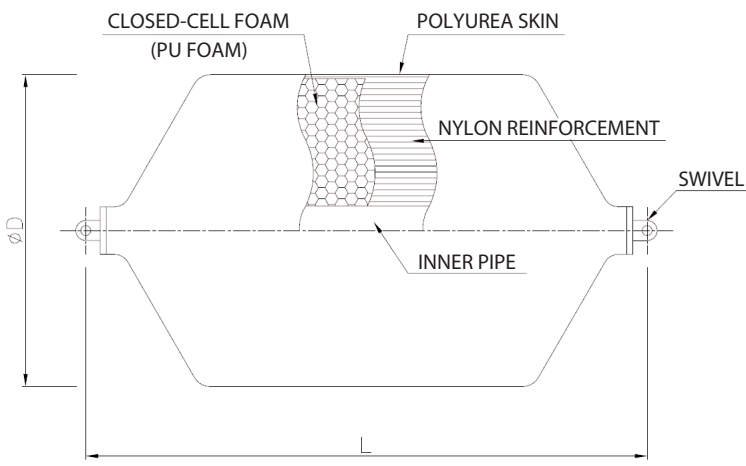




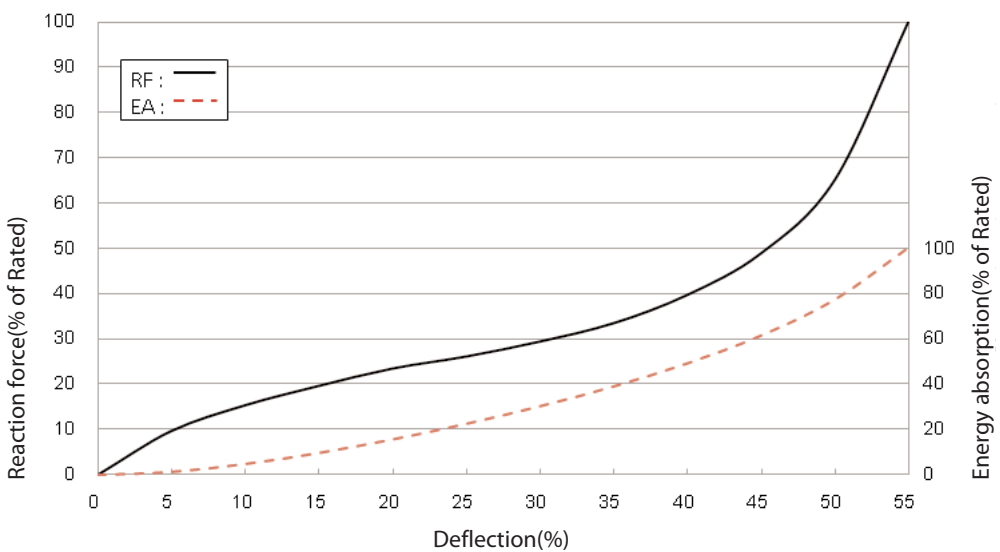
FOAM FILLED FENDER

Foam filled fender consist of closed cell polyurethane foam core, reinforced polyurethane elastomer, nylon reinforcement, inner pipe and swivel. Foam filled fender is unsinkable with their closed cell polyurethane foam core. Because inner foam and outside skin is the same base metarial, they are completely engaged. So mechanical properties such as relieving stress, recovery rate, durability are improved. And Foam filled fender is very easy to install and never sink or blow out.

Drawing



Performance Curve



Deflection(%)	0	5	10	15	20	25	30	35	40	45	50	55
EA(%)	0	1.3	4.8	9.7	18	22.5	30.2	38.9	49.1	61.4	77.1	100
RF(%)	0	9.7	15.4	19.7	23.5	26.2	29.5	35	39.8	48.9	65.1	100

