
IRM
OFFSHORE AND MARINE
ENGINEERS PVT. LTD.
IRM
PNEUMATIC FENDERS

Pneumatic Fenders are manufactured by lining and vulcanizing process under high pressure and temperature to ensure adequate bonding with each layer to ensure a trouble-free long life. Having a fully-capable in-house facility, IRM provides manufacturing and testing of Pneumatic fenders strictly per ISO 17357-1: 2014.

IRM Pneumatic Fenders are offered with internal air pressure of 0.5 Kg/Cm^2 (50kPa) & 0.8 kg/cm^2 (80kPa)

Salient Features of Pneumatic fenders:

- ISO17357-1 : 2014 complaint product
- Easy to install and maintain
- Low hull Pressure
- Inclined berthing up to 15 degrees
- No reduction or variation in performance over time
- Suitable for different tidal ranges
- Excellent compressibility & Elasticity

Applications :

- Ship to Ship Transfer / Lightering Operation
- Shipyards (including Temporary Berthing)
- Lay-up of Vessels
- Navy/Defence Vessels
- Offshore

The unique characteristics of Pneumatic Fenders make them suitable Fender for Liquid cargo Vessel (VLC-C/VLGC/FPSO/FSRU) and Navy vessels with very sensitive equipment.

We offer pneumatic fenders in two types in compliance with international standard ISO 17357-1:2014 defined as Type I – chain-tyre-net (CTN) type fenders with lorry or aircraft tyre option and Type II – sling-type fenders.

The pneumatic fenders with white jewellery (white tyre chain net) are also supplied for navy applications on a made-to-order basis.

The type of Fender to be used depends on its application, usage, and facility requirements.

Chain tyre net with Automobile/Aircraft Tyre

Type I: Chain-tyre-net type

Pneumatic Fenders with automobile/ aircraft tyres are used for most common applications by vessels, shipyards, navy, vessel-layup or STS requirements.
We offer a net assembly design where a single tyre can be replaced if damaged, which curtails the need to replace complete chain assembly as many low-cost fender manufacturers provide.

Sling type fender

Type II: Sling type

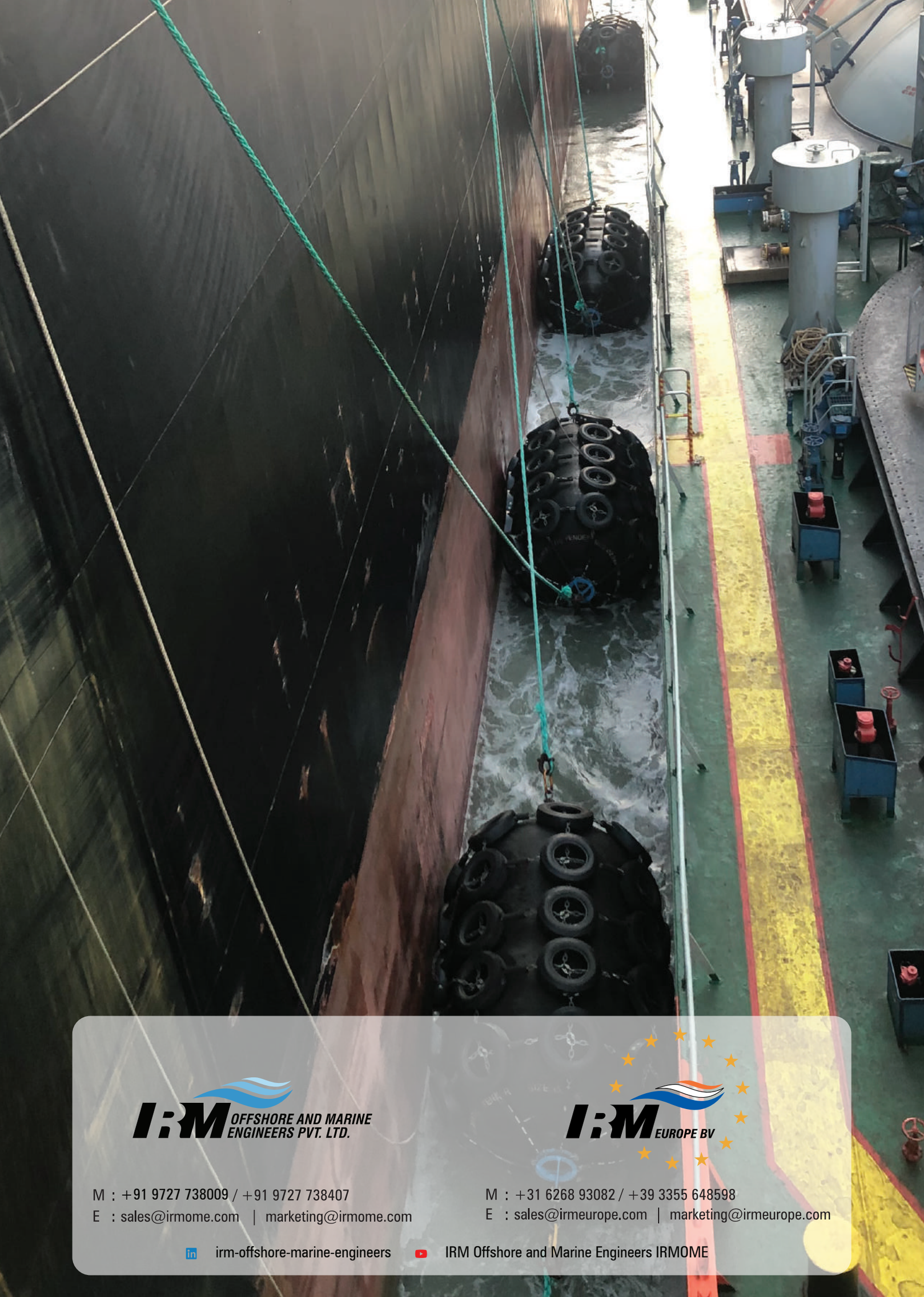
Sling type fenders are generally used on docks and vessels, large tankers as less reaction force is required. These fenders are very economical and low maintenance as well as they are fast and easy to install.

