

A photograph of the USS Iowa BB61 docked at a pier. The ship is decorated with a large American flag. In the foreground, several orange dock guard fenders are visible, attached to the ship's hull. A white gangway with the ship's name and number is extended from the pier. The background shows a large white structure, possibly a hangar, and a bridge.

Dock Guard Fenders

Characteristics

- Uniform increase of energy absorption and force of reaction
- Extremely robust & UV resistance
- No performance loss and unsinkable even if damaged
- Smaller skin damages can easily be repaired on site
- Low hull pressure and non-marking Polyurea (SPUA) skin

Applications

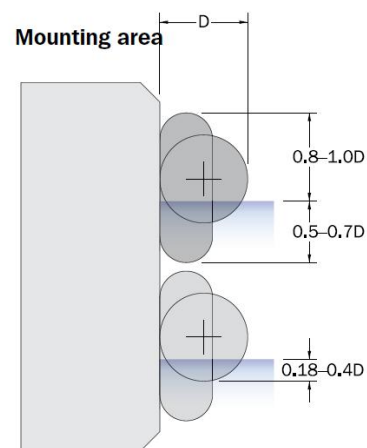
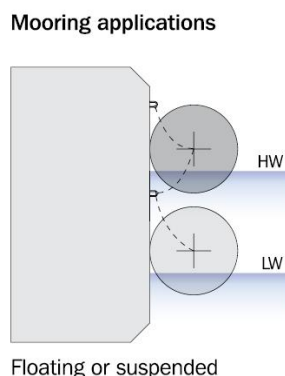
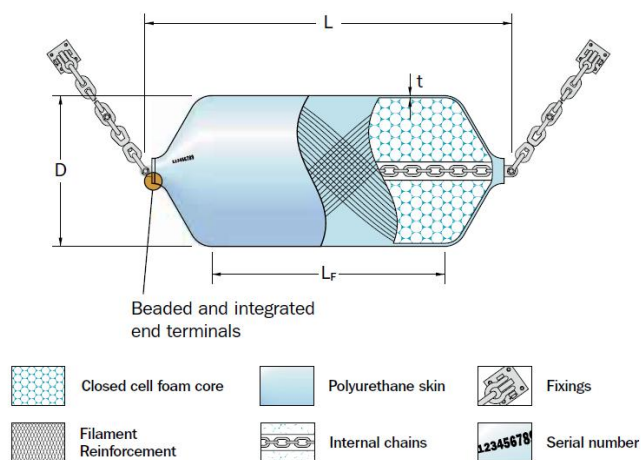
- Navy vessel berths and cruise terminals
- Ship-to-ship operations
- Ship-to-dock operations
- Oil & Gas terminals
- Submarine to-dock operations

What is Dock Guard Foam Filled Fender ?

Dock Guard Foam Filled Fender is a floating type compressive fender that is highly utility and suitable for a wide range of applications. It is made of an outer Polyurea (SPUA) protective layer, a reinforced rubber nylon cord fabric, as well as an internal space that is filled with 100% closed cell foam as a medium to absorb impact. Foam fenders outer layer has an extremely low frictional resistance and is highly resistant to wear due to its proven strength. Impact force is efficiently absorbed by the close cell foam fender, reducing the resultant force acted upon the wharf/vessel at the point of contact.

Dock Guard Foam Fender can be used for tugs, workboats, pilot boats and is suitable for open sea terminals, gravity ports, especially for large tidal wave docks. Foam fender is also a viable option for Ship-to-Ship (STS) operations.

Structure of Dock Guard Foam Fender



Supporting structures must be large enough to cope with tides and the fender footprint when compressed.