Performance table

SIZE		STANDARD		HIGH		EXTRA HIGH		SUPER HIGH	
DIA (mm)	LENGTH (mm)	Reaction Force (ton)	Energy Absorption (ton-m)	Reaction Force (ton)	Energy Absorption (ton-m)	Reaction Force (ton)	Energy Absorption (ton-m)	Reaction Force (ton)	Energy Absorption (ton-m)
300	600	2.3	0.19	3.0	0.24	4.4	0.36	6.0	0.49
500	1000	6.5	0.87	8.4	1.13	12.3	1.65	16.8	2.26
700	1500	13.6	2.55	17.6	3.32	25.8	4.85	35.3	6.63
1000	1500	19.4	5.21	25.2	6.77	36.8	9.89	50.4	13.54
1200	2000	31.0	10.00	40.3	13.00	58.9	18.99	80.6	25.99
1350	2500	43.6	15.81	56.7	20.56	82.9	30.04	113.4	41.11
1500	2500	48.4	19.52	63.0	25.38	92.0	37.09	126.0	50.76
1700	3000	65.9	30.09	85.6	39.12	125.2	57.17	171.3	78.23
2000	3500	90.4	48.59	117.6	63.17	171.8	92.33	235.2	126.34
2400	3700	114.8	73.96	149.2	96.15	218.1	140.53	298.4	192.30
2500	4500	145.4	97.58	189.0	126.85	276.3	185.40	378.1	253.70
3000	5000	193.7	156.25	251.8	203.12	368.0	296.87	503.5	406.25
3300	6500	277.4	245.42	360.7	319.05	527.1	466.30	721.3	638.09
3500	5500	248.5	233.62	323.0	303.71	472.1	443.88	646.0	607.42

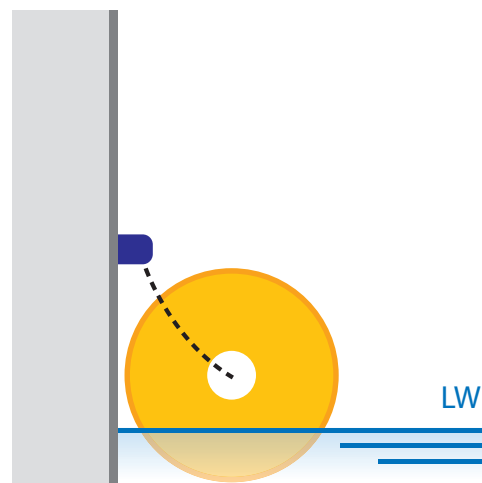
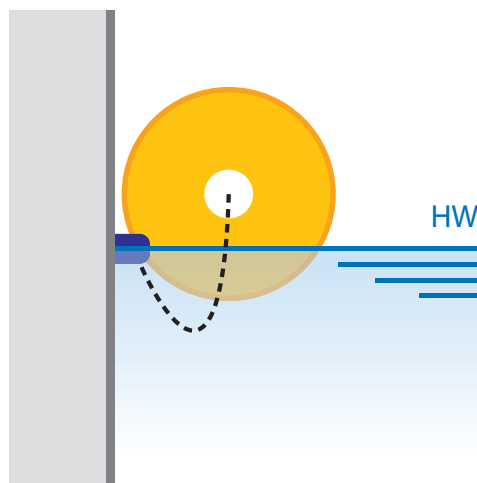
Performance Tolerance : $\pm 15\%$

All Reaction force, Energy absorption values are at 55% Deflection.

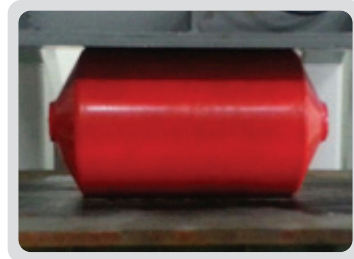
We can manufacture virtually any size, please consult DRB for details.

Mooring applications

Foam filled fenders must be installed onto a solid structure or reaction panel. Indicative layout is given below.