PERFORMANCE DETAILS OF PNEUMATIC FENDER (50kPa)

NOMINAL SIZE	INITIAL INTERNAL PRESSURE	GUARANTEED ENERGY ABSORPTION (GEA)	REACTION FORCE AT GEA	HULL PRESSURE AT GEA	SAFETY VALVE SETTING PRESSURE	TESTING PRESSURE	Weight of CTN (Type-I)		WEIGHT OF SLING TYPE (TYPE-II)
							APPROX. WEIGHT OF FENDER BODY	APPROX. WEIGHT OF CHAIN TYRE NET	
Dia. X Length		E	R	P					
mm X mm	kPa	kNm	kN	kPa	kPa	kPa	kg	kg	kg
500 X 1000	50	6	64	132	-	200	28	-	31
600 X 1000	50	8	74	126	-	200	48	-	53
660 X 1160	50	10	94	128	-	200	56	-	62
700 X 1500	50	17	137	135	-	200	62	105	68
1000 X 1500	50	32	182	122	-	200	152	185	167
1000 X 2000	50	45	257	132	-	200	192	220	211
1200 X 2000	50	63	297	126	-	200	232	255	255
1350 X 2500	50	102	427	130	-	200	315	350	347
1500 X 3000	50	153	579	132	-	200	367	485	404
1700 X 3000	50	191	639	128	-	200	570	630	627
2000 X 3500	50	308	875	128	-	200	729	1195	802
2500 X 4000	50	663	1381	137	175	250	969	1600	1066
2500 X 5500	50	943	2019	148	175	250	1219	2340	1341
3300 X 4500	50	1175	1884	130	175	250	2160	2300	2376
3300 X 6500	50	1814	3015	146	175	250	2415	3280	2657
3300 X 10600	50	3067	5257	158	175	250	5220	4985	5742
4500 X 9000	50	4752	5747	146	175	250	5365	5475	5902
4500 X 12000	50	6473	7984	154	175	250	8760	7500	-
Dim. Tol. +10% / -5%		Manufacturing Tolerance ± 10%					Weight Tolerance ± 10%		

PERFORMANCE DETAILS OF PNEUMATIC FENDER (80kPa)

NOMINAL SIZE	INITIAL INTERNAL PRESSURE	GUARANTEED ENERGY ABSORPTION (GEA)	REACTION FORCE AT GEA	HULL PRESSURE AT GEA	SAFETY VALVE SETTING PRESSURE	TESTING PRESSURE	Weight of CTN (Type-I)		WEIGHT OF SLING TYPE (TYPE-II)
							APPROX. WEIGHT OF FENDER BODY	APPROX. WEIGHT OF CHAIN TYRE NET	
Dia. X Length		E	R	P					
mm X mm	kPa	kNm	kN	kPa	kPa	kPa	kg	kg	kg
500 X 1000	80	8	85	174	-	250	31	-	34
600 X 1000	80	11	98	166	-	250	53	-	58
660 X 1160	80	16	138	168	-	250	62	-	68
700 X 1500	80	24	180	177	-	250	68	105	75
1000 X 1500	80	45	239	160	-	250	167	185	184
1000 X 2000	80	63	338	174	-	250	211	220	232
1200 X 2000	80	88	390	166	-	250	255	255	281
1350 X 2500	80	142	561	170	-	250	347	350	382
1500 X 3000	80	214	761	174	-	250	404	485	444
1700 X 3000	80	267	840	168	-	250	627	630	690
2000 X 3500	80	430	1150	168	-	250	802	1195	882
2500 X 4000	80	925	1815	180	230	300	1066	1600	1173
2500 X 5500	80	1317	2653	195	230	300	1341	2340	1475
3300 X 4500	80	1640	2476	171	230	300	2376	2300	2614
3300 X 6500	80	2532	3961	191	230	300	2657	3280	2923
3300 X 10600	80	4281	6907	208	230	300	5742	4985	6316
4500 X 9000	80	6633	7551	192	230	300	5902	5475	-
4500 X 12000	80	9037	10490	202	230	300	9636	7500	-
Dim. Tol. +10% / -5%		Manufacturing Tolerance ± 10%					Weight Tolerance ± 10%		



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