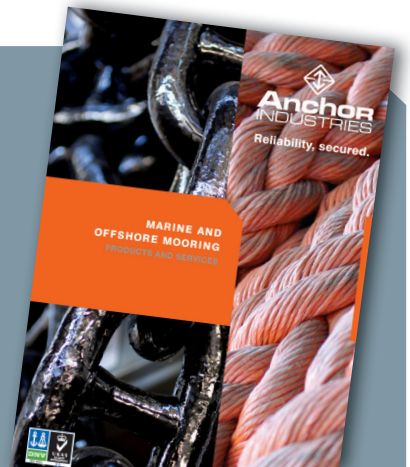




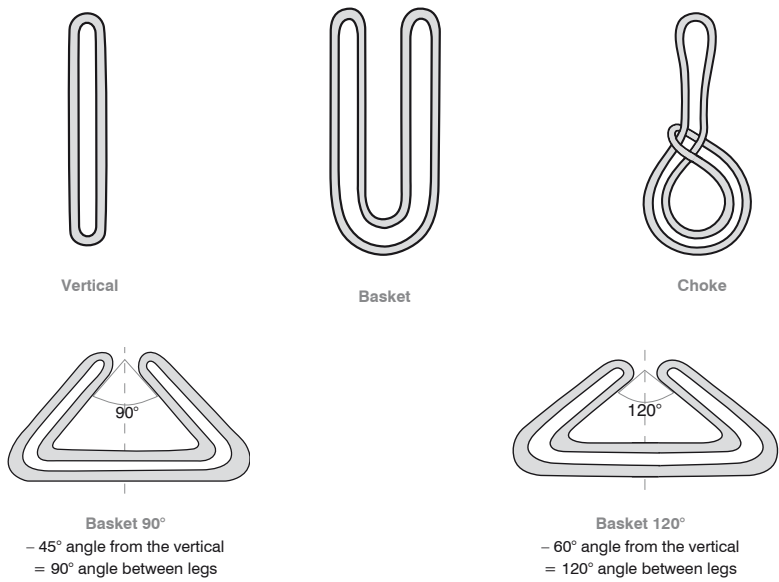
Reliability, secured.

SLINGS AND FITTINGS

CHAPTER 9 OF THE CURRENT
MARINE & OFFSHORE MOORING CATALOGUE



■ Webbing Slings



Work Load Limits of Endless Round Slings
Manufactured to EN1492-2 specifications (SWL = WLL × M)

Vertical M=1	Choke M=0.8	Basket M=2	Basket 90° M=1.4	Basket 120° M=1	2 Leg M=1.4	4 Leg M=2
[t]	[t]	[t]	[t]	[t]	[t]	[t]
1.0	0.8	2.0	1.4	1.0	1.4	2.0
1.5	1.2	3.0	2.1	1.5	2.1	3.0
2.0	1.6	4.0	2.8	2.0	2.8	4.0
3.0	2.4	6.0	4.2	3.0	4.2	6.0
4.0	3.2	8.0	5.6	4.0	5.6	8.0
5.0	4.0	10.0	7.0	5.0	7.0	10.0
6.0	4.8	12.0	8.4	6.0	8.4	12.0
8.0	6.4	16.0	11.2	8.0	11.2	16.0
12.0	9.6	24.0	16.8	12.0	16.8	24.0

Factor of Safety 7:1

M= Mode Factor for symmetrical loading

Work Load Limits of Duplex Flat Webbing Slings

Manufactured to EN1492-2 specifications (SWL = WLL × M)

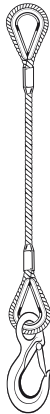
Width	Vertical M=1	Choke M=0.8	Basket M=2	Basket 90° M=1.4	Basket 120° M=1	2 Leg M=1.4	4 Leg M=2
[mm]	[t]	[t]	[t]	[t]	[t]	[t]	[t]
50	1.0	0.8	2.0	1.4	1.0	1.4	2.0
75	1.5	1.2	3.0	2.1	1.5	2.1	3.0
100	2.0	1.6	4.0	2.8	2.0	2.8	4.0
150	3.0	2.4	6.0	4.2	3.0	4.2	6.0
200	4.0	3.2	8.0	5.6	4.0	5.6	8.0
250	5.0	4.0	10.0	7.0	5.0	7.0	10.0
300	6.0	4.8	12.0	8.4	6.0	8.4	12.0

