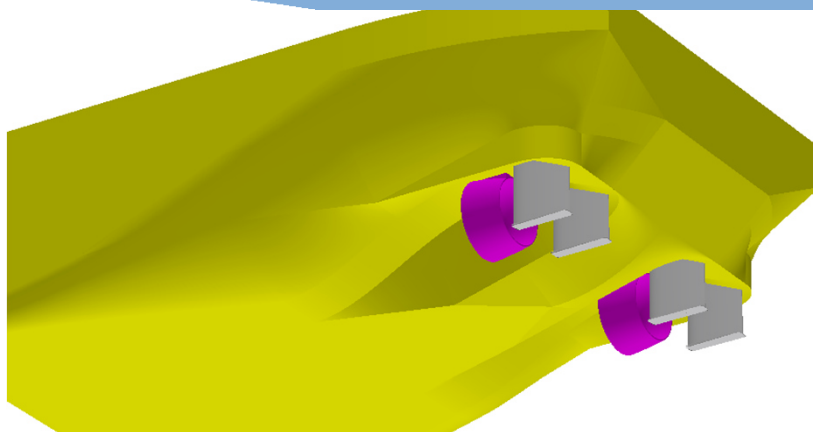
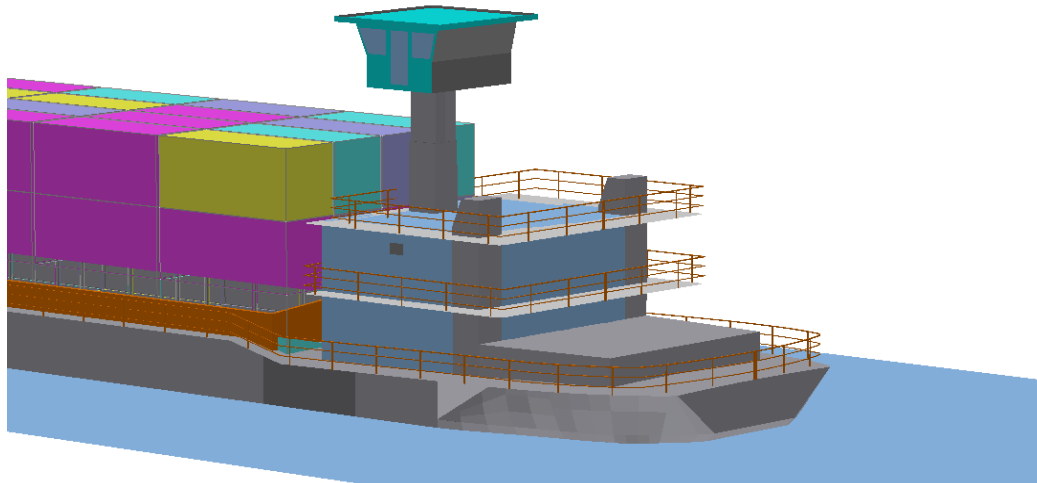
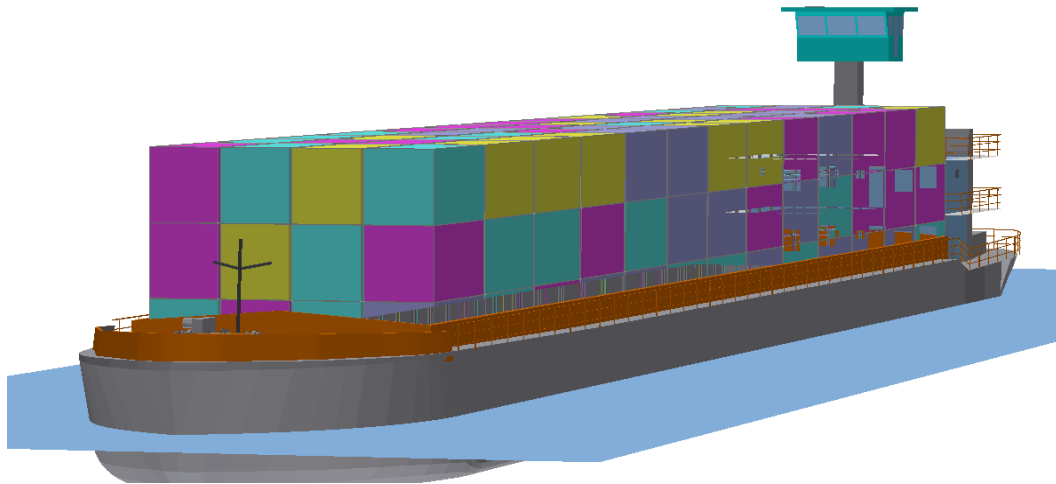


