



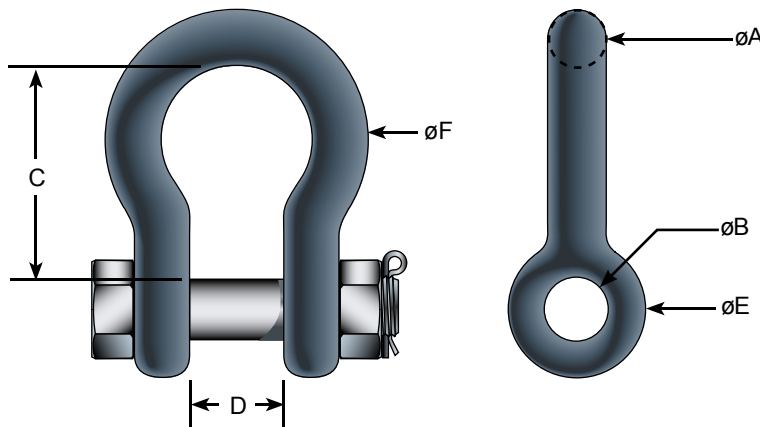
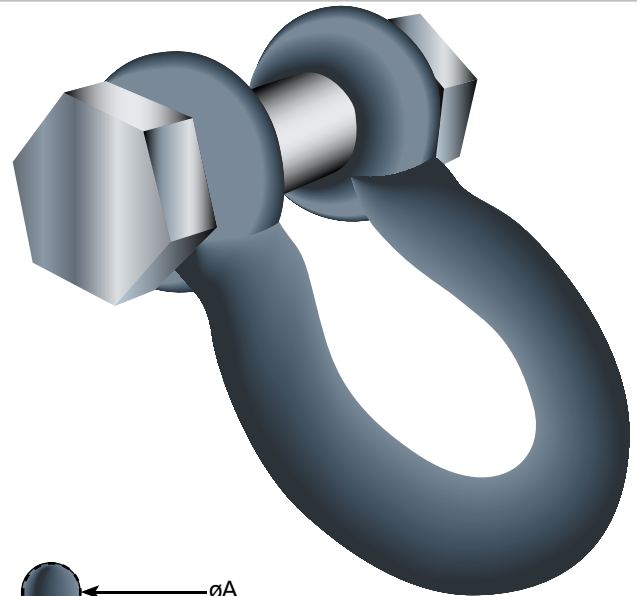
Anchor Shackles

Fendguard's safety bolt anchor shackles are suitable for all fendering applications. The large bow allows multiple chains to be attached to one shackle when necessary. The shackles can be supplied in a wide range of sizes. Shackles are supplied with a hot dip galvanized finish. The strength of these shackles exceeds most chain strengths of comparable size.

Shackles are forged, quenched and tempered with alloy safety bolt-type pins.

Finish will be hot dip galvanized.

Cotter pins are stainless steel.