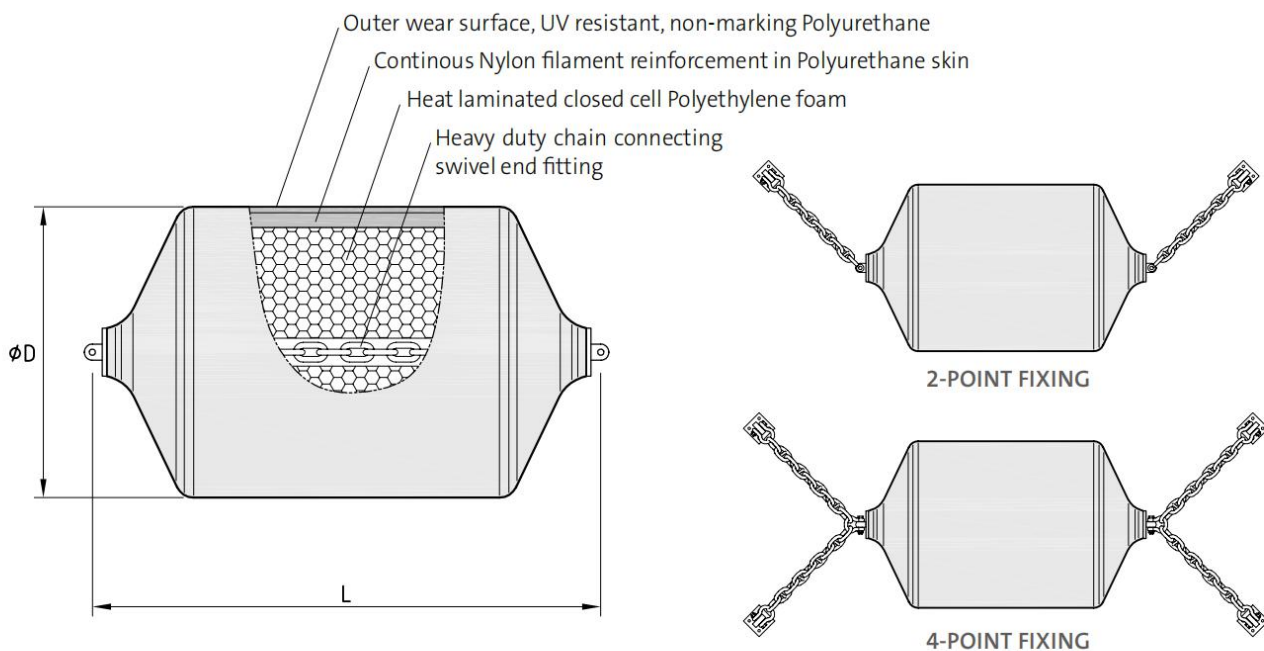
Technical Parameter of Dock Guard Foam Fender

	Diameter x Length		Standard Capacity			
	(ft)	(m)	Energy (kNm)	Reaction (kN)	Energy (ft-kip)	Reaction (kip)
Imperial	2 x 4	0.6 x 1.2	15	89	11	20
	2 x 6	0.6 x 1.8	24	147	18	33
	2 x 8	0.6 x 2.4	34	209	25	47
	2 x 10	0.6 x 3.0	43	267	32	60
	3 x 5	0.9 x 1.5	42	169	31	38
	3 x 6	0.9 x 1.8	53	214	39	48
	3 x 8	0.9 x 2.4	75	302	55	68
	3 x 10	0.9 x 3.0	96	391	71	88
	3 x 12	0.9 x 3.7	118	480	87	108
	3 x 14	0.9 x 4.3	140	569	103	128
	4 x 6	1.2 x 1.8	83	254	61	57
	4 x 8	1.2 x 2.4	121	369	89	83
	4 x 10	1.2 x 3.0	160	489	118	110
	4 x 12	1.2 x 3.7	198	605	146	136
	4 x 16	1.2 x 4.9	275	841	203	189
	4 x 20	1.2 x 6.1	353	1076	260	242
	5 x 8	1.5 x 2.4	184	449	136	101
	5 x 10	1.5 x 3.0	244	596	180	134
	5 x 12	1.5 x 3.7	304	743	224	167
	5 x 14	1.5 x 4.3	365	890	269	200
5 x 16	1.5 x 4.9	424	1036	313	233	
5 x 18	1.5 x 5.5	484	1183	357	266	
6 x 12	1.8 x 3.7	407	827	300	186	
6 x 16	1.8 x 4.9	579	1179	427	265	

