22	22	140	107	65	10	93
24	24	152	114	70	10	102
28	28	178	130	80	10.5	135
32	32	203	157	100	10.5	162
36	36	229	177	115	12	363
40	40	254	198	120	12	376
44	44	279	214	130	15	608
50	50	305	215	140	20	960
56	56	356	245	160	20	1400
64	64	407	275	180	20	1700



G-6128



## Thimbles

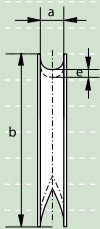
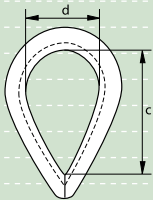
### Heavy Duty Stub-end, reinforced with welded fillet plate

- **Material** : mild steel
- **Finish** : hot dipped galvanized  
reinforced with a welded fillet plate
- **Certification** : a works certificate can be supplied upon request

width groove	width overall	length	width	length inside	width inside	thickness back	weight per piece
a	b	c	d	e	f	g	kg
mm	mm	mm	mm	mm	mm	mm	kg
35	55	220	150	100	80	10	3.2
40	65	245	160	120	90	12	5.1
50	80	290	200	125	110	16	9.2
62	100	360	250	160	140	20	17.4
72	115	390	265	175	160	20	19.4
85	125	470	300	245	190	20	29
100	150	540	370	290	200	25	39
115	165	570	380	300	210	25	52





E-6131  
G-6131

## Thimbles

### generally to DIN 6899 (B)

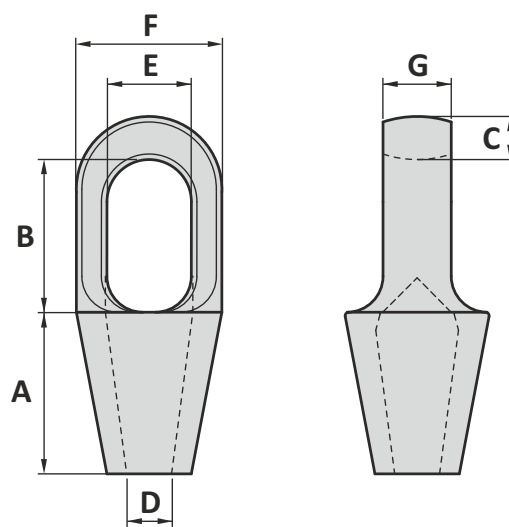
- **Material** : mild steel
- **Standard** : generally to DIN 6899 (B)
- **Finish** : thimbles for rope diameters up to and including 6 mm are electro-galvanized, other diameters are hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

diameter rope	width groove	length	length inside	width inside	thickness back	weight per 100 pcs
mm	a mm	b mm	c mm	d mm	e mm	kg
2.5	3	22	19	12	1.6	0.6
3.5	4	26	21	13	1.6	0.7
4	5	32	23	14	1.9	0.9
5	6	38	25	16	2.4	1.8
6	7	44	28	18	2.4	1.9
7	8	51	32	20	2.8	2.7
9	10	57	38	24	3.1	4.1
11	12	64	45	28	3.3	6.9
13	13	70	48	30	3.3	7.6
13	14	76	51	32	3.7	9.2
15	16	83	58	36	3.8	16.4
16	17	89	61	38	4.7	19
17	18	95	64	40	4.7	20.3
18	20	102	72	45	5.7	27.3
20	22	114	80	50	5.7	28.6
22	24	127	90	56	6.5	44.8
24	26	140	99	62	6.8	57.7
26	28	152	112	70	8	72
28	30	165	120	75	8	104
30	32	178	128	80	8	115
32	34	203	152	95	8.5	153
34	36	216	160	100	8.5	176
36	38	229	176	110	8.5	195
38	40	241	184	115	10.5	292
40	42	254	192	120	10.5	320
42	45	305	240	150	10.5	364
47	50	360	265	160	12	535
57	60	380	275	170	12	790
63	65	420	300	180	13	830
72	75	460	350	200	15	1200
87	90	500	370	210	18	2600
97	100	550	380	220	20	3050

## CLOSED SPELTER SOCKET

Material	: Cast steel
Safety factor	: 5 times
Standards	: Generally according to US Federal Spec RR-5-550D, type C
Finish	: Painted/galvanised ≤ Type No. 215 standard galvanised
Temperature range	: -40°C up to +200°C; Polar Rated
Standard certification	: Certificate of Conformity 3.1 material certificate EN 10204

*These sockets included our non-rotating system (NRS-system) which prevents the tamp for turning or slipping out of the cone and guaranty a high performance connection.*



~ specification: 1 = Painted  
9 = Galvanised

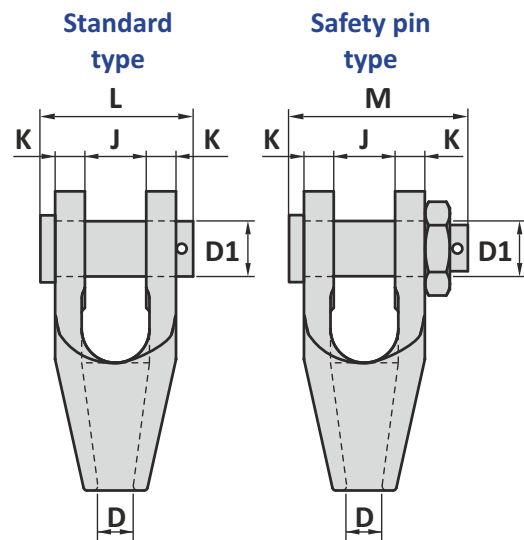
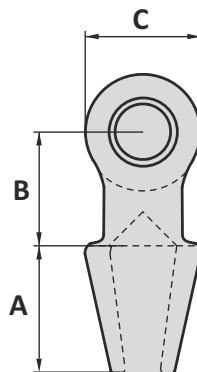
Type No.	Wire dia mm	Wire dia inch	WLL ton	MBL ton	A mm	B mm	C mm	D mm	E mm	F mm	G mm	Weight kg
290	6 - 7	¼	1.6	8	52	46	11	8	20	37	13	0.27
292	8 - 10	⅜	2.4	12	58	53	14	11	24	43	16	0.44
294	11 - 13	½	4	20	64	59	18	14	29	51	22	0.74
296	14 - 16	⅝	5	25	77	65	21	18	35	67	25	1.4
298	17 - 19	¾	8	40	90	75	26	21	42	75	31	2.1
201	20 - 22	⅞	9	45	101	90	33	24	47	92	38	4.0
204	23 - 26	1	14	70	114	103	36	28	57	106	45	5.9
207	27 - 30	1 ¼	20	100	127	116	39	32	63	114	51	7.7
212	31 - 36	1 ¼ - 1 ⅜	25	125	139	130	44	38	70	128	58	11
215	37 - 39	1 ½	30	150	152	155	51	41	79	137	64	14
217	40 - 42	1 ⅝	40	200	165	171	54	44	82	146	70	18
219	43 - 48	1 ¾ - 1 ⅞	52	260	190	198	55	51	89	171	77	28
222	49 - 54	2 - 2 ¼	56	280	216	224	62	57	98	194	84	40
224	55 - 60	2 ¼ - 2 ⅝	72	360	228	247	73	65	110	216	94	52
226	61 - 68	2 ½ - 2 ⅝	90	450	248	270	80	73	140	241	102	63
227	69 - 75	2 ¾ - 2 ⅞	96	480	279	286	79	79	159	273	124	89
228	76 - 80	3 - 3 ⅛	104	520	305	298	83	86	171	292	133	111
229	81 - 86	3 ¼ - 3 ⅝	120	600	330	311	102	92	184	311	146	143
230	87 - 93	3 ½ - 3 ⅝	140	700	356	330	102	99	197	330	159	166
231	94 - 102	3 ¾ - 4	175	875	381	356	108	108	216	362	178	217
233	108 - 115	4 ½	220	1100	460	425	120	125	235	405	190	338
240	122 - 130	5	250	1250	500	475	140	138	270	515	210	579
250	140 - 155	5 ½ - 6	280	1400	580	550	150	160	300	510	250	654
260	158 - 167	6 ½	320	1600	675	600	175	175	325	600	300	1063

Tolerance: ± 5%, machined parts ± 1 mm

# OPEN SPELTER SOCKET

- Material : Cast steel
- Safety factor : 5 times
- Standards : Generally according to US Federal Spec RR-5-550D, type A
- Finish : Painted/galvanised  
≤ Type No. 115 standard galvanised
- Temperature range : -40°C up to +200°C
- Standard certification : Certificate of Conformity  
3.1 material certificate EN 10204

*These sockets included our non-rotating system (NRS-system) which prevents the tamp for turning or slipping out of the cone and guaranty a high performance connection.*



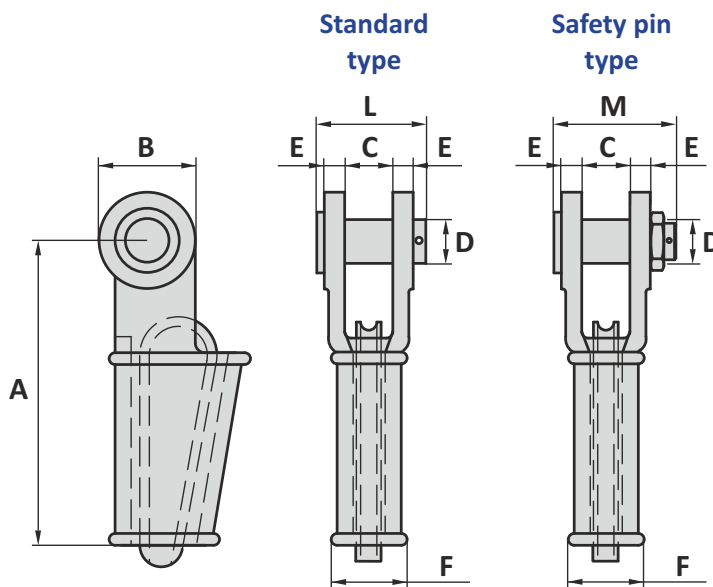
~ specification: 1 = Painted  
9 = Galvanised

Type No.	Wire dia mm	Wire dia inch	WLL ton	MBL ton	A mm	B mm	C mm	D mm	D1 mm	J mm	K mm	L mm	M mm	Weight kg
192	6 - 7	¼	1.6	8	52	40	34	8	18	17	8		63	0.44
194	8 - 10	⅜	2.4	12	58	45	40	11	21	20	11		74	0.81
196	11 - 13	½	4	20	64	51	49	14	26	25	12		85	1.3
198	14 - 16	⅝	5	25	77	64	62	18	30	32	14		100	2.3
100	17 - 19	¾	8	40	89	76	100	21	35	38	16	101	110	3.2
104	20 - 22	⅞	9	45	101	89	86	24	41	44	19	113	105	5.4
108	23 - 26	1	14	70	114	101	114	28	51	51	22	130	148	9.6
111	27 - 30	1 ¼	20	100	127	114	124	32	57	57	25	144	160	12
115	31 - 36	1 ¼ - 1 ⅜	25	125	139	127	135	38	63	63	28	161	184	16
118	37 - 39	1 ½	30	150	152	162	152	41	70	76	30	178	198	24
120	40 - 42	1 ⅝	40	200	165	165	168	44	76	76	33	184	204	29
125	43 - 48	1 ¾ - 1 ⅞	52	260	191	178	190	51	89	89	39	218	245	45
128	49 - 54	2 - 2 ⅞	56	280	216	229	206	57	95	101	46	244	271	65
130	55 - 60	2 ¼ - 2 ⅝	72	360	229	254	225	63	108	113	53	270	301	88
132	61 - 68	2 ½ - 2 ⅞	90	450	248	273	251	73	121	127	60	303	335	125
135	69 - 75	2 ¾ - 2 ⅞	96	480	279	279	266	79	127	133	73	335	367	162
138	76 - 80	3 - 3 ⅞	104	520	305	286	274	86	133	146	76	354	386	195
140	81 - 86	3 ¼ - 3 ⅝	120	600	330	298	286	92	140	159	79	373	412	224
142	87 - 93	3 ½ - 3 ⅞	140	700	356	318	310	99	152	171	83	393	432	280
144	94 - 102	3 ¾ - 4	175	875	381	343	352	108	178	191	89	425	464	378
146	108 - 115	4 ½	220	1100	460	480	430	125	190	208	101	467	510	564
150	122 - 130	5	250	1250	500	500	550	138	250	210	120	515	560	922
160	140 - 155	5 ½ - 6	280	1400	580	500	590	160	275	230	140	580	620	1295
170	158 - 167	6 ½	320	1600	675	600	640	175	290	310	175	670	710	1950

Tolerance: ± 5%, machined parts ± 1 mm

# OPEN WEDGE SOCKET

Material	: Cast steel
Safety factor	: 5 times
Standards	: Generally according to US Federal Spec RR-5-550D, type B
Finish	: Painted/galvanised
	: ≤ Type No. 5 standard galvanised
Temperature range	: -40°C up to +200°C
Standard certification	: Certificate of Conformity
	: 3.1 material certificate EN 10204



~ specification: 1 = Painted  
9 = Galvanised

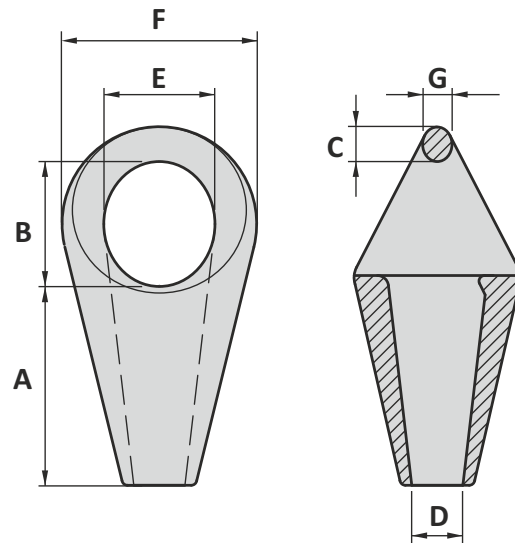
Type No.	Wire dia mm	Wire dia inch	WLL ton	MBL ton	A mm	B mm	C mm	D mm	E mm	F mm	L mm	M mm	Weight kg
0.5	9 - 10	¾	2	10	146	47	21	20	11	26	69	80	1.7
1	11 - 13	½	3.2	16	146	57	26	20	12	32	78	84	2.3
2	14 - 16	¾	5	25	176	70	32	30	14	44	92	101	3.9
3	17 - 19	¾	6.4	32	212	80	38	35	16	44	101	110	6.1
4	20 - 22	¾	9	45	240	96	44	41	19	52	113	126	9.3
5	23 - 26	1	14	70	274	114	51	50	22	58	130	148	15
6	27 - 29	1 ¼	20	100	310	130	57	57	25	66	144	160	21
7	30 - 33	1 ¼	25	125	350	146	63	63	28	79	161	184	33
8	34 - 36	1 ¾	25	125	400	148	69	63	28	79	161	184	39
9	37 - 40	1 ½	30	150	450	160	76	70	30	93	178	198	53
10	41 - 43	1 ⅝	40	200	500	174	76	76	33	95	184	204	68
11	44 - 48	1 ¾ - 1 ⅝	52	260	550	200	89	89	39	111	218	245	98
12	49 - 53	2	56	280	650	200	101	95	46	140	244	271	123
13	54 - 59	2 ¼	72	360	660	250	113	108	53	136	270	301	178
14	60 - 68	2 ½	90	450	840	270	127	121	60	161	303	335	281
15	72 - 76	3	104	520	1000	300	146	133	76	186	354	386	469
16	81 - 86	3 ¼ - 3 ⅝	125	625	1100	300	159	140	79	215	373	415	630