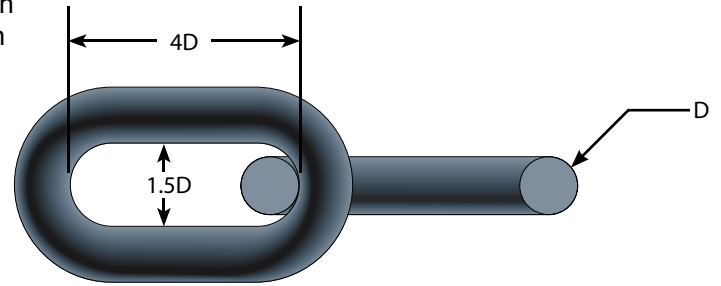


ANCHOR SHACKLE SPECIFICATIONS							
							dimensions in inches
Nominal Size	Breaking Strength (Kids)	A	B	C	D	E	F
1/4	6.62	1/4	5/16	11/8	1/2	3/4	3/4
5/16	9.92	5/16	3/8	11/4	9/16	7/8	1
3/8	13.2	3/8	7/16	17/16	11/16	1	11/8
7/16	19.8	7/16	1/2	111/16	3/4	11/8	11/4
1/2	26.5	1/2	5/8	17/8	13/16	13/16	15/16
5/8	43.0	5/8	3/4	27/16	11/16	19/16	111/16
3/4	62.8	3/4	7/8	3	11/4	17/8	2
7/8	86.0	7/8	1	35/16	17/16	21/8	21/4
1	112	1	11/8	33/4	111/16	23/8	25/8
11/8	126	11/8	11/4	41/4	17/8	25/8	3
11/4	159	11/4	13/8	41/2	2	215/16	33/8
13/8	179	13/8	11/2	51/4	21/4	35/16	35/8
11/2	225	11/2	15/8	53/4	23/8	35/8	37/8
13/4	331	13/4	2	7	27/8	45/16	5
2	463	2	21/4	73/4	31/4	5	53/4
21/2	728	21/2	23/4	10	41/8	6	71/4
3	1125	3	31/4	13	5	63/4	9
31/2	1588	31/2	33/4	15	53/4	81/2	101/8
4	1985	4	41/4	17	61/2	93/8	101/2

Above strengths and proof loads are for standard shackles. A higher strength alloy grade shackle is available.

Dock Fender Chain

Fendguard's dock fender chain is a versatile open link high strength chain suitable for all fendering applications. The long inside length and wide inside width allow standard shackles to fit through the link without the need for special end links or the need to double shackle the end. Fendguard's dock fender chain can be supplied in any practical length and is typically supplied with a hot dip galvanized finish. All sizes are proof tested at the factory and a certificate of testing can be supplied



All chain is heat treated after welding and before proof testing.

Chain can also be supplied self colored or with special coatings upon request. Longer lead times may be required for special finishes.

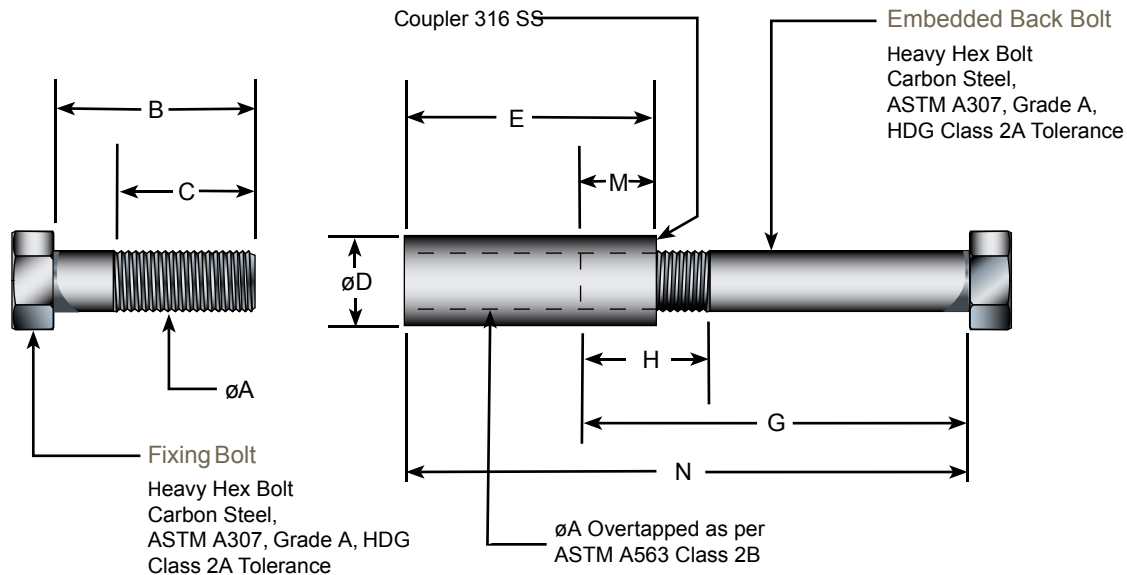
Other sizes and grades are available.