## Container Vessel CO2



### Main dimensions

Cargo type		Container
Hull type		CO2
Length o.A.	L	110,00 m
Breadth	B	12,00 m
Depth Main Deck	D	4,30 m
Draught max.	T	2,60 m
Lightweight estimate		880 t
Payload at Tmax		2140 t
Container capacity	TEU	208

### Applicable regulations

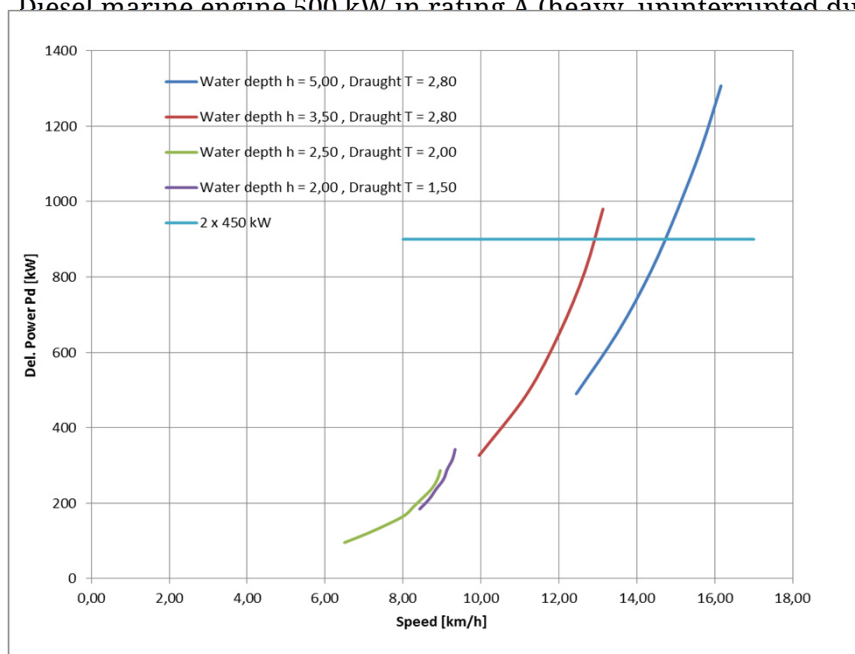
- Vessel built according to Rules and Regulations for the Construction and Classification of Inland Waterways Ships by the Indian Register of Shipping.
- Applicable rules of IWAI for navigation on NW-1, all reaches from Haldia (West Bengal) to Allahabad (Uttar Pradesh).

### Powering

Number of Propellers (in nozzles)		2
Propeller diameter	$D_p$	1,45 m
Del. total power	$P_d$	900 kW
Rate of rev.	n [1/min]	390

Reversible gear box

Diesel marine engine 500 kW in rating A (heavy uninterrupted duty)



**Cargo hold**

	Lc	Bc	Hc	Volume
• Dimensions:	84,0 m	10,10 m	4,50 m	3817,8 m <sup>3</sup>

- Suits 4 Containers in breadth
- Reinforcements at container stacking positions
- Containers on 4 stacks height, after control of stability
- Container cell guides in case of necessity for zone 1 navigation

**Double hull**

Double bottom 800 mm in height, side cells 950 mm in breadth

**Provisions**

Diesel Oil	30 t
Fresh Water	12 t
Lub Oil	1 t
Sludge	2 t
Black Water	8 t

**Equipment**

- Twin rudder blades with high efficiency profiles behind each propeller.
- Bow thruster with vertical propeller shaft, propeller diameter 0.80 m. Diesel engine drive, 150 kW.
- Two bow rudder flaps in dimension of b x h = 2.0 x 1.0 m
- Two bow anchors, each 1160 kg
- One stern anchor 580 kg