Tolerance: ± 5%, machined parts ± 1 mm

## CR SOCKET

Material	: Cast steel
Safety factor	: 5 times
Finish	: Painted/galvanised ≤ Type No. 519 standard galvanised
Temperature range	: -40°C up to +200°C; Polar Rated
Standard certification	: Certificate of Conformity 3.1 material certificate EN 10204

*CR sockets give the best possible connection between a chain- and a rope anchoring system. These sockets included our non-rotating system (NRS-system) which prevents the tamp for turning or slipping out of the cone and guaranty a high performance connection.*



~ specification: 1 = Painted  
9 = Galvanised

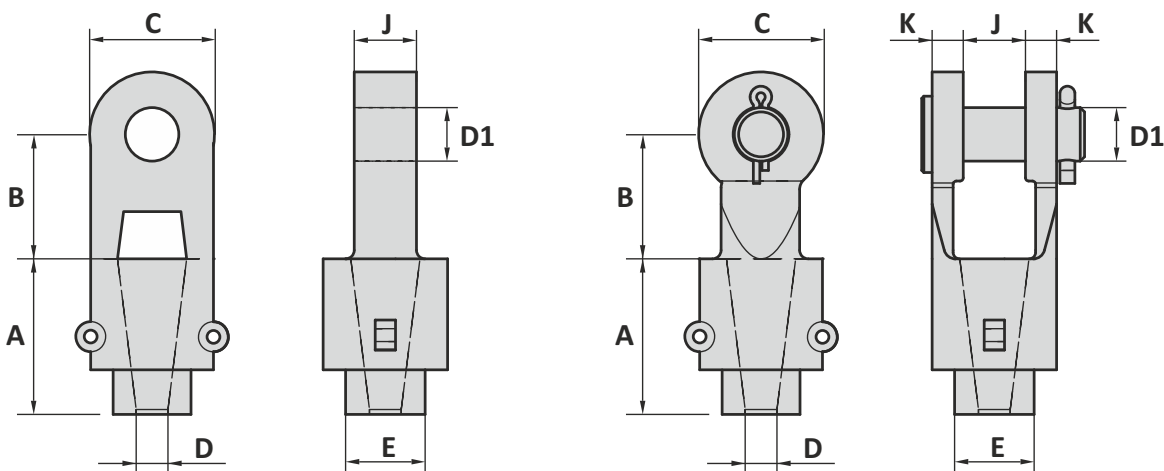
Type No.	Wire dia mm	Wire dia inch	WLL ton	MBL ton	A mm	B mm	C mm	D mm	E mm	F mm	G mm	Weight kg
512	31 - 36	1 ¼ - 1 ⅜	28	140	140	85	38	39	75	124	35	7.2
517	38 - 42	1 ½ - 1 ⅝	32	160	160	110	42	44	92	130	38	11
519	43 - 48	1 ¾ - 1 ⅞	40	200	188	128	50	51	110	180	45	18
522	49 - 54	2 - 2 ⅛	50	250	215	125	55	57	115	200	50	25
524	55 - 60	2 ¼ - 2 ⅝	60	300	230	145	65	63	135	230	57	35
526	61 - 68	2 ½ - 2 ⅝	80	400	250	160	75	73	160	262	65	51
527	69 - 75	2 ¾ - 2 ⅞	100	500	280	175	80	79	171	278	70	62
528	76 - 80	3 - 3 ⅛	120	600	315	210	85	86	184	300	75	75
529	81 - 86	3 ¼ - 3 ⅝	140	700	340	205	100	92	204	320	90	93
530	87 - 93	3 ½ - 3 ⅞	160	800	360	220	105	99	215	340	95	110
531	94 - 102	3 ¾ - 4	180	900	380	240	110	108	234	376	100	141
533	108 - 115	4 ¼ - 4 ½	200	1000	450	260	125	120	252	400	110	186
540	122 - 130	4 ¾ - 5	250	1250	517	293	140	140	275	460	125	317

Tolerance: ± 5%

## PMS / LTM FORGED SOCKET

Material : Forged steel R3/R3S/R4/R4S  
 Finish : Painted  
 Temperature range : -40°C up to +200°C; Polar Rated  
 Standard certification : Certificate of Conformity  
 3.1 material certificate EN 10204

*PMS / LTM forged sockets are prepared to operate in a wire-rope connection in combination with a flange-mounted bending stiffener. The stiffener protects the rope for buckling during transport and installation.*



### Dimensions on customer request

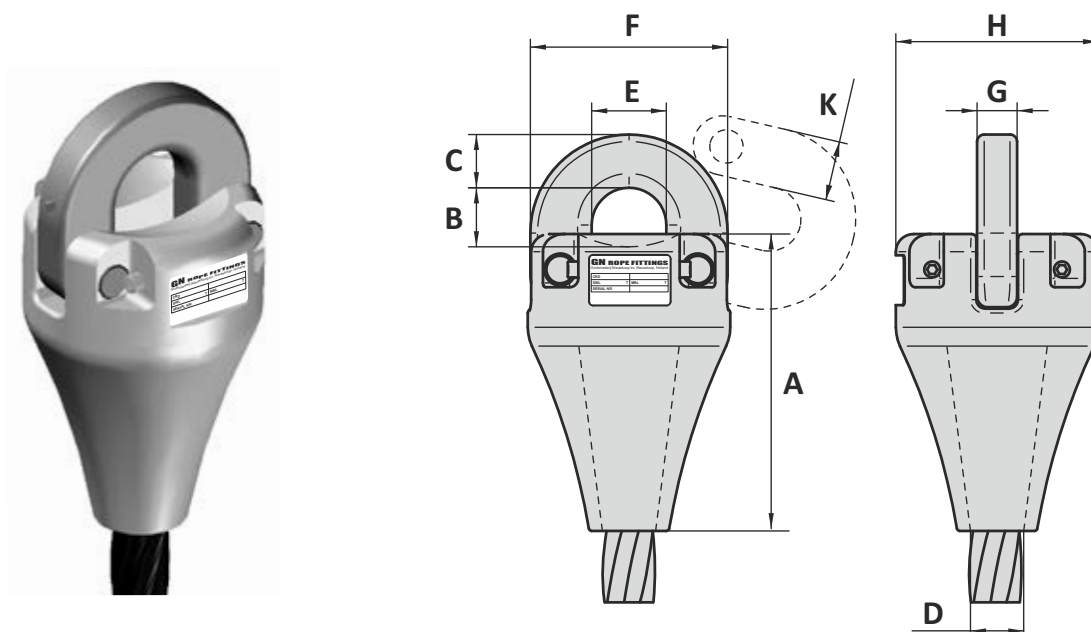
- Available with: Tapped holes (for lifting)
- Orkot isolation
- Padeyes
- Anode
- Bend stiffner
- Domed nuts
- Locking system

Tolerance: Machined parts  $\pm 1$  mm

## CR-D SOCKET

Material	: Forged steel R3/R3S/R4/R4S
Safety factor	: 5 times
Finish	: Painted
Temperature range	: -20°C up to +200°C
Standard certification	: Certificate of Conformity 3.1 material certificate EN 10204

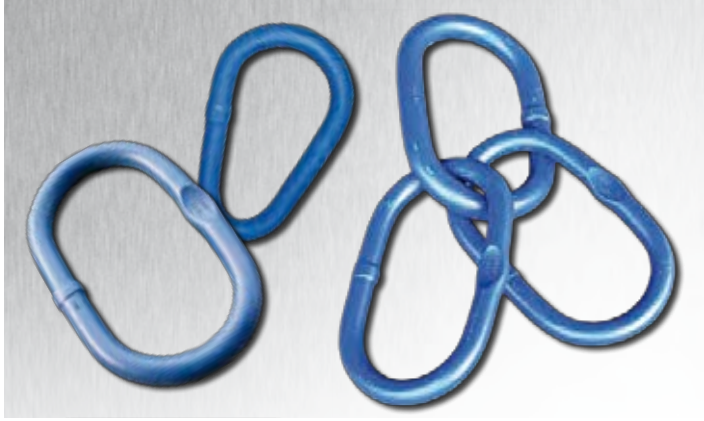
Suitable for use with common studless links and endlinks  
Non-standard sizes or custom products available on request



Type No.	Wire dia inch	Chain inch	WLL ton	MBL ton	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	Weight kg
622	2 - 2 ¼	2	50	250	304	70	60	59	84	222	45	238	69	47
628	3 - 3 ¼	3	120	600	465	120	100	86	112	340	70	378	114	211
630	3 ½ - 3 ¾	3 ½	160	800	520	152	120	99	140	400	80	420	130	304

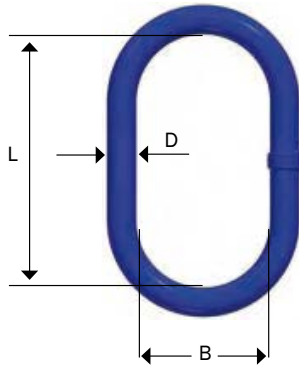
Tolerance: Forged parts ± 5%, machined parts ± 1 mm

## FRAM LINKS



### B-løkker/Masterlinks

I hht. EN 1677-4/According to EN 1677-4



Varenr Item no.	Dim. Code	WLL 4:1 tonn	Mål i mm/dim mm			kg N.W.
			D	B	L	
0301001	11.B.4	2,1	11	40	83	0,2
2	13.B.5*	2,7	13	54	95	0,3
3	13.B.6*	2,7	13	60	115	0,4
4	16.B.6*	4,1	16	70	120	0,6
5	16.B.7	3,2	16	100	190	0,9
6	20.B.6*	6,7	20	82	150	1,1
7	20.B.7	6,5	20	90	170	1,3
8	22.B.6*	8,2	22	90	170	1,6
9	22.B.7	7,2	22	110	210	1,9
25	22.B.8	5,8	22	140	270	2,3
10	25.B.6*	10,7	25	103	190	2,3
11	28.B.6*	12,9	28	113,5	209	3,2
12	28.B.7	11,8	28	140	270	4
13	32.B.6*	17,1	32	140	270	5,3
14	38.B.6	28,1	38	140	270	7,5
15	38.B.7	19,1	38	220	420	11
16	45.B.6	38,3	45	170	320	12,5
17	45.B.7	27,6	45	250	470	17,5
18	50.B.6	45	50	200	380	18
19	60.B.6	65,3	60	220	430	30
20	70.B.6	84,4	70	250	500	44



European standard  
EN 1677-4

\* Tilpasset Omegaløkker \* Fits Omega



## FRAM LINKS

**Løftehoder/Master link assemblies**

Belastningstabell for løftehoder fra 0–45°  
Master link assemblies 0–45°



European standard  
EN 1677-4



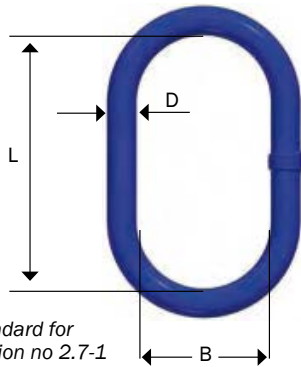
Varenr Item no.	Dim. Code	WLL 4:1 tonn	Toppløkke/Master Link		Balanseløkke/ Intermediate M.L.		kg N.W.
			Betegn.	Mål i mm	Betegn.	Mål i mm	
0301501	Q.16.B	4,1	16.B.6	70 x 120	13.B.5	51 x 95	1,2
2	Q.20.B	6,5	20.B.7	90 x 170	16.B.6	70 x 120	2,5
0301515	Q.22.B.8	5,8	22.B.8	140 x 270	16.B.6	70 x 120	3,5
3	Q.22.B	8,2	22.B.6	90 x 170	20.B.6	80 x 150	3,8
4	Q.25.B	10,7	25.B.6	100 x 190	20.B.6	80 x 150	4,5
5	Q.28.B	12,9	28.B.6	113,5 x 209	22.B.6	90 x 170	6,4
6	Q.32.B	17,1	32.B.6	140 x 270	25.B.6	100 x 190	9,9
7	Q.38.B	28,1	38.B.6	140 x 270	32.B.6	140 x 270	18,2
8	Q.45.B	38,3	45.B.6	170 x 320	38.B.6	140 x 270	27,7
9	Q.50.B	45,0	50.B.6	200 x 380	38.B.6	140 x 270	33,2
10	Q.60.B	65,3	60.B.6	220 x 430	50.B.6	200 x 380	66,0
11	Q.70.B	84,0	70.B.6	250 x 500	60.B.6	220 x 430	103

## FRAM LINKS



### B-løkker/Master Links

I henhold til kravene i DnV 2.7-1/ According to DnV's offshore containers - certification notes No 2.7-1



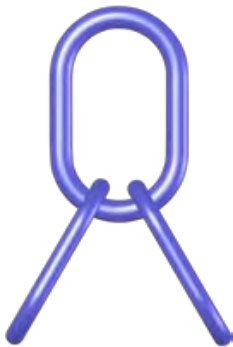
DNV standard for certification no 2.7-1

Varenr Item no.	Dim. Code	WLL 4:1 tonn	Mål i mm/dim. mm			kg N.W.
			D	B	L	
0301056	20.6.OF	(6.7)	20	82	150	1,1
58	22.6.OF	8.2	22	90	170	1,6
60	25.6.OF	10.7	25	103	190	2,3
61	28.6.OF	12.9	28	113,5	209	3,2
62	28.7.OF	11.8	28	140	270	4,0
63	32.6.OF	17.1	32	140	270	5,3
64	38.6.OF	28.1	38	140	270	7,5
66	45.6.OF	38.3	45	170	320	12,5
68	50.6.OF	45.0	50	200	380	18,0
69	60.6.OF	65.3	60	220	430	30,0

Design factor 4:1. Proof tested and certified.