DOCK FENDER CHAIN SPECIFICATIONS						
Diameter (mm)	GRADE2		GRADE3		Inside Length (mm)	Inside Width (mm)
	Proof Load (metric tons)	Breaking Strength (metric tons)	Proof Load (metric tons)	Breaking Strength (metric tons)		
16	6.67	13.3	9.50	18.9	64	24
20	10.4	20.8	14.8	29.6	80	30
22	12.6	25.2	17.9	35.8	88	33
24	15.1	30.0	21.3	42.6	96	36
26	17.6	35.2	25.0	50.0	104	39
28	20.5	40.8	29.0	58.0	112	42
30	23.5	46.9	33.1	66.8	120	45
32	26.7	53.3	38.0	76.0	128	48
34	30.1	60.2	42.8	85.6	136	51
36	33.7	67.5	48.0	96.0	144	54
38	37.6	75.2	53.4	107	152	57
40	41.6	83.2	59.0	118	160	60
42	46.0	91.9	65.3	131	168	63
44	50.5	100	71.8	144	176	66
46	55.1	110	78.4	157	184	69
48	60.0	120	85.0	171	192	72
50	65.1	130	93.0	185	200	75
52	70.0	140	98.4	197	208	78
54	75.5	151	106	212	216	81
56	82.0	164	113	226	224	84
58	87.5	175	120	239	232	87

Anchor Bolts & Fixing Hardware

Fendguard provides a full range of hardware solutions and accessories to go along with our fender systems. All materials are steels, and galvanizations specially made for the marine made of standard high strength steels, and galvanizations specially made for the marine

environment, or manufactured to suit project requirements. Fendguard can also accommodate any size diameter and length requirements you may need.



INCH SERIES ANCHORS								
	Front Bolt Dimensions		Coupler Dimensions		Back Bolt Dimensions		Assembly Dimensions	
Size	Bolt Length	Thread Length	O.D.	Coupler Length	Bolt Length	Thread Length	Engagement	Engagement Length
ϕA	B	C	ϕD	E	G	H	M	N
3/4"-10UNC	21/4	13/4	11/8	31/8	43/4	13/4	1	67/8
7/8"-9UNC	23/4	21/4	11/4	37/8	51/4	2	11/8	8
11/8"-7UNC	31/4	23/4	13/4	41/2	71/4	23/4	13/8	103/8
13/8"-6UNC	37/8	3	2	5	87/8	31/4	15/8	121/4
11/2"-6UNC	43/8	31/2	21/4	53/8	93/4	31/2	13/4	133/8
13/4"-5UNC	45/8	33/4	21/2	6	115/8	4	2	155/8
2"-41/2UNC	51/2	41/2	3	7	131/4	41/2	21/4	18
2"-4UNC	63/4	55/8	4	85/8	163/4	51/2	23/4	225/8
3"-4UNC	75/8	61/2	41/4	87/8	22	61/2	31/4	275/8

METRIC SERIES ANCHORS								
	Front Bolt Dimensions		Coupler Dimensions		Back Bolt Dimensions		Assembly Dimensions	
Size	Bolt Length	Thread Length	O.D.	Coupler Length	Bolt Length	Thread Length	Engagement	Engagement Length
ϕA	B	C	ϕD	E	G	H	M	N
M20x2.5	58	45	30	80	120	45	26	174
M24x3	70	58	32	98	135	50	30	203
M30x3.5	84	70	44	115	185	70	36	264
M36x4	98	76	52	130	225	85	42	313
M42x4.5	110	90	58	140	250	90	48	342
M48x5	118	95	64	152	295	100	54	393
M56x5.5	140	115	76	180	340	115	62	453
M64x6	170	145	100	220	425	140	70	575
M80x6	195	165	110	225	560	165	86	699