**Accommodation**

Wheelhouse on lifting column, lifting height 4.50

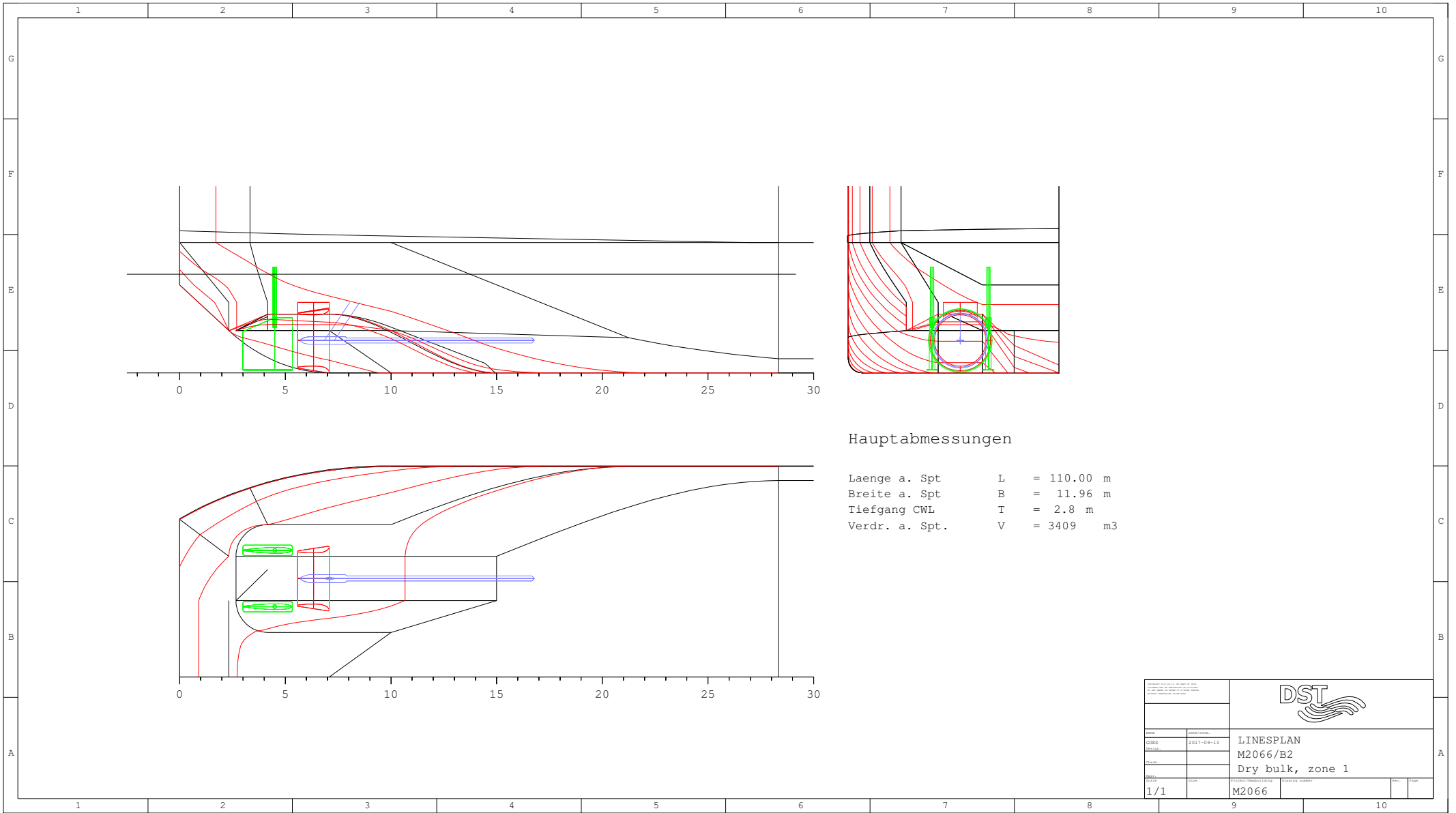
- Accommodation on two decks for crew of max. 12 persons

**Weight calculation results for major components**

Steel weight, longt. Framing	805 t
Accommodation	105 t
Machinery & outfitting	50 t
<b>Sum</b>	<b>880 t</b>