Factor of Safety 7:1

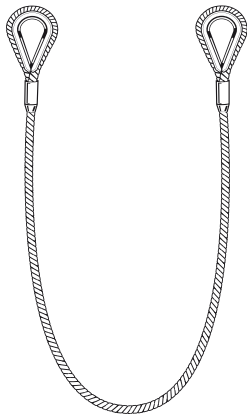
Slings are colour coded according to their WLL as follows:

Colour	Purple	Green	Yellow	Grey	Red	Brown	Blue	Orange
Work Load Limit	1 t	2 t	3 t	4 t	5 t	6 t	8 t	10—15 t

SWR Slings



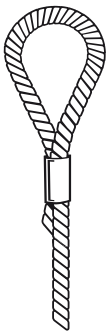
Vertical



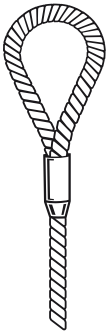
Basket



Hard Eye
Using Aluminium Ferrule



Soft Eye
Using Aluminium Ferrule



Flemish Soft Eye
Using Steel Ferrule

Work Load Limits of Slings using 6 × 19 or 6 × 36 /FC

Compiled in compliance with EN13414-1 2003 specifications

Rope Ø	1 Leg	Rated at 0—90°		Rated at 90—120°		Std. Size Soft Eye
		2 Leg	3 / 4 Leg	2 Leg	3 / 4 Leg	
[mm]	[t]	[t]	[t]	[t]	[t]	[mm]
8	0.70	0.95	1.50	0.70	1.05	160
9	0.85	1.20	1.80	0.85	1.30	160
10	1.05	1.50	2.25	1.05	1.60	200
11	1.30	1.80	2.70	1.30	1.95	200
12	1.55	2.12	3.30	1.55	2.30	200
13	1.80	2.50	3.85	1.80	2.70	260
14	2.12	3.00	4.35	2.12	3.15	260
16	2.70	3.85	5.65	2.70	4.20	260
18	3.40	4.80	7.20	3.40	5.20	300
20	4.35	6.00	9.00	4.35	6.50	300
22	5.20	7.20	11.00	5.20	7.80	300
24	6.30	8.80	13.50	6.30	9.40	360
26	7.20	10.00	15.00	7.20	11.00	360
28	8.40	11.80	18.00	8.40	12.50	400
32	11.00	15.00	23.50	11.00	16.50	460
36	14.00	19.00	29.00	14.00	21.00	500
38	—	—	—	—	—	500
40	7.00	23.50	36.00	17.00	26.00	600
44	21.00	29.00	44.00	21.00	31.50	700
48	25.00	35.00	52.00	25.00	37.00	800
52	29.00	40.00	62.00	29.00	44.00	1000
54	—	—	—	—	—	1000
56	33.50	47.00	71.00	33.50	50.00	1100
60	39.00	54.00	81.00	39.00	58.00	1200
64	—	—	—	—	—	1500
70	—	—	—	—	—	1500
76	—	—	—	—	—	1500

Factor of Safety 5:1

For SWR slings: 6 × 19 or 6 × 36 FC c/w ferrule secured eye termination made to EN13414-1 2003 specifications. Uniform load method calculation used throughout.

The Work Load Limit (WLL) of slings is calculated in accordance with BS1290 are as follows:

- 1 Leg = WLL of 1 Leg
- 2 Leg = WLL of 1 Leg × 2 × 0.707 (0°—90°)
- 3 / 4 Leg = WLL of 1 Leg × 3 × 0.707 (0°—90°)

Work Load Limits of SWR Slings using 6 × 19 or 6 × 36 /IWRC

Compiled in compliance with EN13414-1 2003 specifications

Rope Ø	1 Leg	Rated at 0—90°		Rated at 90—120°		Std. Size Soft Eye
		2 Leg	3 / 4 Leg	2 Leg	3 / 4 Leg	
[mm]	[t]	[t]	[t]	[t]	[t]	[mm]
8	0.75	1.05	1.55	0.75	1.10	160
9	0.95	1.30	2.00	0.95	1.40	160
10	1.15	1.60	2.40	1.15	1.70	200
11	1.40	2.00	3.00	1.40	2.12	200
12	1.70	2.30	3.55	1.70	2.50	200
13	2.00	2.80	4.15	2.00	3.00	260
14	2.25	3.15	4.80	2.25	3.40	260
16	3.00	4.20	6.30	3.00	4.50	260
18	3.70	5.20	7.80	3.70	5.65	300
20	4.60	6.50	9.80	4.60	6.90	300
22	5.65	7.80	11.80	5.65	8.40	300
24	6.70	9.40	14.00	6.70	10.00	360
26	7.80	11.00	16.50	7.80	11.50	360
28	9.00	12.50	19.00	9.00	13.50	400
32	11.80	16.50	25.00	11.80	17.50	460
36	15.00	21.00	31.50	15.00	22.50	500
38	—	—	—	—	—	500
40	18.50	26.00	39.00	18.50	28.00	600
44	22.50	31.50	47.00	22.50	33.50	700
48	26.00	37.00	55.00	26.00	40.00	800
52	31.50	44.00	66.00	31.50	47.00	1000
54	—	—	—	—	—	1000
56	36.00	50.00	76.00	36.00	54.00	1100
60	42.00	58.00	88.00	42.00	63.00	1200
64	—	—	—	—	—	1500
70	—	—	—	—	—	1500
76	—	—	—	—	—	1500