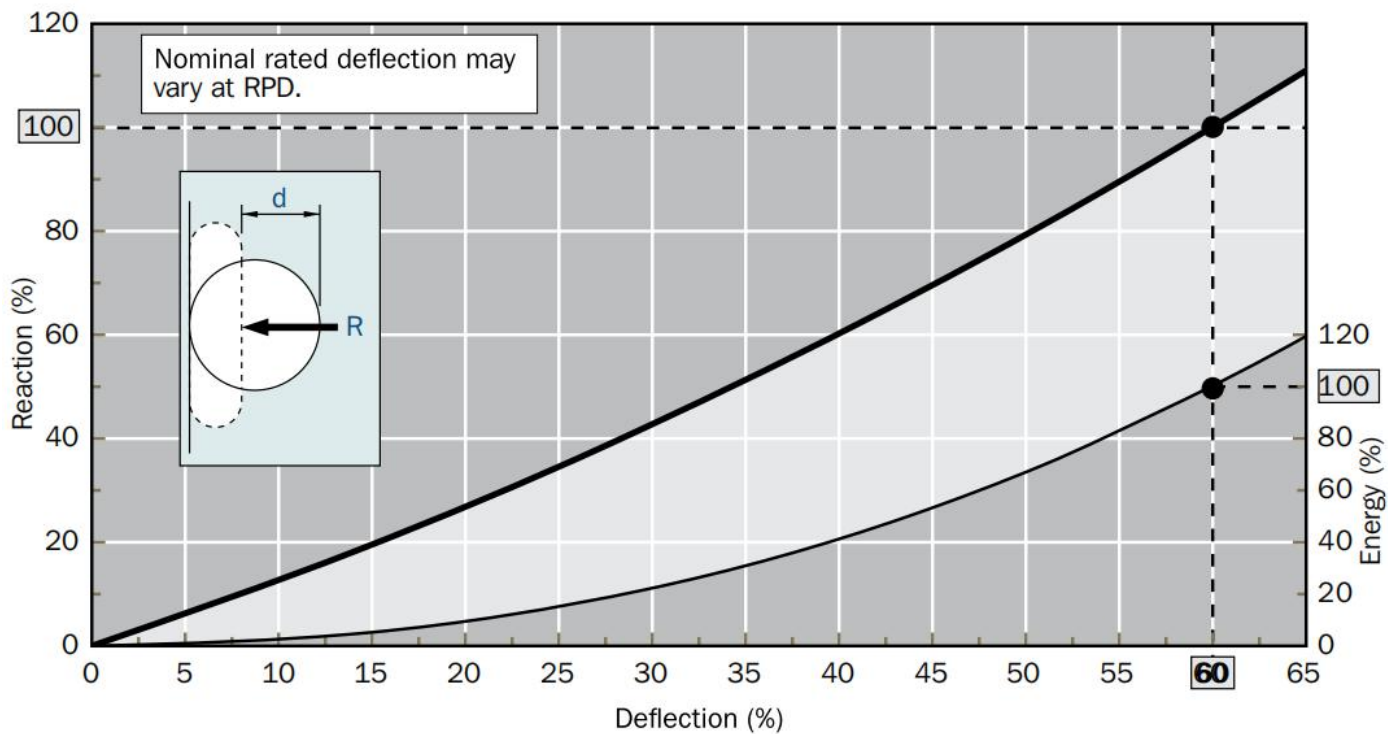
6 x 18	1.8 x 5.5	665	1354	491	305
6 x 20	1.8 x 6.1	751	1530	554	344
7 x 14	2.1 x 4.3	660	1152	487	259
7 x 16	2.1 x 4.9	778	1357	574	305
7 x 18	2.1 x 5.5	895	1561	660	351
7 x 20	2.1 x 6.1	1013	1766	747	397
8 x 14	2.4 x 4.3	839	1281	619	288
8 x 16	2.4 x 4.9	994	1517	733	341
8 x 18	2.4 x 5.5	1148	1753	847	394
8 x 20	2.4 x 6.1	1303	1988	961	447
8 x 22	2.4 x 6.7	1458	2224	1075	500
9 x 16	2.7 x 4.9	1205	1637	889	368
9 x 18	2.7 x 5.5	1399	1899	1032	427
9 x 20	2.7 x 6.1	1593	2162	1175	486
9 x 22	2.7 x 6.7	1787	2424	1318	545
10 x 16	3.0 x 4.9	1464	1788	1080	402
10 x 18	3.0 x 5.5	1704	2082	1257	468
10 x 20	3.0 x 6.1	1946	2375	1435	534
10 x 22	3.0 x 6.7	2187	2669	1613	600
10 x 24	3.0 x 7.3	2427	2963	1790	666
11 x 18	3.4 x 5.5	2009	2229	1482	501
11 x 20	3.4 x 6.1	2299	2551	1696	573
11 x 22	3.4 x 6.7	2590	2874	1910	646
12 x 24	3.7 x 7.3	3518	3781	2595	850
13 x 26	4.0 x 7.9	4393	4381	3240	985

Intermediate sizes and different foam capacities available upon request | Above mentioned sizes are indicative and may change during final design process

Dock Guard Foam Fender Drawing



Generic Performance Curve of Dock Guard Fenders



Note: Standard manufacturing and performance tolerance:
 Energy: 100%, Reaction: 100%, Tolerance: $\pm 15\%$

References

