

## Pneumatic rubber fenders according to International standard ISO17357-1:2014.

Constructed of inner rubber layer, out rubber layer, and synthetic-tire-cord layer.

Thickness of fender wall is over 18mm. Synthetic-tire-cord layer for reinforcement.

Body size tolerances: +10% -5% Fender Body with Chain Tire Net.

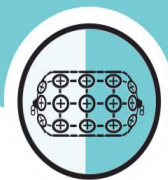
Include the Safety Valve for the fender diameter over 2.5m.

Both End shackles and swivel (S.S. or C.S. H.D.G).



**Table 1 — Pneumatic 50 fender size and performance requirements**

Nominal size diameter × length mm	Initial internal pressure kPa	Guaranteed energy absorption (GEA)	Reaction force at GEA deflection (R)	Hull pressure (Internal pressure) at GEA deflection (P)
		Minimum value at deflection $60 \pm 5\%$ kJ	Tolerance $\pm 10\%$ kN	Reference value kPa
500 × 1 000	50	6	64	132
600 × 1 000	50	8	74	126
700 × 1 500	50	17	137	135
1 000 × 1 500	50	32	182	122
1 000 × 2 000	50	45	257	132
1 200 × 2 000	50	63	297	126
1 350 × 2 500	50	102	427	130
1 500 × 3 000	50	153	579	132
1 700 × 3 000	50	191	639	128
2 000 × 3 500	50	308	875	128
2 500 × 4 000	50	663	1 381	137
2 500 × 5 500	50	943	2 019	148
3 300 × 4 500	50	1 175	1 884	130
3 300 × 6 500	50	1 814	3 015	146
3 300 × 10 600	50	3 067	5 257	158
4 500 × 9 000	50	4 752	5 747	146
4 500 × 12 000	50	6 473	7 984	154



**Table 2 — Pneumatic 80 fender size and performance requirements**

Nominal size diameter × length mm	Initial internal pressure kPa	Guaranteed energy absorption (GEA)	Reaction force at GEA deflection (R)	Hull pressure (Internal pressure) at GEA deflection (P)
		Minimum value at deflection $60 \pm 5 \%$ kJ	Tolerance $\pm 10 \%$ kN	Reference value kPa
500 × 1 000	80	8	85	174
600 × 1 000	80	11	98	166
700 × 1 500	80	24	180	177
1 000 × 1 500	80	45	239	160
1 000 × 2 000	80	63	338	174
1 200 × 2 000	80	88	390	166
1 350 × 2 500	80	142	561	170
1 500 × 3 000	80	214	761	174
1 700 × 3 000	80	267	840	168
2 000 × 3 500	80	430	1 150	168
2 500 × 4 000	80	925	1 815	180
2 500 × 5 500	80	1 317	2 653	195
3 300 × 4 500	80	1 640	2 476	171
3 300 × 6 500	80	2 532	3 961	191
3 300 × 10 600	80	4 281	6 907	208
4 500 × 9 000	80	6 633	7 551	192
4 500 × 12 000	80	9 037	10 490	202