Factor of Safety 5:1

For SWR slings: 6 × 19 or 6 × 36 IWRC c/w ferrule secured eye termination made to EN13414-1 2003 specifications.

Uniform load method calculation used throughout.

The Work Load Limit (WLL) of slings is calculated in accordance with BS1290 are as follows:

- 1 Leg = WLL of 1 Leg
- 2 Leg = WLL of 1 Leg × 2 × 0.707 (0°—90°)
- 3 / 4 Leg = WLL of 1 Leg × 3 × 0.707 (0°—90°)

Work Load Limits of SWR Slings of IWRC using Bridon SWR 1960N/mm²

Rope Ø	Nominal Break	1 Leg	Rated at 0—90°		Rated at 90—120°	
			2 Leg	3 / 4 Leg	2 Leg	3 / 4 Leg
[mm]	[kN]	[t]	[t]	[t]	[t]	[t]
compiled in compliance with ISO7531:1987 specifications						
Factor of Safety 6:1						
52	2089.00	33.42	46.79	70.19	33.42	50.14
57	2551.00	40.82	57.14	85.71	40.82	61.22
64	3198.00	51.17	71.64	107.45	51.17	76.75
77	4562.00	72.99	102.19	153.28	72.99	109.49
compiled in compliance with BS EN13414-1 2003 specifications						
(except rated for a higher grade rope) Factor of Safety 5:1						
52	2089.00	38.34	53.68	80.52	38.34	57.52
57	2551.00	46.82	65.55	98.33	46.82	70.23
64	3198.00	58.70	82.18	123.27	58.70	88.05
77	4562.00	83.74	117.23	175.84	83.74	125.60

For SWR slings: 6 × 36 IWRC c/w ferrule secured eye termination made to EN13414-1 2003 specifications.
 "Uniform load" method calculation used throughout

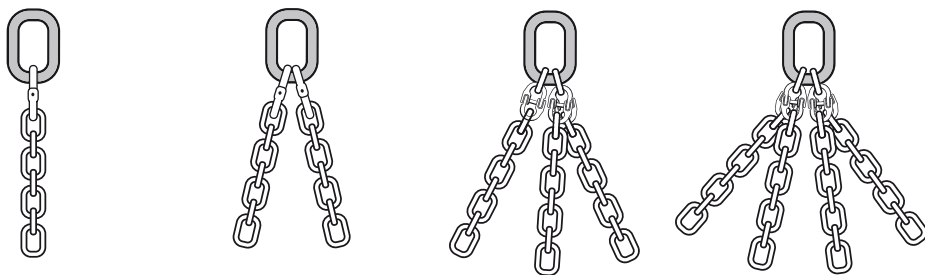
Lifting Sets for Offshore Containers

in compliance with DNV 2.7-1 specifications

To allow for the dynamic amplification that will be experienced in offshore lifting in adverse weather and sea states, the minimum Work Load Limit (WLL min) of the lifting sets for offshore containers shall be determined for the lifting set and each of its components according to customer requirements.

The rating of a container is multiplied by an enhancement factor to give an enhanced requirement for the Work Load Limit. This enhancement factor reflects the additional dynamic loads in offshore lifting.

The enhancement factor is higher for light containers because light containers are subject to the most severe dynamic amplification. The minimum WLL allowed for slings manufactured to DNV2.7-1 is 7 tons.