### Løftehoder/Master link assemblies

I henhold til kravene i DnV 2.7-1/ According to DnV's certification notes 2.7-1 for offshore containers

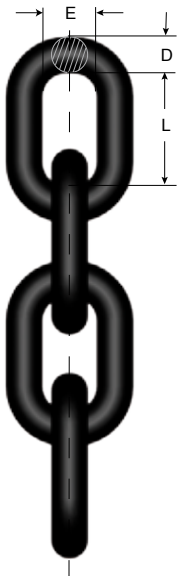


DNV standard for certification no 2.7-1

Varenr Item no.	Dim. Code	WLL 4:1 tonn	Toppløkke/Master Link		Balanseløkke/ Intermediate M.L.		kg N.W
			Betegn.	Mål i mm	Betegn.	Mål i mm	
0301523	MA22 OF	8,2	22.6 OF	90 x 170	20.6 OF	80 x 150	3,8
24	MA25 OF	10,7	25.6 OF	100 x 190	20.6 OF	80 x 150	4,5
25	MA28 OF	12,9	28.6 OF	113,5 x 209	22.6 OF	90 x 170	6,4
26	MA32 OF	17,1	32.6 OF	140 x 270	25.6 OF	100 x 190	9,9
27	MA38 OF	28,1	38.6 OF	140 x 270	32.6 OF	140 x 270	18,2
28	MA45 OF	38,3	45.6 OF	170 x 320	38.6 OF	140 x 270	27,7
29	MA50 OF	45,0	50.6 OF	200 x 380	38.6 OF	140 x 270	33,2
30	MA60 OF	65,3	60.6 OF	220 x 430	50.6 OF	200 x 380	66,0

Design factor 4:1. Proof tested and certified.

## Chain Classic Grade 8 EN 818-2 Short link chain, KL



### Heat treatment

Quenched and tempered.

### Surface treatment

Painted black (B)

### Marking

8EG

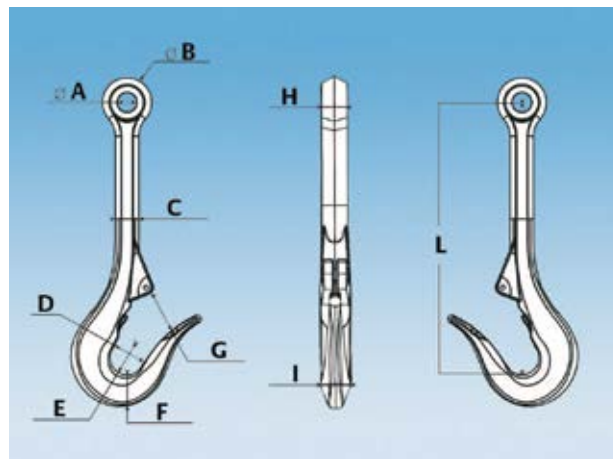
Art.no Box	Code	D nom. mm	L mm	E mm	Weight kgs/m	WLL tonnes	Manufacturing proof force kN	Breaking force kN
Z802174 - 1 x 200 m	KLB 6-8E	6	18	8.5	0.8	1.12	28.3	45.2
Z802175 - 1 x 200 m	KLB 7-8E	7	21	10	1.1	1.5	38.5	61.6
Z802176 - 1 x 200 m	KLB 8-8E	8	24	11	1.4	2	50.3	80.4
Z802156 - 1 x 100 m	KLB 10-8E	10	30	14	2.2	3.15	78.5	126
Z802157 - 1 x 100 m	KLB 13-8E	13	39	18	3.7	5.3	133	212
Z802177 - 1 x 100 m	KLB 16-8E	16	48	22	5.6	8	201	322
Z801203 - 1 x 100 m	KLB 19-8E	19	57	26	7.8	11.2	284	454
Z801228 - 1 x 50 m	KLB 22-8E	22	66	30	10.6	15	380	608
Z801231 - 1 x 25 m	KLB 26-8E	26	78	35	14.8	21.2	531	849
Z801232 - 1 x 25 m	KLB 32-8E	32	96	43	21.6	31.5	804	1290

## TRITON® - THE ULTIMATE R.O.V. HOOK

It is of paramount importance that a remote operated hook for sub-sea use is safe and dependable.

The Triton® R.O.V. Hook series was designed with this specific criteria in mind.

- One-piece construction for safety.
- Proper snag-free design with hexagonal long shank.
- Ergonomic safety latch with through body stainless release wire.
- Safety latch can be locked in closed position.
- Eye designed to correspond with shackles RR-C-271 U.S. Federal specification.
- Ergonomic entry guide tip.
- Made of Stainless Steel 2324.



WLL	8.5T	12T	25T	35T
A	31 mm	37 mm	51 mm	51 mm
B	78 mm	93 mm	140 mm	140 mm
C	36 mm	44 mm	78 mm	78 mm
D	57 mm	70 mm	119 mm	119 mm
E	57 mm	51 mm	119 mm	119 mm
F	50 mm	61 mm	90 mm	90 mm
G	72 mm	64 mm	128 mm	128 mm
H	40 mm	45 mm	70 mm	70 mm
I	72 mm	48 mm	80 mm	80 mm
L	438 mm	527 mm	736 mm	736 mm
Weight	9 kg	13 kg	46 kg	46 kg

Tolerance 5%

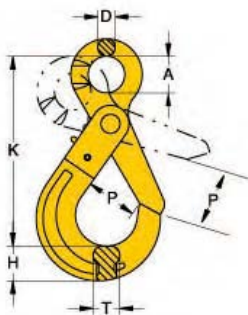


## FRAM HOOKS



## Selvlukkende krok med øye – Type YC

Eye Self Locking Hook – code YC



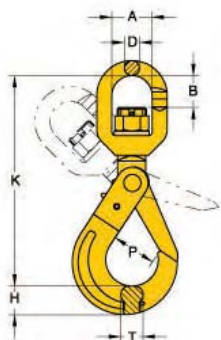
NS-EN 1677-3

Varenr Item no.	WLL 4:1 tonn	For kjett. For chain dim.	Type Code	Mål i mm/dim mm						kg N.W.
				K	P	A	D	T	H	
0312800	1,12	6	YC-6	110	29	21	10	15	19	0,5
1	2,00	7-8	YC-7/8	136	34	25	11	20	24	0,8
2	3,15	10	YC-10	167	44	32	13	26	30	1,4
3	5,30	13	YC-13	207	52	40	16	30	39	3,0
4	8,00	16	YC-16	252	60	52	21	36	49	5,7
5	12,50	18-20	YC-18/20	282	90	64	23	48	62	8,5
6	15,00	22	YC-22	319	80	70	24	49	63	11,2
7	21,20	26	YC-26	343	99	80	25	56	69	14,5
8*	24,8	28	YC-28	401	120	90	28	63	81	24,4

\*Kun på forespørsel/only on request

## Selvlukkende krok med svivel – Type YE

Swivel Self Locking Hook – code YE

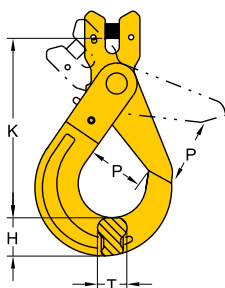


NS-EN 1677-3

Varenr Item no.	WLL 4:1 tonn	For kjett. For chain dim.	Type Code	Mål i mm/dim mm						kg N.W.	
				K	P	B	A	D	T		H
0312809	1,12	6	YE-6	149	29	22	31	12	15	21	0,6
10	2,00	7-8	YE-7/8	186	34	29	36	14	20	25	1,1
11	3,15	10	YE-10	220	44	34	40	16	26	31	2,0
12	5,30	13	YE-13	267	52	43	46	22	30	39	4,0
13	8,00	16	YE-16	328	60	50	60	24	36	49	6,8
14	12,50	18-20	YE-18/20	388	90	82	75	26	48	62	11,6
15	15,00	22	YE-22	457	80	95	97	33	49	63	16,0
16	21,20	26	YE-26	535	99	115	123	42	56	69	21,5

## Selvlukkende krok med gaffel – Type YD

Clevis Self Locking Hook – code YD



NS-EN 1677-3

Varenr Item no.	WLL 4:1 tonn	For kjett. For chain dim.	Type Code	Mål i mm/dim mm				kg N.W.
				K	P	T	H	
0312819	1,12	6	YD-6	100	29	15	19	0,5
20	2,00	7-8	YD-7/8	119	34	20	24	0,8
21	3,15	10	YD-10	143	44	26	30	1,4
22	5,30	13	YD-13	179	52	30	39	2,8
23	8,00	16	YD-16	212	60	36	53	5,7
24	12,50	18-20	YD-18/20	319	90	48	62	9,0

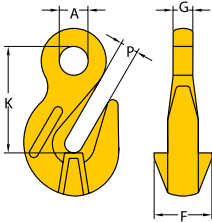
# FRAM HOOKS



## Innkortningskrok med øye – type YH

### Eye grab hook – code YH

Må ikke brukes med Omega  
kopplingsløyke – type YO  
Not for use with Omega link  
– type YO



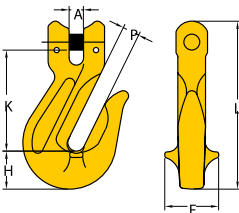
NS-EN 1677-1

Varenr Item no.	WLL 4:1 tonn	For kjett. For chain dim	Type Code	P	Mål i mm/dim mm					kg N.W.
					A	G	K	F		
0312701	2,00	7-8	YH-7/8	10	15	9	60	30	0,3	
2	3,15	10	YH-10	13	20	13	84	41	0,6	
3	5,30	13	YH-13	16	25	15	102	52	1,4	
4	8,00	16	YH-16	20	30	20	114	57	2,3	
5	12,50	18-20	YH-18/20	23	36	24	132	73	4,6	
6	15,00	22	YH-22	26	38	26	165	70	4,8	
7	21,20	26	YH-26	29	41	32	187	100	10,5	
8	31,50	32	YH-32	37	57	40	230	90	20,0	

## Innkortningskrok med gaffel – type YK

### Clevis grab hook – code YK

Må ikke brukes med Omega  
kopplingsløyke – type YO  
Not for use with Omega link  
– type YO



NS-EN 1677-1

Varenr Item no.	WLL 4:1 tonn	For kjett. For chain dim	Type Code	Mål i mm/dim mm						kg N.W.
				A	P	F	K	H	L	
0312711	2,00	7-8	YK-7/8	9	10	30	55	25	93	0,3
2	3,15	10	YK-10	12	13	41	77	35	128	0,8
3	5,30	13	YK-13	15	16	53	97	42	152	1,6
4	8,00	16	YK-16	17	20	58	102	45	180	2,7
5	12,50	18-20	YK-18/20	23	23	98	124	54	217	4,7

## Modifisert SK-krok

### Modified SK-hooks

Varenr. Item nr.	WLL Tonn	Basis krok	Kommentar Comments
T5337816	2,5	SK41	SF=4
T5337815	4,3	SK42	SF=4
T5337814	6,2	SK43	SF=4
T5337813	8,5	SK44	SF=4
T5337812	12,5	SK45	SF=4
T5337811	20,0	SK46	SF=4
TT533381	31,5	SK49	SF=4

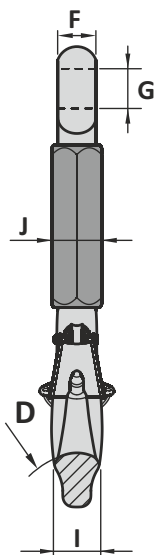


# ROV SHANK HOOK

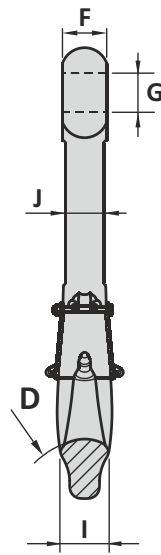
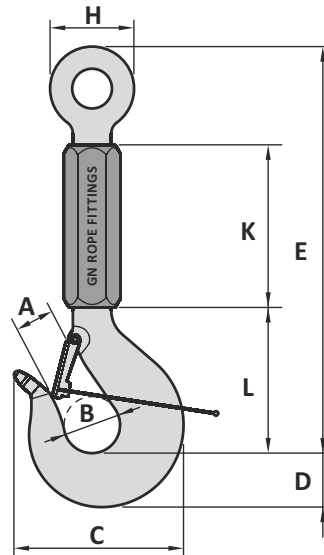
# TYPE HK5

- Material : Alloy steel quenched and tempered
- Safety factor : 4 times
- Finish : Painted
- Temperature range : -40°C up to +200°C; Polar Rated
- Standard certification : Certificate of Conformity  
 3.1 material certificate EN 10204

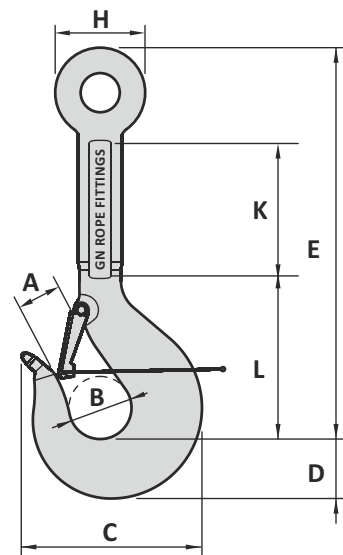
Non-standard sizes or custom products available on request



Type for hook WLL 5.4 ton ≤ WLL 80 ton



Type for hook WLL 100 ton ≤ WLL 400 ton



Art. No.	WLL ton	MBL ton	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	Weight kg
53000005	5.4	21.6	34	50	161	40	515	34	31	68	32	45	250	150	5.3
53000012	12.5	50	41	63	200	58	565	45	40	90	45	60	260	180	12
53000016	16	64	49	70	224	67	610	48	44	102	53	60	280	190	17
53000025	25	100	55	80	248	75	650	56	52	105	60	70	270	230	22
53000032	32	128	59	90	288	85	800	65	60	130	67	80	360	265	35
53000040	40	160	69	100	316	95	820	70	70	150	75	85	330	285	47
53000050	50	200	76	112	343	106	850	80	78	175	85	100	350	285	62
53000063	63	252	84	125	376	118	900	85	86	200	95	110	360	322	88
53000080	80	320	97	140	418	132	950	100	86	210	106	120	290	390	111
53000100	100	400	110	160	462	150	1000	110	100	228	118	98	320	400	155
53000125	125	500	132	180	509	170	1050	124	100	260	132	106	280	450	209
53000160	160	640	137	200	584	190	1100	138	130	300	150	120	280	480	317
53000200	200	800	167	224	648	212	1200	160	130	350	170	136	280	510	367
53000250	250	1000	188	250	740	236	1250	180	145	370	190	150	300	540	617
53000300	300	1200	205	280	825	265	1320	190	160	405	212	160	300	580	730
53000400	400	1600	225	315	920	300	1400	210	185	465	236	180	300	630	1000

Tolerance: Forged parts ± 5%, machined parts ± 1 mm

# ROV-KIT FOR SHACKLES, WITH DOUBLE SAFETY MECHANISM



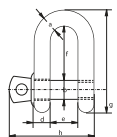
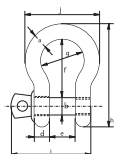
The ROV-kit can be supplied for all GreenPin shackles with screw collar pin, models G-4161 and G-4151 from WLL 6,5Te up to WLL 55Te.