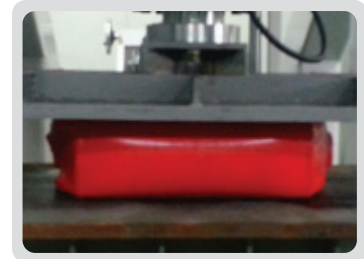
Performance Test



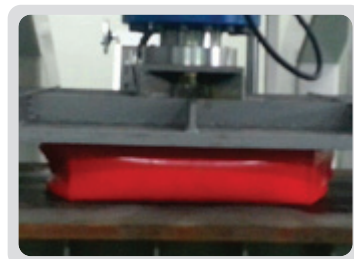
0% Deflection



20% Deflection



40% Deflection



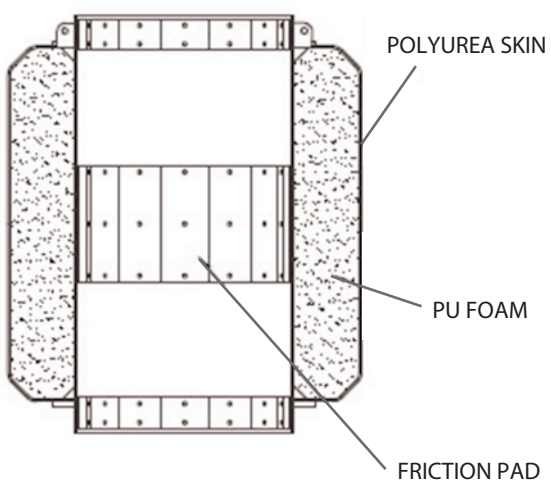
60% Deflection

After 1 hour
Recover to MIN.
95% of original height



Donut Fenders

Donut fenders provide a simple and versatile solution to protection exposed corner and channels in tidal zones. Installation could not be simpler. The Donut fender simply drops over a tubular pile and is ready for use.



Certificate (PIANC)

GL Noble Denton



PRODUCT CERTIFICATE

This is to certify that Germanischer Lloyd Industrial Services Korea Ltd., Co. trading as GL Noble Denton has witnessed and verified reported results of fenders manufactured by :

DRB HOLDING CO.,LTD.
28, Gongdandong-ro, 55beon-gil, Geumjeong-gu,
Busan, Korea.

These fenders were Performance and Fatigue Tested(3,000 cycles) in accordance with:

PIANC Guidelines for the Design of Fender Systems: 2002
Appendix "A": Procedure to Determine & Report the Performance of Marine Fenders

This Product Certificate applies to the following fender types:

1. DRB CELL FENDER - Type DR
2. DRB FLOATING FENDER - Type Foam Filled DF3
3. DRB SUPER CONE - Type DHR
4. DRB ARCH - Type DV
5. DRB ELEMENT - Type DE
6. DRB D - Type DD

Product Approval Date:
10th May, 2013(DR, DF)
30th December, 2013(DHR)
11th March, 2014(DV, DE, DD)
Certificate Date:
13th May, 2013(DR, DF)
26th February, 2014(DHR)
7th April, 2014(DV, DE, DD)

Approval Certificate No.:
0658-13-00171-PC-003

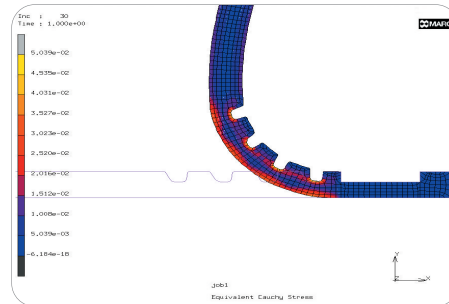
Hie-Tay Park
Managing Director
Germanischer Lloyd
Industrial Services Korea Ltd., Co.
trading as GL Noble Denton

Other Products

Auto Cable Cover Belt



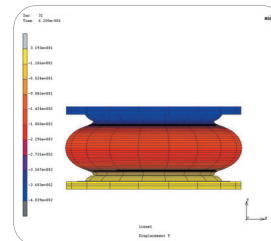
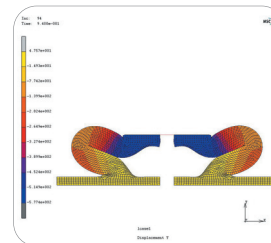
Fatigue Testing



Fatigue Simulation



Fender





www.drbworld.com

DRB Holding Co., Ltd.

Headquarters DRB

28, Gongdandong-ro 55beon-gil, Geumjeong-gu, Busan, Korea
Tel. +82-51-520-9159 Fax. +82-51-523-2151

Sales Office DRB / Construction Materials Sales Division

26, Yeongdeungpo-ro 53-gil, Yeongdeungpo-gu, Seoul, Korea
Tel. +82-2-2168-9134 Fax. +82-2-2672-6423

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※ Please be sure to check the current specifications of a product as those stated in this catalog may be changed without prior notice.

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