Work Load Limits of Gr80 Chain Slings

Compiled in compliance with EN818-4 specifications

Chain Size	Rated at 0°		Rated at 0—90°		Rated at 90—120°	
	1 Leg	Endless	2 Leg	3 / 4 Leg	2 Leg	3 / 4 Leg
[mm]	[t]	[t]	[t]	[t]	[t]	[t]
7	1.50	2.50	2.12	3.15	1.5	2.24
8	2.00	3.15	2.80	4.25	2.0	3.0
10	3.15	5.0	4.25	6.7	3.1	4.8
13	5.3	8.5	7.5	11.2	5.3	8.0
16	8.0	12.5	11.2	17.0	8.0	11.8
19	11.2	18.0	16.0	23.6	11.2	17.0
20	12.5	20.0	17.0	26.5	12.5	19.0
22	15.0	23.6	21.2	31.5	15.0	22.4
26	21.2	33.5	30.0	45.0	21.2	31.5
32	31.5	50.0	45.0	67.0	31.5	47.5

Factor of Safety 4:1

The Work Load Limits above apply only to normal conditions of use in straight configuration and are based on the "uniform load" method of rating.

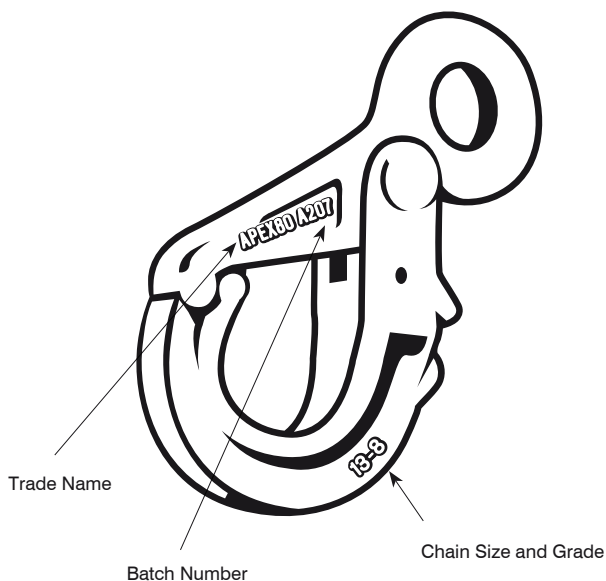
The capacity of the chain sling decreases when

- The angle between the legs increases
- The sling is in choke mode.

It is assumed that endless slings will only be used in the choke hitch mode, hence the derated capacities.

If single leg slings are used in the choke mode, the capacities listed must be reduced by 20% .

If using grab hooks as shortening clutches, those without cradles to support the chain links, the listed Work Load Limit must be reduced (usually by 20%).



■ **Sling Hook c/w
Safety Latch Eye Type**

Made to EN1677-2 specifications
Finish: Powder coated yellow



■ **Self Locking Hook
Eye Type**

Made to EN1677-3 specifications
Finish: Powder coated yellow



■ **Grab Hook with Cradle
Eye Type**

Made to EN1677-2 specifications
Finish: Powder coated yellow



■ **Foundry Hook
Eye Type**

Made to EN1677-2 specifications
Finish: Powder coated yellow



■ **Oblong Master Link
for 1 + 2 Leg Slings**

Made to EN1677-4 specifications
Finish: Powder coated yellow



■ **Sub Assembly
for 3 + 4 Leg Slings**

Made to EN1677-4 specifications
Finish: Powder coated yellow



■ **Sling Hook c/w
Safety Latch Clevis Type**

Made to EN1677-2 specifications
Finish: Powder coated yellow



■ **Self Locking Hook
Clevis Type**

Made to EN1677-3 specifications
Finish: Powder coated yellow



■ **Grab Hook with
Cradle Clevis Type**

Made to EN1677-2 specifications
Finish: Powder coated yellow



■ **Foundry Hook
Clevis Type**

Made to EN1677-2 specifications
Finish: Powder coated yellow



■ **Shortening Clutch
Clevis Type**

Made to EN1677-1 specifications
Finish: Powder coated yellow



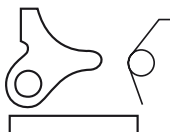
■ **Connecting Link**

Made to EN1677-1 specifications
Finish: Powder coated yellow



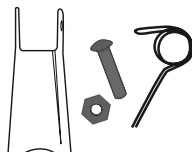
■ **Short Link Chain**

Made to EN818-2 specifications



■ **Trigger Kit for
Self Locking Hook**

Available for Clevis and Eye Type



■ **Latch Kit for
Safety Hook**

Available for Clevis and Eye Type



■ **Sling ID Tag for
SWR Sling**



■ **Sling ID Tag for
Chain Sling**