## G-4161

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	weight each
tons	a	b	c	d	e	f	g	h	i	j	kg
6.5	22	25	53	22	36	83	58	157	123	107	1.5
8.5	25	28	60	25	43	95	68	176	141	124	2.21
9.5	28	32	67	28	47	108	75	197	158	137	3.16
12	32	35	74	32	51	115	83	218	176	154	4.31
13.5	35	38	80	35	57	133	92	240	192	170	5.55
17	38	42	89	38	60	146	99	262	208	183	7.43
25	45	50	104	45	74	178	126	314	250	226	12.84
35	50	57	111	50	83	197	138	358	281	250	18.15
42.5	57	65	134	57	95	222	160	414	321	287	26.29
55	65	70	145	65	105	260	180	463	355	329	37.6

## G-4151

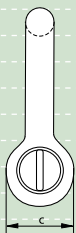
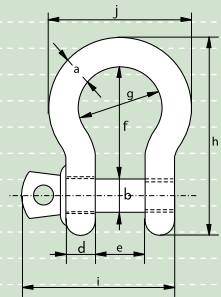
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	weight each
tons	a	b	c	d	e	f	g	h	kg
6.5	22	25	53	22	36	73	144	123	1.34
8.5	25	28	60	25	43	85	161	141	2.08
9.5	28	32	67	28	47	90	179	158	2.77
12	32	35	74	32	51	94	199	176	3.72
13.5	35	38	80	35	57	115	220	192	5.14
17	38	42	89	38	60	127	239	208	6.85
25	45	50	104	45	74	149	283	250	11.45
35	50	57	111	50	83	171	333	281	16.86
42.5	57	65	134	57	95	190	360	321	24.61
55	65	70	145	65	105	203	399	355	32.65







G-4161



## Green Pin® Standard Shackles

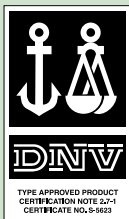
### bow shackles with screw collar pin

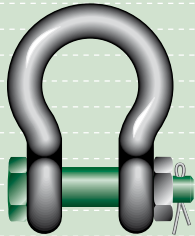
- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and  
meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 2, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	kg
0.33	5	6	12	5	9.5	22	16	36	29.5	26	0.02
0.5	7	8	16.5	7	12	29	20	48.5	38	34	0.05
0.75	9	10	20	9	13.5	32	22	56	46.5	40	0.1
1	10	11	22.5	10	17	36.5	26	63.5	54	46	0.14
1.5	11	13	26.5	11	19	43	29	74	59.5	51	0.19
2	13.5	16	34	13	22	51	32	89	73	58	0.36
3.25	16	19	40	16	27	64	43	110	89	75	0.63
4.75	19	22	46	19	31	76	51	129	103	89	1.01
6.5	22	25	52	22	36	83	58	144	119	102	1.5
8.5	25	28	59	25	43	95	68	164	137	118	2.21
9.5	28	32	66	28	47	108	75	185	153	131	3.16
12	32	35	72	32	51	115	83	201	170	147	4.31
13.5	35	38	80	35	57	133	92	227	186	162	5.55
17	38	42	88	38	60	146	99	249	203	175	7.43
25	45	50	103	45	74	178	126	300	243	216	12.84
35	50	57	111	50	83	197	138	331	272	238	18.15
42.5	57	65	130	57	95	222	160	377	310	274	26.29
55	65	70	145	65	105	260	180	433	344	310	37.6

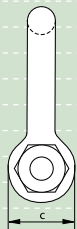
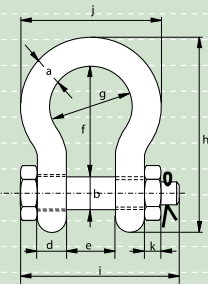
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width	weight each
t	a inch	b inch	c inch	d inch	e inch	f inch	g inch	h inch	i inch	j inch	lbs
0.33	3/16	1/4	1/2	3/16	3/8	7/8	5/8	1 13/32	1 5/32	1 1/32	0.05
0.5	1/4	5/16	21/32	9/32	15/32	1 5/32	25/32	1 29/32	1 1/2	1 11/32	0.11
0.75	5/16	3/8	25/32	11/32	17/32	1 1/4	7/8	2 7/32	1 27/32	1 9/16	0.22
1	3/8	7/16	7/8	13/32	21/32	1 7/16	1 1/32	2 1/2	2 1/8	1 13/16	0.3
1.5	7/16	1/2	1 1/32	7/16	3/4	1 11/16	1 5/32	2 29/32	2 11/32	2	0.42
2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	2 7/8	2 9/32	0.79
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 1/2	2 15/16	1.38
4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/16	3 1/2	2.22
6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	4 11/16	4 1/32	3.31
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 13/32	4 21/32	4.86
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 1/32	5 5/32	6.97
12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	6 11/16	5 25/32	9.49
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 5/16	6 3/8	12.24
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	8	6 7/8	16.37
25	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 9/16	8 1/2	28.31
35	2	2 1/4	4 3/8	1 31/32	3 9/32	7 3/4	5 7/16	13 1/32	10 23/32	9 3/8	40.01
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	8 3/4	6 5/16	14 27/32	12 7/32	10 25/32	57.96
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	10 1/4	7 3/32	17 1/16	13 17/32	12 7/32	82.89





G-4163



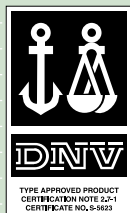
## Green Pin® Standard Shackles bow shackles with safety bolt

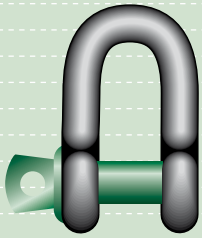
- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 3, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.

working load limit	t	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	t	a	b	c	d	e	f	g	h	i	j	k	kg
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
0.5	0.5	7	8	16.5	7	12	29	20	48.5	42	34	4	0.06
0.75	0.75	9	10	20	9	13.5	32	22	56	50	40	5	0.11
1	1	10	11	22.5	10	17	36.5	26	63.5	60	46	8	0.16
1.5	1.5	11	13	26.5	11	19	43	29	74	67	51	11	0.22
2	2	13.5	16	34	13	22	51	32	89	82	58	13	0.42
3.25	3.25	16	19	40	16	27	64	43	110	98	75	17	0.74
4.75	4.75	19	22	46	19	31	76	51	129	114	89	19	1.18
6.5	6.5	22	25	52	22	36	83	58	144	130	102	22	1.77
8.5	8.5	25	28	59	25	43	95	68	164	150	118	25	2.58
9.5	9.5	28	32	66	28	47	108	75	185	166	131	27	3.66
12	12	32	35	72	32	51	115	83	201	178	147	30	4.91
13.5	13.5	35	38	80	35	57	133	92	227	197	162	33	6.54
17	17	38	42	88	38	60	146	99	249	202	175	19	8.19
25	25	45	50	103	45	74	178	126	300	249	216	23	14.22
35	35	50	57	111	50	83	197	138	331	269	238	26	19.85
42.5	42.5	57	65	130	57	95	222	160	377	301	274	29	28.33
55	55	65	70	145	65	105	260	180	433	330	310	32	39.59
85	85	75	83	162	73	127	329	190	527	380	340	39	62

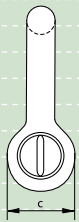
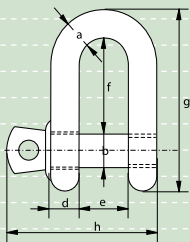
In inch

working load limit	t	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	t	a	b	c	d	e	f	g	h	i	j	k	lbs
		inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	
0.5	0.5	1/4	5/16	21/32	9/32	15/32	1 5/32	25/32	1 29/32	1 21/32	1 11/32	5/32	0.13
0.75	0.75	5/16	3/8	25/32	11/32	17/32	1 1/4	7/8	2 7/32	1 31/32	1 9/16	3/16	0.25
1	1	3/8	7/16	7/8	13/32	21/32	1 7/16	1 1/32	2 1/2	2 3/8	1 13/16	5/16	0.34
1.5	1.5	7/16	1/2	1 1/32	7/16	3/4	1 11/16	1 5/32	2 29/32	2 5/8	2	7/16	0.48
2	2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	3 7/32	2 9/32	1/2	0.92
3.25	3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 27/32	2 15/16	21/32	1.62
4.75	4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/2	3 1/2	3/4	2.59
6.5	6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	5 1/8	4 1/32	7/8	3.9
8.5	8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 29/32	4 21/32	31/32	5.69
9.5	9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 17/32	5 5/32	1 1/16	8.06
12	12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	7	5 25/32	1 3/16	10.81
13.5	13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 3/4	6 3/8	1 5/16	14.42
17	17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	7 15/16	6 7/8	3/4	18.06
25	25	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 13/16	8 1/2	29/32	31.34
35	35	2	2 1/4	4 3/8	1 31/32	3 9/32	7 3/4	5 7/16	13 1/32	10 19/32	9 3/8	1 1/32	43.77
42.5	42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	8 3/4	6 5/16	14 27/32	11 27/32	10 23/32	1 5/32	62.46
55	55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	10 1/4	7 3/32	17 1/16	13	12 7/32	1 1/4	87.27
85	85	3	3 1/4	6 3/8	2 7/8	5	12 15/16	7 15/32	20 3/4	14 31/32	13 3/8	1 17/32	136.69





G-4151



## Green Pin® Standard Shackles

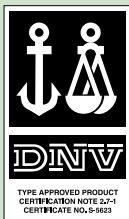
### dee shackles with screw collar pin

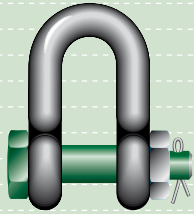
- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and  
meets performance requirements of US Fed. Spec. RR-C-271 Type IVB Class 2, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	weight each
t	a	b	c	d	e	f	g	h	kg
0.33	5	6	12	5	9.5	19	33	29.5	0.02
0.5	7	8	16.5	7	12	22	41.5	38	0.05
0.75	9	10	20	9	13.5	26	50	46.5	0.09
1	10	11	22.5	10	17	32	59	54	0.14
1.5	11	13	26.5	11	19	37	68	59.5	0.19
2	13.5	16	34	13	22	43	81	73	0.32
3.25	16	19	40	16	27	51	97	89	0.54
4.75	19	22	46	19	31	59	112	103	0.87
6.5	22	25	52	22	36	73	134	119	1.34
8.5	25	28	59	25	43	85	154	137	2.08
9.5	28	32	66	28	47	90	167	153	2.77
12	32	35	72	32	51	94	180	170	3.72
13.5	35	38	80	35	57	115	209	186	5.14
17	38	42	88	38	60	127	230	203	6.85
25	45	50	103	45	74	149	271	243	11.45
35	50	57	111	50	83	171	305	272	16.86
42.5	57	65	130	57	95	190	345	310	24.61
55	65	70	145	65	105	203	376	344	32.65

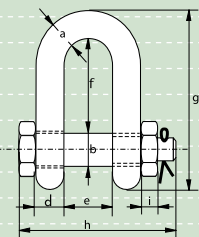
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	weight each
t	a	b	c	d	e	f	g	h	lbs
0.33	3/16	1/4	15/32	3/16	3/8	3/4	1 5/16	1 5/32	0.04
0.5	1/4	5/16	21/32	9/32	15/32	7/8	1 5/8	1 1/2	0.11
0.75	5/16	3/8	25/32	11/32	17/32	1 1/32	1 31/32	1 27/32	0.2
1	3/8	7/16	7/8	13/32	21/32	1 1/4	2 5/16	2 1/8	0.3
1.5	7/16	1/2	1 1/32	7/16	3/4	1 15/32	2 11/16	2 11/32	0.42
2	1/2	5/8	1 11/32	1/2	7/8	1 11/16	3 3/16	2 7/8	0.7
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2	3 13/16	3 1/2	1.19
4.75	3/4	7/8	1 13/16	3/4	1 7/32	2 5/16	4 12/32	4 1/16	1.92
6.5	7/8	1	2 1/16	7/8	1 13/32	2 7/8	5 9/32	4 11/16	2.95
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 11/32	6 1/16	5 13/32	4.59
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	3 17/32	6 9/16	6 1/32	6.1
12	1 1/4	1 3/8	2 27/32	1 1/4	2	3 11/16	7 3/32	6 11/16	8.2
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	4 17/32	8 7/32	7 5/16	11.33
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5	9 1/16	8	15.1
25	1 3/4	2	4 1/16	1 25/32	2 29/32	5 7/8	10 21/32	9 9/16	25.23
35	2	2 1/4	4 3/8	1 31/32	3 9/32	6 23/32	12	10 23/32	37.17
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	7 15/32	13 19/32	12 7/32	54.26
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	8	14 13/16	13 17/32	71.98





G-4153



## Green Pin® Standard Shackles

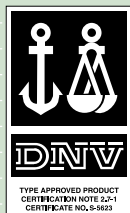
### dee shackles with safety bolt

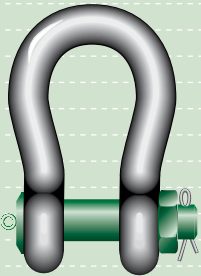
- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVB Class 3, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	kg
	mm	mm	mm	mm	mm	mm	mm	mm	mm	
2	13.5	16	34	13	22	43	81	82	13	0.39
3.25	16	19	40	16	27	51	97	98	17	0.67
4.75	19	22	46	19	31	59	112	114	19	1.08
6.5	22	25	52	22	36	73	134	130	22	1.66
8.5	25	28	59	25	43	85	154	150	25	2.46
9.5	28	32	66	28	47	90	167	166	27	3.4
12	32	35	72	32	51	94	180	178	30	4.51
13.5	35	38	80	35	57	115	209	197	33	6.1
17	38	42	88	38	60	127	230	202	19	7.63
25	45	50	103	45	74	149	271	249	23	13.25
35	50	57	111	50	83	171	305	269	26	18.53
42.5	57	65	130	57	95	190	345	301	29	25.94
55	65	70	145	65	105	203	376	330	32	35.33
85	75	83	162	73	127	229	427	380	39	52.97

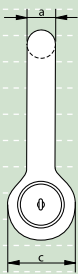
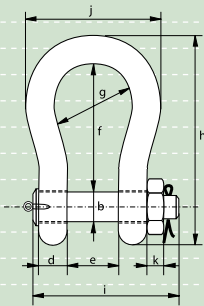
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	lbs
	inch	inch	inch	inch	inch	inch	inch	inch	inch	
2	1/2	5/8	1 11/32	1/2	7/8	1 11/16	3 3/16	3 7/32	1/2	0.85
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2	3 13/16	3 27/32	21/32	1.48
4.75	3/4	7/8	1 13/16	3/4	1 7/32	2 5/16	4 13/32	4 1/2	3/4	2.39
6.5	7/8	1	2 1/16	7/8	1 13/32	2 7/8	5 9/32	5 1/8	7/8	3.66
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 11/32	6 1/16	5 29/32	31/32	5.42
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	3 17/32	6 9/16	6 17/32	1 1/16	7.5
12	1 1/4	1 3/8	2 27/32	1 1/4	2	3 11/16	7 3/32	7	1 3/16	9.95
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	4 17/32	8 7/32	7 3/4	1 5/16	13.45
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5	9 1/16	7 15/16	3/4	16.82
25	1 3/4	2	4 1/16	1 25/32	2 29/32	5 7/8	10 21/32	9 13/16	29/32	29.21
35	2	2 1/4	4 3/8	1 31/32	3 9/32	6 23/32	12	10 19/32	1 1/32	40.86
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	7 15/32	13 19/32	11 27/32	1 5/32	57.19
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	8	14 13/16	13	1 1/4	77.89
85	3	3 1/4	6 3/8	2 7/8	5	9 1/32	16 13/16	14 31/32	1 17/32	116.77





