



## 2. Heavy lifting slings



# Heavy lifting slings

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## Operations overview

### Facilities

- Main production facility located on the waterfront in the heart of the Port of Rotterdam
- Office, manufacturing and warehouse space
- Additional manufacturing and/or warehouse facilities in Moerdijk, Moordrecht and Oudewater

### Workshop equipment

- Hydraulic wire rope swaging presses ranging from 300 to 3,000 tons
  - Super-loop capacity up to 128 mm
- Closer for cable-laid rope and sling fabrication up to 18"
- Testbeds from 800 to 12,500 kN; pull & push
- Spooling machines taking up to 250 tons unit weight
- Hydraulic wire rope tensioning machine up to 45 tons back tensioning

### Manufacturing strengths

- Wire rope slings up to 18"
- Cable-laid slings from 250 to 7,700 tons CRBL<sup>1</sup>
- Cable-laid grommet slings (endless) from 250 to 6,800 CGBL<sup>2</sup>
- Manufactured in accordance to international standards such as 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 16,000 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 64 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

## Cable-laid & grommet slings

Slings can be supplied either manufactured as cable-laid slings up to 628 mm (24<sup>3</sup>/<sub>4</sub>"") diameter with Calculated Rope Breaking Loads (CRBL) up to 13,000 metric tons, with hand-spliced eyes at each end or as endless cable-laid grommet slings up to 304 mm (12") diameter with breaking loads on double part up to 6,800 metric tons.



All cable-laid slings and grommet slings are manufactured in accordance with the current Guidance IMCA M179 from the International Marine Contractors Association, or other international standards such as EN 13414-1, EN 13414-3 and ISO 7531.

The Calculated Sling Breaking Load (CSBL) of a cable-laid sling, is equal to the sum of the minimum breaking loads of the individual outer and core rope unit ropes, multiplied by a spinning loss coefficient of 0.85 and a splice loss of 0.75 (according to IMCA M179). The calculated minimum breaking load of a cable-laid grommet sling equals 12 times the minimum breaking load of the unit rope, multiplied by a spinning loss coefficient of 0.85 (according to IMCA M179).

All cable-laid slings and cable-laid grommets supplied by Hendrik Veder are furnished with a separate test certificate for each component rope, showing the actual breaking loads. Also a consolidation certificate is provided, a certificate of dimensional conformity showing the calculated minimum breaking loads of the cable laid sling and a certificate of examination.

CABLE LAID ROPES 250 - 7,700 TONS					
Nominal diameter		Approximate weight		Minimum Calculated Rope Breaking Load (CRBL)	
inch	mm	kg/m	lb/ft	metric tons 1,000 kg	short tons 2,000 lbs
3¼	82	24	16	300	330
3½	89	27	18	345	380
3¾	96	30	20	395	425
4	102	31	21	470	515
4¼	108	38	25	505	555
4½	114	44	30	575	630
4¾	120	48	33	640	705
5	127	53	35	710	780
5¼	133	58	39	775	850
5½	139	67	45	860	945
6	152	80	54	1,030	1,135
6¼	159	82	55	1,140	1,255
7	178	100	68	1,425	1,570
7¾	197	122	82	1,780	1,960
8½	216	151	101	2,125	2,340
9½	241	196	131	2,540	2,800
10¼	260	215	144	2,785	3,070
11	280	260	175	3,235	3,565
11¾	298	295	198	3,630	4,000
12½	318	340	228	4,140	4,560
13¼	336	380	255	4,485	4,940
14	356	425	285	4,940	5,445
14¾	374	475	320	5,495	6,055
15¾	400	530	356	6,065	6,685
16½	419	590	396	6,670	7,350
17¼	438	640	430	7,185	7,920
18	457	695	467	7,700	8,485

**Higher capacities available upon request**

The table above gives an indication of the size and corresponding breaking loads of slings available. Also intermediate diameters or CRBL can be delivered.

For calculating the CSBL (Calculated Sling Breaking Load) the rope breaking load has to be multiplied by 0.75 (for handsplice losses).

GROMMETS MADE IN 7 (6 x 36WS + IWRC); TENSILE STRENGTH 1,960 N/MM <sup>2</sup>						
Grommet diameter	Component rope diameter	MBL acc. EN 13414-3	WLL acc. EN 13414-3	MBL acc. IMCA M 179	WLL acc. IMCA M 179	Safety factor
mm	mm	metric tons 1,000 kg	metric tons 1,000 kg	metric tons 1,000 kg	metric tons 1,000 kg	
24	8	49,22	9,84	46,49	9,31	5.00
27	9	62,33	12,47	58,87	11,77	5.00
30	10	76,87	15,37	72,60	14,52	5.00
33	11	93,06	18,61	87,89	17,58	5.00
36	12	111,23	22,25	105,05	21,01	5.00
39	13	129,95	25,99	122,73	24,55	5.00
42	14	150,88	30,18	142,50	28,50	5.00
48	16	197,13	39,43	186,18	37,24	5.00
54	18	248,89	49,78	235,06	47,01	5.00
60	20	307,26	61,45	290,19	58,04	5.00
66	22	372,24	76,28	351,56	72,04	4.88
72	24	442,72	93,20	418,12	88,03	4.75
78	26	519,81	112,76	490,93	106,49	4.61
84	28	602,41	134,47	568,94	127,00	4.48
90	30	691,61	158,99	653,19	150,16	4.35
96	32	787,42	186,59	743,68	176,28	4.22
102	34	888,74	217,30	839,37	205,22	4.09
108	36	996,67	252,32	941,30	238,30	3.95
114	38	1.110,10	290,60	1.048,43	274,46	3.82
120	40	1.230,14	333,37	1.161,80	314,85	3.69
126	42	1.356,79	381,12	1.281,42	359,95	3.56
132	44	1.488,95	434,11	1.406,23	409,98	3.43
144	48	1.771,98	560,75	1.673,54	529,60	3.16
156	52	2.079,24	719,46	1.963,73	679,49	2.89

CABLE-LAID GROMMET SLINGS (ENDLESS) 250 - 6,800 TONS					
Nominal diameter single part		Component rope diameter		Minimum Breaking Load on double part	
inch	mm	inch	mm	metric tons 1,000 kg	short tons 2,000 lbs
2¼	57	¾	19	262	289
2⅝	66	⅞	22	352	388
3	77	1	26	490	540
3½	89	1⅛	29	609	671
3¾	96	1¼	32	743	819
4	102	1⅜	34	839	925
4½	116	1½	38	1,050	1,157
5	127	1⅝	42	1,275	1,405
5¼	133	1¾	44	1,407	1,550
5¾	144	1⅞	48	1,672	1,843
6	152	2	51	1,968	2,169
6¾	171	2¼	57	2,350	2,580
7½	192	2½	64	2,800	3,080
8	201	2⅝	67	3,050	3,350
8¼	210	2¾	70	3,350	3,680
9	228	3	77	3,900	4,280
9¾	252	3¼	82	4,570	5,020
10½	267	3½	89	5,300	6,310
12	304	4	102	6,800	7,600