

## MCL CELL FENDER

Fender Performance At Design Deflection

	F0		F1		F2		F3		F4		Size
	52.5%		52.5%		52.5%		52.5%		52.5%		
	R/F (kN)	E/A (kNm)									
500H	184	40.5	163	35.9	141	31.1	109	23.9	87.1	19.1	500H
600H	265	69.9	235	62.1	204	53.7	157	41.4	126	33.0	600H
800H	471	166	418	147	362	128	279	98.1	223	78.5	800H
1000H	736	324	653	287	566	249	435	191	348	153	1000H
1150H	973	492	863	436	748	379	576	291	461	233	1150H
1250H	1147	633	1020	561	884	486	680	374	544	299	1250H
1450H	1550	991	1373	876	1187	759	915	584	732	467	1450H
1600H	1883	1324	1667	1177	1451	1020	1118	785	891	628	1600H
1700H	2128	1589	1883	1412	1638	1226	1255	940	1010	751	1700H
2000H	2942	2589	2609	2295	2265	1991	1746	1530	1393	1226	2000H
2250H	3727	3687	3305	3275	2864	2834	2207	2177	1765	1746	2250H
2500H	4597	5056	4082	4489	3536	3892	2721	2988	2176	2391	2500H
3000H	6620	8737	5878	7757	5092	6726	3919	5162	3133	4131	3000H

\* PERFORMANCE TOLERANCE ±10%

Small Reduction Force for Angular Compression Performance Adjustment Factor from 52.5% deflecting Value

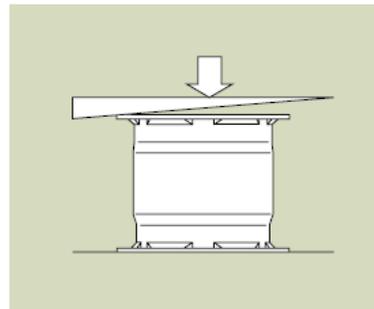
Angle (deg)	0	3	4	5	6	7	8	9	10	15	20
Compress until Design Fender Reaction Force Value											
E/A	1.000	0.977	0.966	0.950	0.936	0.922	0.910	0.898	0.883	0.801	0.652
R/F	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Compress until Maximum Fender Reaction Force Value											
E/A	1.059	1.036	1.024	1.009	0.997	0.982	0.968	0.955	0.940	0.861	0.722
R/F	1.063	1.063	1.063	1.063	1.063	1.063	1.063	1.063	1.063	1.063	1.063

Performance of Intermediate Deflection

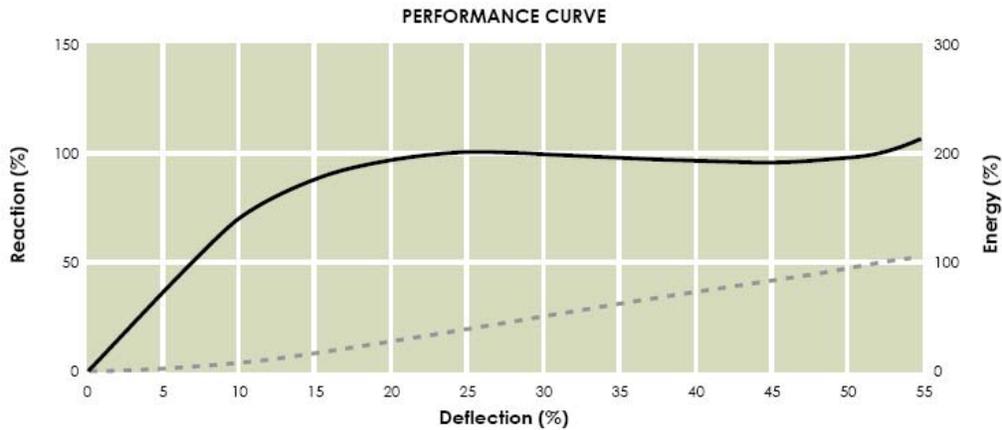
Deflection (%)	R/F	E/A
0	0%	0%
5	39%	2%
10	70%	8%
15	88%	17%
20	96%	28%
25	100%	39%
30	99%	50%
35	97%	62%
40	96%	72%
45	95%	83%
50	97%	94%
52.5	100%	100%
55	107%	106%

Temperature Factor

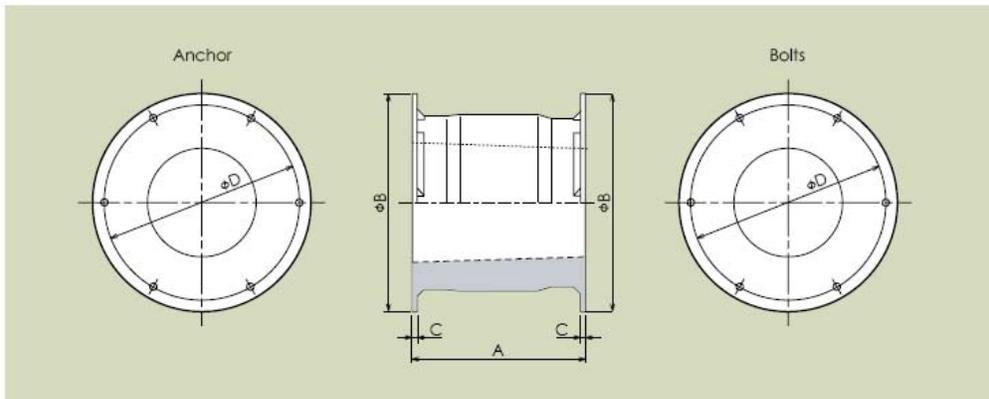
Temperature (°C)	TF
-20	1.375
-10	1.182
0	1.083
10	1.034
23	1
30	0.976
40	0.945
50	0.918
60	0.917



# Morse Rubber



## Dimension of CSS Fender



	A	φB	C	φD	Anchor	New Jetty	Existing	Weight	
						FL Bolts	CR Bolt		
	(mm)	(mm)	(mm)	(mm)		kg	kg	kg	
500H	500	650	16-20	550	4XM24	1.56	1.22	110	500H
600H	600	780	20-25	660	4XM27	1.84	1.7	197	600H
800H	800	1050	27-33	900	6XM30	2.7	2.27	432	800H
1000H	1000	1230	32-40	1100	6XM36	4.21	3.72	760	1000H
1150H	1150	1440	37-45	1300	6XM42	7.38	6.23	1205	1150H
1250H	1250	1600	40-49	1450	6XM42	7.38	6.23	1550	1250H
1450H	1450	1820	42-45	1650	6XM48	10.5	9.22	2350	1450H
1600H	1600	1960	45-46	1800	8XM48	10.5	9.22	2940	1600H
1700H	1700	2100	50-60	1900	8XM56	16.7	14.8	3730	1700H
2000H	2000	2200	50-62	2000	8XM64	20.4	21.3	5260	2000H
2250H	2250	2550	59-63	2300	10XM64	20.4	21.3	7450	2250H
2500H	2500	2950	69-84	2700	10XM64	20.4	21.3	10750	2500H
3000H	3000	3350	82-98	3150	12XM76	34.0	N/A	18600	3000H