P-6036



## Green Pin® Heavy Duty Shackles

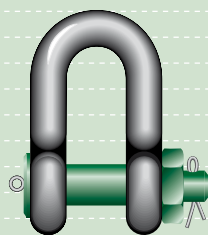
### bow shackles with safety bolt

- **Material** : bow and pin alloy steel, Grade 8 quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Finish** : shackle bow painted silver, pin painted green (120 tons shackle is hot dipped galvanized)
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 150 tons are supplied with a Lloyd's Register of Shipping Certificate on proof load

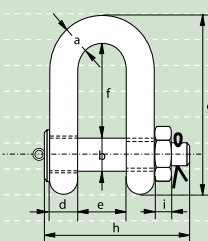
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	kg
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
120	95	95	208	91	147	400	238	647	440	428	50	110
150	105	108	238	102	169	410	275	688	490	485	60	160
200	120	130	279	113	179	513	290	838	520	530	60	235
250	130	140	299	118	205	554	305	904	560	565	65	285
300	140	150	325	123	205	618	305	996	575	585	70	340
400	170	175	376	164	231	668	325	1114	690	665	70	560
500	180	185	398	164	256	718	350	1190	720	710	70	685
600	200	205	444	189	282	718	375	1243	810	775	70	880
700	210	215	454	204	308	718	400	1263	870	820	70	980
800	210	220	464	204	308	718	400	1270	870	820	70	1100
900	220	230	485	215	328	718	420	1296	920	860	70	1280
1000	240	240	515	215	349	718	420	1336	940	900	70	1460
1250	260	270	585	230	369	768	450	1456	1025	970	70	1990
1500	280	290	625	230	369	818	450	1556	1025	1010	70	2400

In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	lbs
inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	
120	3 3/4	3 3/4	8 3/16	3 19/32	5 25/32	15 3/4	9 3/8	25 15/32	17 5/16	16 27/32	1 31/32	243
150	4 1/8	4 1/4	9 3/8	4 1/32	6 21/32	16 5/32	10 13/16	27 3/32	19 9/32	19 3/32	2 3/8	353
200	4 23/32	5 1/8	10 31/32	4 7/16	7 1/16	20 3/16	11 13/32	33	20 15/32	20 7/8	2 3/8	518
250	5 1/8	5 1/2	11 25/32	4 21/32	8 1/16	21 13/16	12	35 19/32	22 1/16	22 1/4	2 9/16	628
300	5 1/2	5 29/32	12 25/32	4 27/32	8 1/16	24 11/32	12	39 7/32	22 5/8	23 1/32	2 3/4	750
400	6 11/16	6 7/8	14 13/16	6 15/32	9 3/32	26 5/16	12 25/32	43 27/32	27 5/32	26 3/16	2 3/4	1235
500	7 3/32	7 9/32	15 21/32	6 15/32	10 3/32	28 9/32	13 25/32	46 27/32	28 11/32	27 15/16	2 3/4	1510
600	7 7/8	8 1/16	17 15/32	7 7/16	11 3/32	28 9/32	14 3/4	48 15/16	31 7/8	30 1/2	2 3/4	1940
700	8 9/32	8 15/32	17 7/8	8 1/32	12 1/8	28 9/32	15 3/4	49 23/32	34 1/4	32 9/32	2 3/4	2161
800	8 9/32	8 21/32	18 9/32	8 1/32	12 1/8	28 9/32	15 3/4	50	34 1/4	32 9/32	2 3/4	2425
900	8 21/32	9 1/16	19 3/32	8 15/32	12 29/32	28 9/32	16 17/32	51 1/32	36 7/32	33 27/32	2 3/4	2822
1000	9 7/16	9 7/16	20 9/32	8 15/32	13 3/4	28 9/32	16 17/32	52 19/32	37	35 7/16	2 3/4	3219
1250	10 1/4	10 5/8	23 1/32	9 1/16	14 17/32	30 1/4	17 23/32	57 5/16	40 11/32	38 3/16	2 3/4	4387
1500	11 1/32	11 13/32	24 19/32	9 1/16	14 17/32	32 7/32	17 23/32	61 1/4	40 11/32	39 3/4	2 3/4	5291



G-6038



## Green Pin® Heavy Duty Shackles

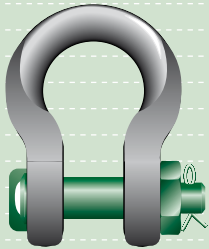
### dee shackles with safety bolt

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate and/or EC Declaration of Conformity

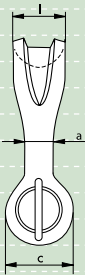
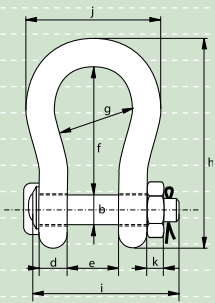
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	kg
120	95	95	208	95	147	274	521	440	50	110

In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
t	a inch	b inch	c inch	d inch	e inch	f inch	g inch	h inch	i inch	lbs
120	3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>25</sup> / <sub>32</sub>	10 <sup>25</sup> / <sub>32</sub>	20 <sup>1</sup> / <sub>2</sub>	17 <sup>5</sup> / <sub>16</sub>	1 <sup>31</sup> / <sub>32</sub>	243



P-6033



## Green Pin® Sling Shackles

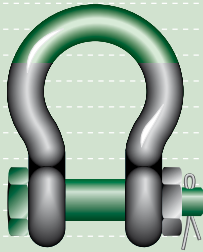
### bow shackles with safety bolt

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Finish** : shackle bow painted silver, pin painted green
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate, EC declaration of Conformity and all shackles from 75 t are supplied with a Lloyd's Register of Shipping Certificate on proof load. An MPI and/or US inspection certificate can be supplied on request

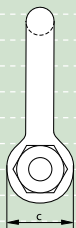
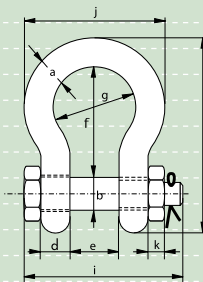
working load limit	diameter body	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width	thickness nut	bearing surface	weight each
t	a	b	c	d	e	f	g	h	i	j	k	l	kg
18	35	35	69	30	52	147	102	239	165	180	29	64	7
30	40	42	90	35	69	165	126	279	207	200	34	79	13
40	55	51	109	45	84	199	140	331	252	235	38	97	21
55	60	57	115	55	90	240	160	389	294	270	45	100	30
75	68	70	125	54	110	290	185	473	327	317	54	120	48
125	85	80	154	85	137	366	220	583	426	390	64	150	92
150	94	95	179	89	147	391	253	645	435	434	50	170	140
200	110	105	199	100	158	481	280	759	470	482	50	205	205
250	126	120	227	110	179	542	300	859	519	530	60	240	264
300	135	134	245	122	195	601	350	947	575	620	70	265	360
400	160	160	293	145	231	576	370	985	675	690	80	320	580
500	170	180	328	160	263	681	450	1131	748	790	90	339	780
600	190	200	348	170	289	741	490	1234	809	865	100	370	980
700	200	215	392	190	315	751	540	1284	879	901	100	400	1360
800	218	230	420	200	342	851	554	1426	942	947	110	420	1430
900	242	255	466	220	368	851	580	1488	1023	1023	120	440	1650
1000	260	270	490	240	399	851	614	1532	1103	1107	120	460	2120
1250	285	300	510	260	452	931	650	1666	1227	1182	150	530	3700
1500	285	320	550	280	483	950	680	1710	1300	1253	150	560	4000

In inch

working load limit	diameter body	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width	thickness nut	bearing surface	weight each
t	a	b	c	d	e	f	g	h	i	j	k	l	lbs
18	1 3/8	1 3/8	2 23/32	1 3/16	2 1/16	5 25/32	4 1/32	9 13/32	6 1/2	7 3/32	1 5/32	2 17/32	18
30	1 9/16	1 21/32	3 17/32	1 3/8	2 23/32	6 1/2	4 31/32	10 31/32	8 5/32	7 7/8	1 11/32	3 1/8	29
40	2 5/32	2	4 9/32	1 25/32	3 5/16	7 27/32	5 1/2	13 1/32	9 29/32	9 1/4	1 1/2	3 13/16	46
55	2 3/8	2 1/4	4 17/32	2 5/32	3 17/32	9 7/16	6 5/16	15 5/16	11 9/16	10 5/8	1 25/32	3 15/16	66
75	2 11/16	2 3/4	4 29/32	2 1/8	4 11/32	11 13/32	7 9/32	18 5/8	12 7/8	12 15/32	2 1/8	4 23/32	106
125	3 11/32	3 5/32	6 1/16	3 11/32	5 13/32	14 13/32	8 21/32	22 15/16	16 25/32	15 11/32	2 17/32	5 29/32	203
150	3 11/16	3 3/4	7 1/16	3 1/2	5 25/32	15 13/32	9 31/32	25 13/32	17 1/8	17 3/32	1 31/32	6 11/16	309
200	4 11/32	4 1/8	7 27/32	3 15/16	6 7/32	18 15/16	11 1/32	29 7/8	18 1/2	18 31/32	1 31/32	8 1/16	452
250	4 31/32	4 23/32	8 15/16	4 11/32	7 1/16	21 11/32	11 13/16	33 13/16	20 7/16	20 7/8	2 3/8	9 7/16	582
300	5 5/16	5 9/32	9 21/32	4 13/16	7 11/16	23 21/32	13 25/32	37 9/32	22 5/16	24 13/32	2 3/4	10 7/16	794
400	6 5/16	6 3/16	11 17/32	5 23/32	9 3/32	22 11/16	14 9/16	38 25/32	26 9/16	27 5/32	3 5/32	12 19/32	1279
500	6 11/16	7 3/32	12 29/32	6 5/16	10 11/32	26 13/16	17 23/32	44 17/32	29 7/16	31 3/32	3 17/32	13 11/32	1720
600	7 15/32	7 7/8	13 11/16	6 11/16	11 3/8	29 3/16	19 9/32	48 19/32	31 27/32	34 1/16	3 15/16	14 9/16	2161
700	7 7/8	8 15/32	15 7/16	7 15/32	12 13/32	29 9/16	21 1/4	50 9/16	34 19/32	35 15/32	3 15/16	15 3/4	2998
800	8 19/32	9 1/16	16 17/32	7 7/8	13 15/32	33 1/2	21 13/16	56 5/32	37 3/32	37 9/32	4 11/32	16 17/32	3153
900	9 17/32	10 1/32	18 11/32	8 21/32	14 1/2	33 1/2	22 27/32	58 19/32	40 9/32	40 9/32	4 23/32	17 5/16	3638
1000	10 1/4	10 5/8	19 9/32	9 7/16	15 23/32	33 1/2	24 3/16	60 5/16	43 7/16	43 19/32	4 23/32	18 1/8	4674
1250	11 7/32	11 13/16	20 3/32	10 1/4	17 25/32	36 21/32	25 19/32	65 19/32	48 5/16	46 17/32	5 29/32	20 7/8	8157
1500	11 7/32	12 19/32	21 21/32	11 1/32	19 1/32	37 13/32	26 29/32	67 5/16	51 3/16	49 11/32	5 29/32	22 1/16	8818



G-5263



## Green Pin® Super Shackles bow shackles with safety bolt

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Standard** : meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 3, Grade B
- **Finish** : hot dipped galvanized (175 ton shackle is painted)
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 150 tons are supplied with a Lloyd's Register of Shipping Certificate on proof load

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	kg
3.3	13.5	16	34	13	22	51	32	89	82	58	13	0.44
5	16	19	40	16	27	64	43	110	98	75	17	0.79
7	19	22	46	19	31	76	51	129	114	89	19	1.26
9.5	22	25	52	22	36	83	58	144	130	102	22	1.88
12.5	25	28	59	25	43	95	68	164	150	118	25	2.78
15	28	32	66	28	47	108	75	185	166	131	27	3.87
18	32	35	72	32	51	115	83	201	178	147	30	5.26
21	35	38	80	35	57	133	92	227	197	162	33	6.94
30	38	42	88	38	60	146	99	249	202	175	19	8.79
40	45	50	103	45	74	178	126	300	249	216	23	15
55	57	57	117	57	83	197	138	341	286	252	26	22
85	70	70	143	70	105	260	180	437	344	320	32	42
120	83	83	162	83	127	329	190	535	403	356	40	70
150*	95	95	208	91	147	400	238	647	511	428	50	112
175*	105	108	238	102	169	410	275	688	561	485	60	160

\* = round headed bolt

5 - LIFTING & RIGGING GEAR / SHACKLES

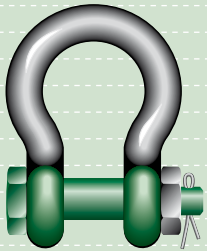
5 - 48

In inch

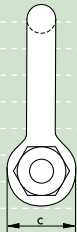
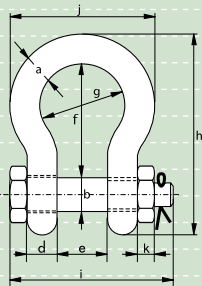
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	lbs
3.3	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	3 7/32	2 9/32	1/2	0.97
5	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 27/32	2 15/16	21/32	1.74
7	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/2	3 1/2	3/4	2.78
9.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	5 1/8	4 1/32	7/8	4.14
12.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 29/32	4 21/32	31/32	6.13
15	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 17/32	5 5/32	1 1/16	8.53
18	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	7	5 25/32	1 3/16	11.6
21	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 3/4	6 3/8	1 5/16	15.3
30	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	7 15/16	6 7/8	3/4	19.38
40	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 13/16	8 1/2	29/32	33.07
55	2	2 1/4	4 19/32	2 1/4	3 9/32	7 3/4	5 7/16	13 7/16	11 1/4	9 29/32	1 1/32	48.50
85	2 1/2	2 3/4	5 5/8	2 3/4	4 1/8	10 1/4	7 3/32	17 7/32	13 17/32	12 19/32	1 1/4	92.59
120	3	3 1/4	6 3/8	3 9/32	5	12 15/16	7 15/32	21 1/16	15 7/8	14 1/32	1 3/16	154.32
150*	3 3/4	3 3/4	8 3/16	3 19/32	5 25/32	15 3/4	9 3/8	25 15/32	20 1/8	16 27/32	1 31/32	246.92
175*	4	4 1/4	9 3/8	4 1/32	6 21/32	16 5/32	10 13/16	27 3/32	22 3/32	19 3/32	2 3/8	352.74

\* = round headed bolt





G-5163



## Green Pin® Polar Shackles

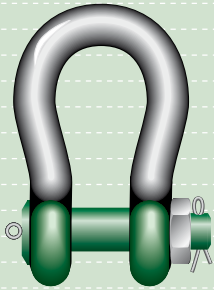
bow shackles with safety bolt, for use under extreme climatic conditions

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 8 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 3, Grade B
- **Finish** : hot dipped galvanized
- **Temperature Range** : -40 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied and/or a works certificate, material certificate, manufacturer test certificate, EC Declaration of Conformity and/or DNV 2.7-1 certificate.
- **Note** : for shackles with WLL 55 and 85 tons the MBL equals 6 x WLL

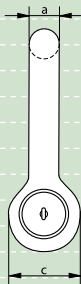
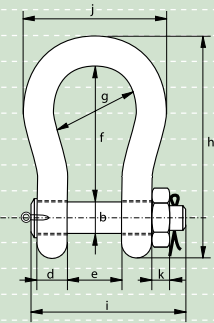
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	kg
2	13.5	16	34	13	22	51	32	89	82	58	13	0.42
3.25	16	19	40	16	27	64	43	110	98	75	17	0.74
4.75	19	22	46	19	31	76	51	129	114	89	19	1.18
6.5	22	25	52	22	36	83	58	144	130	102	22	1.77
8.5	25	28	59	25	43	95	68	164	150	118	25	2.58
9.5	28	32	66	28	47	108	75	185	166	131	27	3.66
12	32	35	72	32	51	115	83	201	178	147	30	4.91
13.5	35	38	80	35	57	133	92	227	197	162	33	6.54
17	38	42	88	38	60	146	99	249	202	175	19	8.19
25	45	50	103	45	74	178	126	300	249	216	23	14.22
35	50	57	116	50	83	197	138	334	269	238	26	19.85
42.5	57	65	130	57	95	222	160	377	301	274	29	28.33
55	65	70	145	65	105	260	180	433	330	310	32	39.59
85	75	83	162	73	127	329	190	527	380	340	40	62

In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	lbs
2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	3 7/32	2 9/32	1/2	0.92
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 27/32	2 15/16	21/32	1.62
4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/2	3 1/2	3/4	2.59
6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	5 1/8	4 1/32	7/8	3.9
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 29/32	4 21/32	31/32	5.69
9.5	1 1/8	1 1/4	2 9/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 17/32	5 5/32	1 1/16	8.06
12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	7	5 25/32	1 3/16	10.81
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 3/4	6 3/8	1 5/16	14.42
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	7 15/16	6 7/8	3/4	18.06
25	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 13/16	8 1/2	29/32	31.34
35	2	2 1/4	4 9/16	1 31/32	3 9/32	7 3/4	5 7/16	13 5/32	10 19/32	9 3/8	1 1/32	43.77
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	8 3/4	6 5/16	14 27/32	11 27/32	10 25/32	1 5/32	62.46
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	10 1/4	7 3/32	17 1/16	13	12 7/32	1 1/4	87.27
85	3	3 1/4	6 3/8	2 7/8	5	12 15/16	7 15/32	20 3/4	14 31/32	13 3/8	1 9/16	136.69



P-6031



## Green Pin® Heavy Duty Polar Shackles

bow shackles with safety bolt, for use under extreme climatic conditions

- Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- Safety Factor** : MBL equals 5 x WLL
- Finish** : shackle bow painted silver, pin painted green (120 tons shackle is hot dipped galvanized)
- Temperature Range** : -40 °C up to +200 °C
- Certification** : at no extra charges this product can be supplied with a works certificate, material certificate, manufacturer test certificate and/or EC Declaration of Conformity. All shackles starting from 150 tons are supplied with a Lloyd's Register of Shipping Certificate on proof load

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	kg
120	95	95	208	91	147	399	238	646	440	428	50	110
150	105	108	238	102	169	410	275	688	490	485	60	160
200	120	130	279	112	179	512	290	837	520	530	60	235
250	130	140	299	118	205	554	305	904	560	565	65	285
300	140	150	325	123	205	618	305	996	575	585	70	340
400	170	175	376	164	231	668	325	1114	690	665	70	560
500	180	185	398	164	256	718	350	1190	720	710	70	685
600	200	205	444	189	282	718	375	1243	810	775	70	880
700	210	215	454	204	308	718	400	1263	870	820	70	980
800	210	220	464	204	308	718	400	1270	870	820	70	1100
900	220	230	485	215	328	718	420	1296	920	860	70	1280
1000	240	240	515	215	349	718	420	1336	940	900	70	1460
1250	260	270	585	230	369	768	450	1456	1025	970	70	1990
1500	280	290	625	230	369	818	450	1556	1025	1010	70	2400

In inch

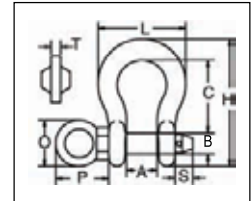
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length bow	length bolt	width bolt	thickness nut	weight each
t	a	b	c	d	e	f	g	h	i	j	k	lbs
120	3 3/4	3 3/4	8 3/16	3 19/32	5 25/32	15 3/4	9 3/8	25 15/32	17 5/16	16 27/32	1 31/32	243
150	4 1/8	4 1/4	9 3/8	4 1/32	6 21/32	16 5/32	10 13/16	27 3/32	19 9/32	19 3/32	2 3/8	353
200	4 23/32	5 1/8	10 31/32	4 7/16	7 1/16	20 3/16	11 13/32	33	20 15/32	20 7/8	2 3/8	518
250	5 1/8	5 1/2	11 25/32	4 21/32	8 1/16	21 13/16	12	35 19/32	22 1/16	22 1/4	2 9/16	628
300	5 1/2	5 29/32	12 25/32	4 27/32	8 1/16	24 11/32	12	39 7/32	22 5/8	23 1/32	2 3/4	750
400	6 11/16	6 7/8	14 13/16	6 15/32	9 3/32	26 5/16	12 25/32	43 27/32	27 5/32	26 3/16	2 3/4	1235
500	7 3/32	7 9/32	15 21/32	6 15/32	10 3/32	28 9/32	13 25/32	46 27/32	28 11/32	27 15/16	2 3/4	1510
600	7 7/8	8 1/16	17 15/32	7 7/16	11 3/32	28 9/32	14 3/4	48 15/16	31 7/8	30 1/2	2 3/4	1940
700	8 9/32	8 15/32	17 7/8	8 1/32	12 1/8	28 9/32	15 3/4	49 23/32	34 1/4	32 9/32	2 3/4	2161
800	8 9/32	8 21/32	18 9/32	8 1/32	12 1/8	28 9/32	15 3/4	50	34 1/4	32 9/32	2 3/4	2425
900	8 21/32	9 1/16	19 9/32	8 15/32	12 29/32	28 9/32	16 17/32	51 1/32	36 7/32	33 27/32	2 3/4	2822
1000	9 7/16	9 7/16	20 9/32	8 15/32	13 3/4	28 9/32	16 17/32	52 19/32	37	35 7/16	2 3/4	3219
1250	10 1/4	10 5/8	23 1/32	9 1/16	14 17/32	30 1/4	17 23/32	57 5/16	40 11/32	38 3/16	2 3/4	4387
1500	11 1/32	11 13/32	24 19/32	9 1/16	14 17/32	32 7/32	17 23/32	61 1/4	40 11/32	39 3/4	2 3/4	5291

# CROSBY® SPECIALTY SHACKLES

## G-209R ROV SHACKLES



- Capacities from 6-1/2t through 55t.
- Forged Steel, Quenched & Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Fatigue rated.
- **QUIC-CHECK®** deformation and angle indicators forged on the bow.
- All ROV shackle bows, unless otherwise noted, are galvanized, then painted fluorescent yellow.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



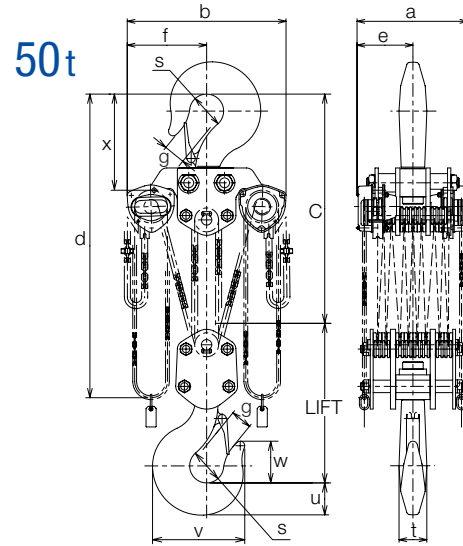
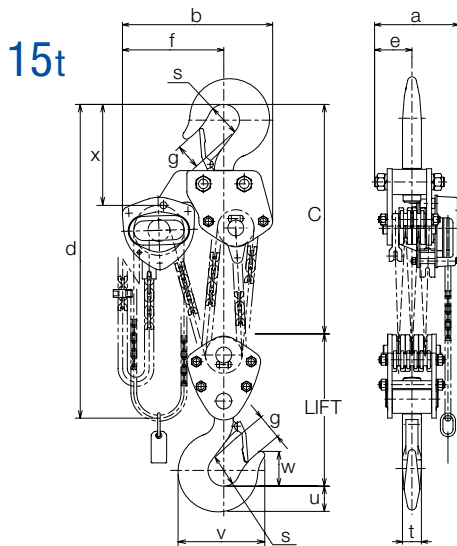
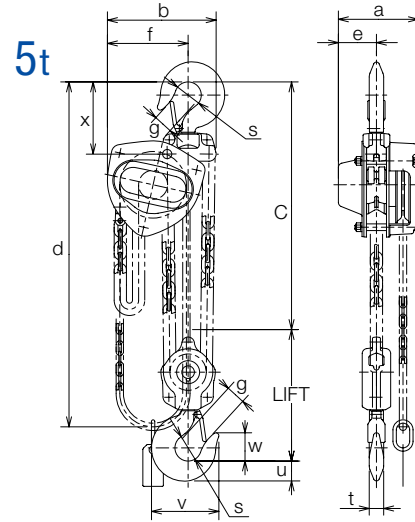
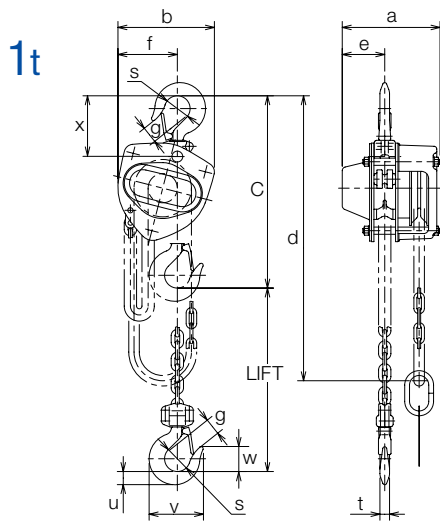
### G-209R ROV Shackles

Working Load Limit (t)*	G-209R Stock No.	Weight Each (kg)	Dimensions (mm)									
			A +/- 6.35	B	C	H	L	O	P	S	T	
6-1/2	1020872	1.69	36.6	25.4	84.0	148	102	50	58	17	10	
8-1/2	1020902	2.59	42.9	28.7	95.5	167	119	50	61	18	10	
9-1/2	1020932	3.77	46.0	31.8	108	190	131	70	83	18	12	
12	1020952	5.02	51.5	35.1	119	210	146	70	84	23	12	
13-1/2	1020972	6.65	57.0	38.1	133	233	162	75	91	23	15	
17	1020992	8.58	60.5	41.4	146	254	175	75	93	24	15	
† 25	1021102	14.1	73.0	51.0	178	313	225	90	114	29	17.5	
† 35	1021125	21.4	82.5	57.0	197	348	253	106	132	30	20	
† 55	1021158	42.8	105	70.0	267	453	327	120	145	45	25	

\* Minimum Ultimate Load is 5 times the Working Load Limit.

† Furnished with Galvanized Finish.

# KITO MIGHTY® MODEL M3



- Any lift of chain is available upon request.
- As Kito chains are heat treated, splicing of the load chain is prohibited. In case longer lifting height is required, specify required lifting height when ordering.



## ■ SPECIFICATIONS

Rated Load (W.L.L.) (t)	Code	Std.Lift (m)	Hand Chain Folded Length (m)	Chain Pull to Lift Full Load (N)[kgf]	Chain O'hauled to Lift Load One Meter (m)	Load Chain Dia.xChain Fall (mm)	Test Load (t)	Mass [Net weight] (kg)	Shipping Mass [weight] [approx.](kg)	Mass [weight] in kg for Additional One Meter of Lift (kg)
0.5	CB005	2.5	2.5	235 [24]	25	5.0x1	0.75	10	10.5	1.5
1	CB010	2.5	2.5	284 [29]	43	6.3x1	1.5	11.5	12	1.8
1.5	CB015	2.5	2.5	343 [35]*	57	7.1x1	2.4	14.5	15	2.1
2	CB020	3.0	3.0	353 [36]*	70	8.0x1	3	20	21	2.3
2.5	CB025	3.0	3.0	323 [33]*	99	9.0x1	3.8	27	28	2.7
3	CB030	3.0	3.0	353 [36]*	114	7.1x2	4.8	24	26	3.2
5	CB050	3.0	3.5	333 [34]*	198	9.0x2	7.5	41	43	4.4
7.5	CB075	3.5	4.0	343 [35]*	297	9.0x3	9.5	63	66	6.2
10	CB100	3.5	4.0	353 [36]*	396	9.0x4	12.5	83	91	7.9
15	CB150	3.5	4.5	363 [37]*	594	9.0x6	20	155	165	11.4
20	CB200	3.5	4.5	353 [36] x2*	396x2	9.0x8	25	235	305	15.8
30	CB300	3.5	4.5	421 [43] x2*	495x2	9.0x10	40	310	400	19.2
40	CB400	3.5	4.5	421 [43] x2*	693x2	9.0x14	50	480	630	26.2
50	CB500	3.5	4.5	480 [49] x2*	792x2	9.0x16	62.5	640	790	29.7

•Other capacities are available upon request.

•Any lift of chain is available upon request.

•As Kito chains are heat treated, splicing of the load chain is prohibited.

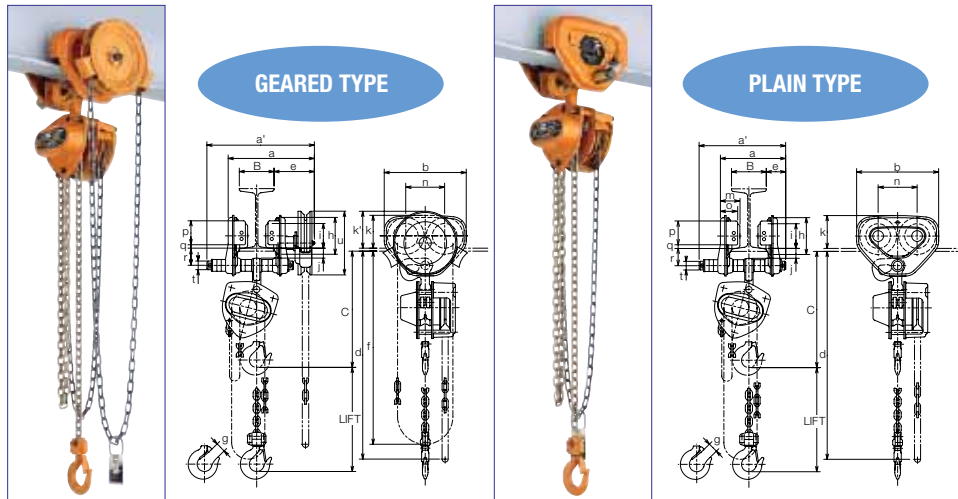
•When ordering, specify lifting height.

•Chain Falls varies on each capacity. • \*: does not accord with EN13157

## ■ DIMENSIONS (mm)

Rated Load (W.L.L.) (t)	Headroom :C	a	b	d	e	f	g	s	t	u	v	w	x
0.5	285	158	161	2500	69	99	27	35.5	12.1	17	77	35	89
1	295	162	161	2500	71	99	29	42.5	16	21.8	93	41	101
1.5	350	171	182	2500	78	112	34	47.5	19.5	26.5	106	47	119
2	375	182	202	3000	87	125	36	50	21.8	30	116	49	124
2.5	420	192	233	3000	91	143	40	53	24.3	33.5	126	53	136
3	510	171	235	3100	78	162	42.5	56	27.2	37.5	138	57	148
5	600	192	282	3600	91	194	46.5	63	34.5	47.5	161	67.5	172
7.5	770	192	373	4200	91	253	72.5	85	47.5	63	231	97.5	275
10	760	192	438	4200	111	308	72.5	85	47.5	63	231	97.5	295
15	1020	268	492	4700	119	337	80	100	60	80	275	110	320
20	1180	374	746	4800	187	373	81	110	67	90	301	125	351
30	1300	404	746	4800	202	373	103	125	85	112	367	143	400
40	1480	502	760	4900	251	380	96	145	123	133	412.5	182.5	445
50	1560	544	796	4900	272	398	100	165	135	155	447.5	202.5	467

# KITO TROLLEY-CONNECTED HOIST



## ■ SPECIFICATIONS

Rated Load (W.L.L.)(t)	Code	Std.Lift (m)	Hand Chain Folded Length (m)	Chain Pull to Traverse Full Load (N) [kgf]	Load Chain Dia. x Chain Fall (mm)	Test Load (t)	Mass (Net Weight) (kg)	Mass [weight] in kg for Additional One Meter of Lift (kg)
0.5	CBSG(CBSP)005	2.5	2.5	10 [1]	5.0x1	0.75	23(15)	2.4(1.5)
1	CBSG(CBSP)010	2.5	2.5	20 [2]	6.3x1	1.5	24(19)	2.7(1.8)
1.5	CBSG(CBSP)015	2.5	2.5	29 [3]	7.1x1	2.4	32(28)	3.0(2.1)
2	CBSG(CBSP)020	3.0	3.0	39 [4]	8.0x1	3	37(33)	3.3(2.3)
2.5	CBSG(CBSP)025	3.0	3.0	49 [5]	9.0x1	3.8	52(48)	3.6(2.7)
3	CBSG(CBSP)030	3.0	3.0	59 [6]	7.1x2	4.8	48(44)	4.1(3.2)
5	CBSG(CBSP)050	3.0	3.5	137 [14]	9.0x2	7.5	92(87)	5.4(4.4)
7.5	CBSG075	3.5	4.0	225 [23]	9.0x3	9.5	175	7.1
10	CBSG100	3.5	4.0	294 [30]*	9.0x4	12.5	185	8.8
15	CBSG150	3.5	4.5	221x2 [23x2]	9.0x6	20	395	12.3
20	CBSG200	3.5	4.5	294x2 [30x2]*	9.0x8	25	495	15.8
30	CBSG300	3.5	4.5/5.0	441x2 [45x2]*	9.0x10	40	670	21.1

- CBSG and CBSP mean the CB Series connected with TS Series geared trolley and plain trolley respectively.
- Figures in parentheses show the data for plain trolley. Other data are same both for plain and geared trolleys.
- The data for standard I-beam width and minimum radius for curve are same as the ones shown in the page 9.
- In case of 7.5 ton and over cap., "J" show the data for hook suspension type.
- 15 ton and over capacity trolleys have 8-wheel construction and "n" shows the distance between outside wheel centers.
- 40 ton and over cap. are available on request. • \*: does not accord with EN13157

## ■ DIMENSIONS (mm)



















Rated Load (W.L.L.)(t)	Head room :C	a (Max)	a'	b	d	e	f	g	h	i	j	k	k'	m	n	o	p	q	r	t	u
0.5	305(295)	275(173)	309(204)	236(182)	2500	116(46)	2200	27	106(82)	71(60)	28(19)	95(76)	106	56(47.5)	112(84)	50(42)	69(54)	10	50(38)	25(22)	183
1	305	275(215)	309(249)	236	2500	116(56)	2200	29	106	71	28	95	106	56	112	50	69	10	50	25	183
1.5	365	349(218)	385(300)	280	2500	154(69)	2200	34	127	85	34	112	109	71	131	63	83	10	62	32	183
2	380	349(218)	385(300)	280	3000	154(69)	2700	36	127	85	34	112	109	71	131	63	83	10	62	32	183
2.5	435	359(280)	398(320)	324	3000	157(79)	2700	40	148	100	36	134	114	80	152	74	102	10	68	36	183
3	535	359(280)	398(320)	324	3100	157(79)	2700	42.5	148	100	36	134	114	80	152	74	102	10	68	36	183
5	660	377(273)	401(297)	400	3600	156(53)	3200	46.5	169	118	47	144	131	81	178	70	104	10	88	54	183
7.5	870	443	595	480	4300	182	3700	72.5	185	155	53	170	165	120	196.5	104	89	8	153	70	214
10	860	443	595	480	4300	182	3700	72.5	185	155	53	170	165	120	196.5	104	89	8	153	70	214
15	1150	454	677	1000	4800	182	4200	80	185	155	62	170	165	120	716.5	104	89	8	203	80	214
20	1310	454	677	1000	4900	182	4200	81	185	155	62	170	165	120	716.5	104	89	8	203	80	214
30	1450	790	—	—	5000	300	4700	103	218	175	62	197	199	103	833	85	100	8	147	80	214



# KITO LB

Spesifikasjoner							
Varenummer med LOS	20160815	20161015	20161615	20162515	20163212	20166315	20169015
Varenummer uten LOS	20150815	20151015	20151615	20152515	20153215	20156315	20159015
WLL Tonn	0.8	1.0	1.6	2.5	3.2	6.3	9.0
Type	LB008	LB010	LB016	LB025	LB032	LB063	LB090
Standard løftehøyde (mtr)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Håndkraft N (kg)	284 (29)	353 (36)	333 (34)	363 (37)	363 (37)	372 (38)	382 (39)
Diameter lastkjetting (mm) x antall parter	5.6x15.7x1	5.6x15.7x1	7.1x19.9x1	8,8x24.6x1	10x28.0x1	10x28.0x2	10x28.0x3
Anvendt prøvelast (tonn)	1.2	1.5	2.4	3.8	4.8	9.45	13.5
Vekt (kg)	5.7	5.9	8.0	11.2	15.0	26.0	40.0
Vekt pr.mtr ekstra løftehøyde (kg)	0.7	0.7	1.1	1.7	2.3	4.7	7.0
Vekt	60 kg	78 kg	80 kg	80 kg	117 kg	60 kg	78 kg
Dimensjoner (mm)	a	114	114	159	173	190	190
	b	119	119	126	150	159	217
	C	280	300	335	375	395	540
	D	245	245	265	265	415	415
	e	97	97	100	102	112	112
	g	23,5	29	32	36.5	39	50
	s	35,5	42,5	42,5	47	50	60
	t	14	15	19	21	24,5	34

# FLAT WEBBING & ROUND SLINGS DETAILS AND WORKING LOAD LIMITS

SAFETY FACTOR 7:1									
FLAT WEBBING SLINGS EN 1492-1									
ROUND SLINGS EN 1492-2									
LIFTING MODE	STRAIGHT LIFT	CHOKED LIFT	BASKET LIFT			2 - LEG		3/4 - LEG	
			$\beta = 0^\circ$	$\beta = 0^\circ-45^\circ$	$\beta = 46^\circ-60^\circ$	$\beta = 0^\circ-45^\circ$	$\beta = 46^\circ-60^\circ$	$\beta = 0^\circ-45^\circ$	$\beta = 46^\circ-60^\circ$
LOAD FACTOR	X 1.0	X 0.8	X 2.0	X 1.4	X 1.0	X 1.4	X 1.0	X 2.1	X 1.5
COLOUR	KG	KG	KG	KG	KG	KG	KG	KG	KG
Violet	1,000	800	2,000	1,400	1,000	1,400	1,000	2,100	1,500
Green	2,000	1,600	4,000	2,800	2,000	2,800	2,000	4,200	3,000
Yellow	3,000	2,400	6,000	4,200	3,000	4,200	3,000	6,300	4,500
Grey	4,000	3,200	8,000	5,600	4,000	5,600	4,000	8,400	6,000
Red	5,000	4,000	10,000	7,000	5,000	7,000	5,000	10,500	7,500
Brown	6,000	4,800	12,000	8,400	6,000	8,400	6,000	12,600	9,000
Blue	8,000	6,400	16,000	11,200	8,000	11,200	8,000	16,800	12,000
Orange	10,000	8,000	20,000	14,000	10,000	14,000	10,000	21,000	15,000

Other sling types and lifting capacities are available upon request



## Dyneema®

### HIGH MODULUS POLYETHYLENE 'DYNEEMA® SK75'



#### TECHNICAL SPECIFICATIONS

Specific gravity:	0.97
Melting point:	150 °C
Elongation at break:	4 - 5%
Water absorption:	None
UV resistance:	Good
Colour:	Orange / red, other colours on request
Construction:	8- and 12-strand

#### FEATURES AND BENEFITS

- Maximum strength to weight ratio
- Lowest elongation
- Longer life and easy handling
- Super abrasion resistance due to special coated and twisted yarns
- Non-kinking
- Easy to splice
- Can be overbraided with a jacket for protection
- Produced according to ISO 10325 and ISO 2307
- Mentioned MBL is for new unspliced rope, MBL in spliced condition is minus 10% (according to ISO 10325)

#### APPLICATIONS

- Mooring lines (to be used with tails)
- Anchor lines
- Towing rope
- Deep sea installation
- Pipe-laying A&R
- Lifting slings and grommets
- Seismic lines
- Fish farms

Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
6	¾	2.3	4.2	41.2
8	1	3.9	6.7	65.7
10	1¼	5.9	10.8	105.9
12	1½	9.5	16.5	161.9
14	1¾	12.8	22.0	215.8
16	2	16.0	27.5	269.8
18	2¼	20.8	35.0	343.3
20	2½	25.5	41.5	407.1
22	2¾	30.5	50.0	490.5
24	3	35.8	58.0	569.0
26	3¼	41.0	66.0	647.4
28	3½	46.5	74.0	725.9
30	3¾	52.0	81.5	799.5
32	4	57.0	88.5	868.2
34	4¼	62.5	96.0	941.7
36	4½	68.0	104.0	1,020.2
38	4¾	74.0	112.0	1,098.7
40	5	84.0	127.0	1,245.8
42	5¼	93.0	140.0	1,373.4
44	5½	102.0	152.0	1,491.1
46	5¾	111.0	165.0	1,618.6
48	6	121.0	179.0	1,755.9
50	6¼	131.0	193.0	1,893.3
52	6½	141.0	206.0	2,020.8
56	7	163.0	236.0	2,315.1
60	7½	175.0	252.0	2,472.0
64	8	200.0	282.0	2,766.3
68	8½	226.0	316.0	3,099.9
72	9	254.0	348.0	3,413.8
80	10	313.0	422.0	4,139.7
88	11	379.0	503.0	4,934.3
96	12	451.0	588.0	5,768.1

## SuperLeoMix®

### HIGH STRENGTH POLYPROPYLENE/POLYESTER (60:40)



Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
32	4	56.5	20.0	196.1
36	4½	71.4	24.9	244.2
40	5	88.4	30.0	294.2
44	5½	108.0	38.0	372.7
48	6	128.0	46.2	453.1
52	6½	150.0	54.3	532.5
56	7	172.0	62.8	615.9
60	7½	198.0	72.7	712.9
64	8	225.0	82.6	810.0
68	8½	255.0	92.3	905.2
72	9	285.0	102.0	1,000.3
76	9½	318.0	113.7	1,115.0
80	10	352.0	125.5	1,230.7
88	11	502.0	156.0	1,529.8
96	12	598.0	185.0	1,814.2
104	13	701.0	216.0	2,118.2
112	14	813.0	250.0	2,451.7
120	15	933.0	286.0	2,804.7
128	16	1,060.0	325.0	3,187.2
136	17	1,200.0	365.0	3,579.4
144	18	1,345.0	405.0	3,971.7

#### TECHNICAL SPECIFICATIONS

Specific gravity:	1.05
Melting point:	165 °C - 250 °C
Elongation at break:	30 - 35%
Colour:	White
Construction:	8-strand

#### FEATURES AND BENEFITS

- Optimum strength to weight ratio for ease of handling
- Wet strength equal to dry strength
- Does not absorb water
- Good abrasion resistance against internal and external friction
- Good resistance to frictional heat damage
- Excellent chemical resistance, except in the presence of alkalis
- Manufactured in accordance with OCIMF guidelines
- Remains flexible, easy to splice
- Fully UV stabilised

Other sizes on request

#### APPLICATIONS

- Mooring lines
- Mooring tails
- Inland shipping
- General fishing
- Merchant navy

## LeoMix®

### HIGH STRENGTH POLYPROPYLENE/POLYESTER (85:15)



#### TECHNICAL SPECIFICATIONS

Specific gravity:	0.99
Melting point:	165 °C - 260 °C
Elongation at break:	25%
Colour:	Light blue
Construction:	8- and 12-strand

#### FEATURES AND BENEFITS

- Floats in water
- Wet strength equal to dry strength
- Does not absorb water
- Excellent strength
- Excellent chemical resistance, except in the presence of alkalis
- Excellent resistance to frictional heat damage
- OCIMF (MEG3) compliant
- Flexible, easy to handle and splice
- Immense range of uses
- Fully UV stabilised

#### APPLICATIONS

- Mooring
- General marine applications
- Messenger lines

Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
32	4	56.5	20.0	196.1
36	4½	71.4	24.9	244.2
40	5	79.1	28.5	279.5
44	5½	96.8	36.1	354.0
48	6	114.6	43.6	427.6
52	6½	134.1	50.6	496.2
56	7	155.9	58.1	569.8
60	7½	179.7	66.3	650.2
64	8	203.6	74.6	731.6
68	8½	230.4	82.3	807.1
72	9	257.2	90.0	882.6
76	9½	287.9	102.0	1,000.3
80	10	318.6	114.0	1,118.0
88	11	386.3	138.0	1,353.3
96	12	457.7	163.0	1,598.5
104	13	540.4	190.0	1,863.3
112	14	627.2	220.0	2,157.5
120	15	720.0	252.0	2,471.3
128	16	819.0	286.0	2,804.7
136	17	924.0	322.0	3,157.7
144	18	1036.0	361.0	3,540.2

Other sizes on request

**LeoTec®**

**HIGH STRENGTH POLYPROPYLENE**



**TECHNICAL SPECIFICATIONS**

Specific gravity:	0.91
Melting point:	160 °C
Elongation at break:	25% - 30%
Colour:	Yellow
Construction:	3-, 4-, 8-, 12- and 24-strand

**FEATURES AND BENEFITS**

- Floats in water
- Wet strength equal to dry strength
- Does not absorb water
- Excellent strength
- Excellent abrasion resistance
- Flexible, easy to handle and splice
- Fully UV stabilised
- OCIMF (MEG3) compliant
- Immense range of uses

**Additional for 12 and 24 strand:**

- Flakes down easily and neatly
- Ideal for auto winches and drums
- Non-rotating, torque-free round construction

**APPLICATIONS**

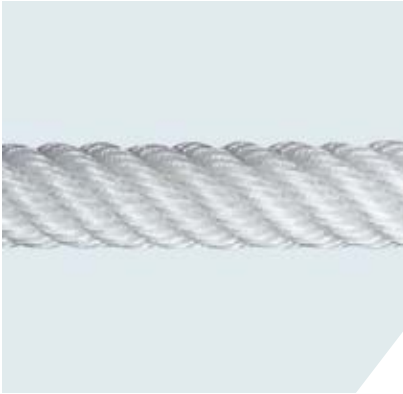
- Mooring
- General marine applications
- Messenger lines

Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
8	1	3.0	1.2	11.8
10	1¼	4.5	1.8	17.7
12	1½	6.5	2.7	26.5
14	1¾	9.0	3.6	35.3
16	2	11.5	4.5	44.1
18	2¼	14.8	5.8	56.9
20	2½	18.0	6.9	67.7
22	2¾	22.0	8.4	82.4
24	3	25.9	9.9	97.1
28	3½	35.4	13.2	129.4
32	4	45.9	16.8	164.8
36	4½	58.6	20.6	202.0
40	5	71.8	25.7	252.0
44	5½	88.1	34.0	333.4
48	6	104.0	43.0	421.7
52	6½	122.0	50.4	494.3
56	7	142.0	52.4	513.9
60	7½	163.1	60.0	588.4
64	8	185.0	67.9	665.9
68	8½	209.5	76.7	752.2
72	9	234.0	85.2	835.5
80	10	290.0	105.0	1,029.7
88	11	351.0	126.0	1,235.6
96	12	417.0	149.0	1,461.2
104	13	490.0	171.6	1,682.8
112	14	570.0	200.2	1,963.3
120	15	650.0	221.1	2,168.3
128	16	740.0	244.5	2,397.7
136	17	840.0	277.2	2,718.4
144	18	940.0	305.8	2,998.9

Other sizes on request

## LeoWinch®

### NYLON MONO AND MULTIFILAMENT



#### TECHNICAL SPECIFICATIONS

Specific gravity:	1.14
Melting point:	215 °C
Elongation at break:	15%
Colour:	White
Construction:	6-strand

#### FEATURES AND BENEFITS

- Excellent abrasion resistance
- Excellent UV resistance
- Good chemical resistance, except in the presence of acids
- Workable in sub-zero temperatures
- Resistance to rotting, corrosion and seawater
- Can be stowed wet without any special maintenance
- Very high breaking strength

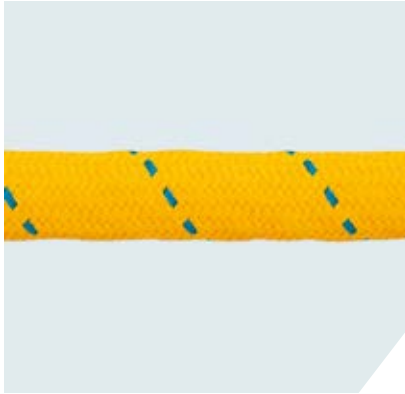
#### APPLICATIONS

- Mooring winches
- Mooring lines
- Anchor ropes
- Other heavy duty cables

Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
18	2¼	22.0	7.0	69.0
20	2½	27.5	9.0	88.0
22	2¾	34.5	11.0	108.0
24	3	40.0	13.0	128.0
26	3¼	46.4	15.3	150.0
28	3½	51.4	16.8	165.0
32	4	65.0	22.0	216.0
36	4½	83.2	26.0	255.0
40	5	100.0	31.0	304.0
44	5½	125.0	42.0	412.0
48	6	148.0	50.0	490.0
52	6½	160.0	54.0	530.0
56	7	200.0	66.5	652.0
60	7½	217.0	70.0	687.0
62	7¾	235.0	79.0	775.0
64	8	245.0	81.0	795.0
68	8½	280.0	94.0	841.0
70	8¾	310.0	103.0	922.0
72	9	335.0	108.0	1,060.0
78	9¾	363.6	120.0	1,177.0
84	10½	425.0	140.0	1,373.0
90	11¾	505.0	165.0	1,619.0
96	12	585.0	190.0	1,864.0

**LeoTec®**

**WINCHLINE**



Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
40	5	73.0	31.1	305.1
44	5½	89.0	38.6	378.7
48	6	106.0	47.8	468.9
52	6½	125.0	56.4	553.3
56	7	144.0	63.8	625.9
60	7½	166.0	74.0	725.9
64	8	188.0	84.0	824.0
68	8½	214.0	95.0	932.0
72	9	238.0	107.6	1,055.6

**TECHNICAL SPECIFICATIONS**

Specific gravity:	0.91
Melting point:	185 °C
Elongation at break:	15%
Colour:	Yellow with blue marker
Construction:	Overbraided 7-strand core

**FEATURES AND BENEFITS**

- Overbraided cover material made from LeoTec yarns but can also be supplied in pure nylon or polyester
- High strength
- Floats in water
- Good abrasion resistance
- Very easy to use on tension winches
- Excellent UV resistance
- Maintains shape under extreme tension

**APPLICATIONS**

- Mooring line

**MOORING TAILS**

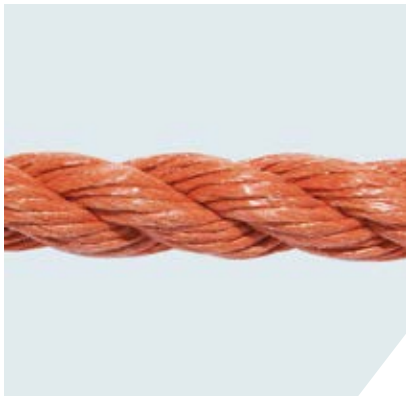
Van der Lee can also supply nylon and composite fibre mooring tails in order to provide elasticity in a mooring system. This helps to reduce damage to wire and ropes made with Dyneema® fibres by absorbing shock loads.

Grommet construction to give higher breaking strength on request.

All of the above comply with OCIMF (MEG3) guidelines. Synthetic tails should have an MBL of at least 25% higher than that of the mooring line to which they are attached. Polyamide tails should have a 37% higher MBL than the mooring line, to take account of loss of strength when wet.

8-strand SuperLeoMix tail		8-strand Nylon tail	
Diameter mm	MBL tons	Diameter mm	MBL tons
72	113.0	72	90.0
80	148.0	80	110.0
88	175.0	88	131.0
96	205.0	96	156.0

## POLYPROPYLENE



## TECHNICAL SPECIFICATIONS

Specific gravity:	0.91
Melting point:	160 °C
Elongation at break:	30%
Colour:	Salmon and Orange
Construction:	3-strand, 8- and 12-strand plaited

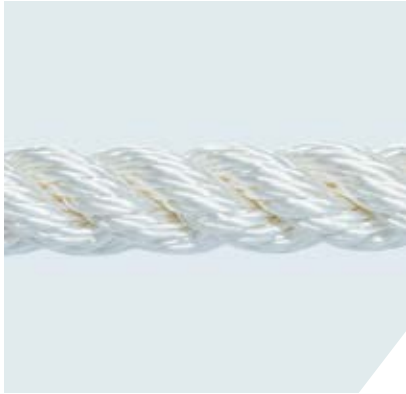
Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
8	1	3.0	1.0	9.4
10	1¼	4.5	1.4	14.0
12	1½	6.5	2.0	19.9
14	1¾	9.0	2.8	27.4
16	2	11.5	3.5	34.3
18	2¼	14.8	4.5	43.6
20	2½	18.0	5.4	52.6
22	2¾	22.0	6.5	63.7
24	3	26.0	7.6	74.5
26	3¼	31.0	8.9	86.8
28	3½	35.5	10.1	99.0
30	3¾	41.0	11.5	112.7
32	4	46.0	12.8	125.5
36	4½	58.5	16.1	157.8
40	5	72.0	19.4	190.2
44	5½	88.0	23.4	229.4
48	6	104.0	27.2	266.7
52	6½	122.0	31.5	308.8
56	7	142.0	36.0	352.9
60	7½	163.0	41.2	403.9
64	8	185.0	46.6	456.9
68	8½	210.0	52.6	515.7
72	9	234.0	58.5	573.5
80	10	290.0	72.0	705.9
88	11	351.0	86.4	847.1
96	12	417.0	102.0	1,000.0
104	13	482.0	118.0	1,156.9
112	14	568.0	138.0	1,352.9
120	15	648.0	156.0	1,529.4
128	16	740.0	176.0	1,725.5
136	17	838.0	197.6	1,937.3
144	18	940.0	219.6	2,152.9
152	19	1,047.0	242.0	2,372.5
160	20	1,160.0	266.2	2,609.8



G. VAN DER LEE

ROPE FACTORY SINCE 1545

## POLYESTER



### TECHNICAL SPECIFICATIONS

Specific gravity:	1.38
Melting point:	260 °C
Elongation at break:	30 – 35%
Colour:	White
Construction:	3-strand, 8- and 12-strand plaited

Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
8	1	5.1	1.3	12.5
10	1¼	8.1	2.0	19.5
12	1½	11.6	2.8	27.8
14	1¾	15.7	4.0	39.0
16	2	20.5	5.1	49.7
18	2¼	26.0	6.4	62.2
20	2½	32.0	7.9	77.8
22	2¾	38.4	9.5	93.3
24	3	46.0	11.4	112.0
26	3¼	53.7	13.3	130.7
28	3½	63.0	15.3	141.5
30	3¾	72.0	17.1	168.0
32	4	82.0	19.6	192.4
34	4¼	93.0	21.9	214.4
36	4½	104.0	24.1	236.5
38	4¾	116.0	27.0	264.7
40	5	128.0	29.9	292.8
44	5½	155.0	35.5	348.0
48	6	185.0	48.6	476.4
52	6½	215.0	56.7	555.8
56	7	251.0	65.7	644.1
60	7½	288.0	72.3	708.8
64	8	328.0	80.7	791.1
68	8½	372.0	91.0	892.1
72	9	415.0	99.5	975.4
80	10	512.0	121.9	1,195.1
88	11	619.0	146.3	1,434.3
96	12	735.0	173.4	1,700.0
112	14	1,000.0	234.4	2,298.0
120	15	1,150.0	268.0	2,627.4
128	16	1,310.0	303.2	2,972.5
144	18	1,660.0	383.2	3,756.8
160	20	2,050.0	474.1	4,648.0
176	22	2,350.0	543.5	5,328.4



## NYLON



### TECHNICAL SPECIFICATIONS

Specific gravity:	1.14
Melting point:	210 °C
Elongation at break:	50%
Colour:	White
Construction:	3-strand, 8- and 12-strand plaited

Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
8	1	4.0	1.4	13.2
10	1¼	6.3	2.1	20.3
12	1½	9.0	3.0	29.4
14	1¾	12.3	4.1	40.2
16	2	16.0	5.3	51.9
18	2¼	20.3	6.7	65.6
20	2½	25.0	8.3	81.3
22	2¾	30.3	10.0	98.0
24	3	36.0	12.0	117.6
26	3¼	42.3	13.8	135.2
28	3½	49.0	15.8	154.9
30	3¾	56.3	17.8	174.5
32	4	64.0	20.0	196.0
34	4¼	72.3	22.3	218.6
36	4½	81.0	24.8	243.1
38	4¾	90.3	27.3	267.6
40	5	100.0	30.0	294.1
44	5½	121.0	35.8	350.9
48	6	144.0	42.0	411.7
52	6½	169.0	48.8	478.4
56	7	196.0	56.0	549.0
60	7½	225.0	63.8	625.4
64	8	256.0	72.0	705.8
68	8½	289.0	80.8	791.6
72	9	324.0	90.0	882.3
80	10	400.0	110.0	1,078.4
88	11	484.0	131.0	1,284.3
96	12	576.0	156.0	1,509.8
104	13	676.0	182.0	1,784.3
112	14	784.0	210.0	2,058.8
120	15	900.0	240.0	2,352.9
128	16	1,024.0	272.0	2,666.6
136	17	1,156.0	306.0	3,000.0
144	18	1,296.0	342.0	3,352.9
152	19	1,444.0	380.0	3,725.4
160	20	1,600.0	420.0	4,117.6



G. VAN DER LEE

ROPE FACTORY SINCE 1545

## MANILA



### TECHNICAL SPECIFICATIONS

Construction: 3-strand

Diameter mm	Circumference inches	Weight kg/100mtr	MBL tons	MBL kN
8	1	5.5	0.5	4.7
10	1¼	6.8	0.6	6.2
12	1½	10.5	1.0	9.3
14	1¾	14.1	1.3	12.5
16	2	19.1	1.8	17.4
18	2¼	22.3	2.1	20.8
20	2½	27.7	2.8	27.8
22	2¾	33.2	3.4	33.3
24	3	40.0	4.1	39.8
26	3¼	46.8	4.7	46.2
28	3½	53.6	5.3	52.2
30	3¾	62.7	6.1	59.8
32	4	70.5	6.9	67.2
34	4¼	80.0	7.6	74.7
36	4½	89.5	8.6	84.7
38	4¾	100.0	9.4	92.1
40	5	111.0	10.4	101.9
44	5½	135.0	12.7	124.5
48	6	160.0	14.7	144.1
52	6½	188.0	17.3	169.6
56	7	218.0	19.8	194.1
60	7½	250.0	22.6	221.5
64	8	290.0	25.7	251.9
68	8½	321.0	28.7	281.3
72	9	360.0	32.0	313.7
80	10	444.0	39.1	383.3
88	11	538.0	47.2	462.7
96	12	639.0	55.9	548.0



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