**Electric load requirements**

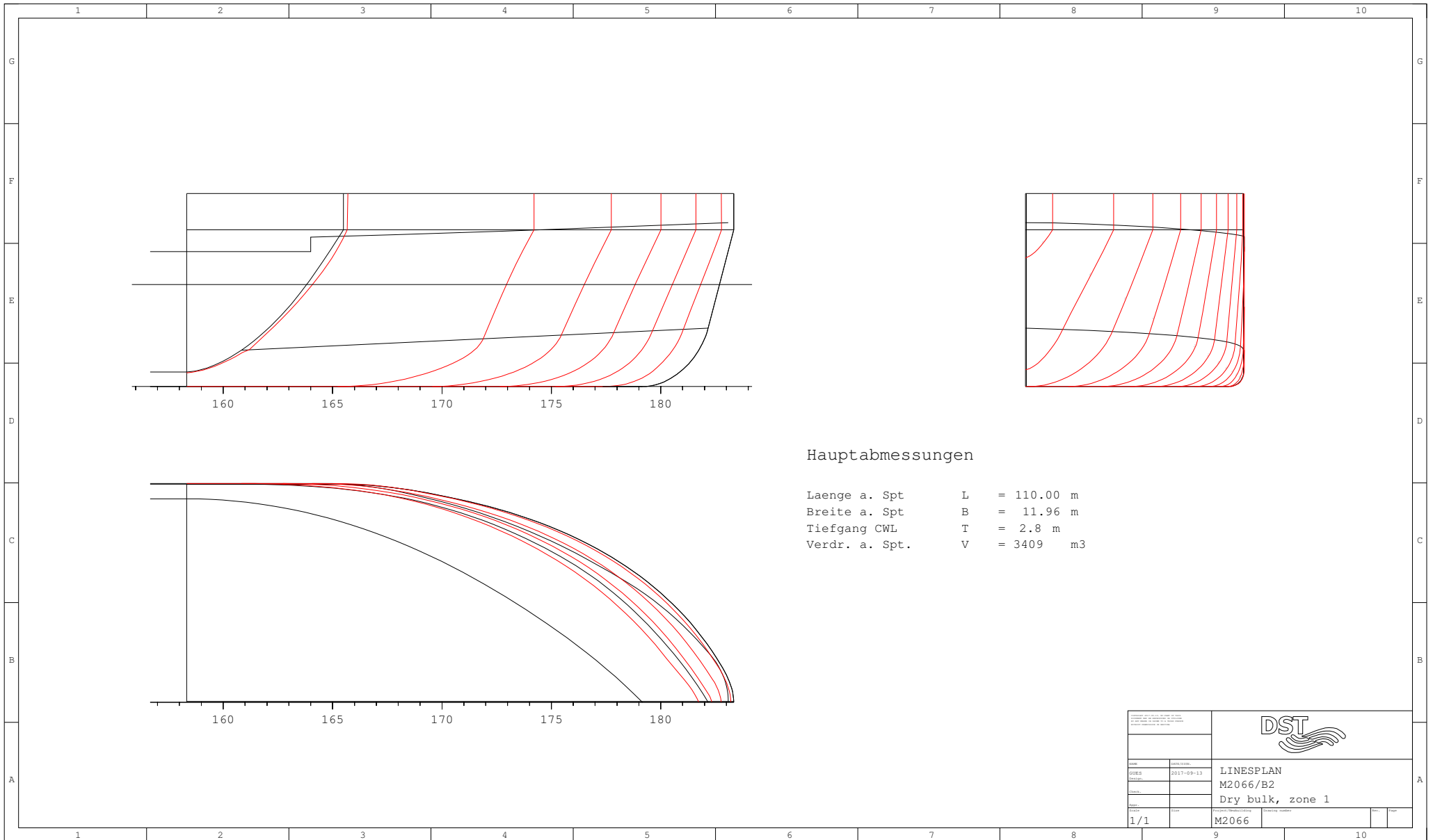
Diesel driven genset, 60 kW output  
 Three-phase AC supply to anchor winches  
 220 V supply to accomadation  
 220 V supply to AC accomodation  
 24 V emergency circuit



Hauptabmessungen

Laenge a. Spt	L	=	110.00	m
Breite a. Spt	B	=	11.96	m
Tiefgang CWL	T	=	2.8	m
Verdr. a. Spt.	V	=	3409	m3

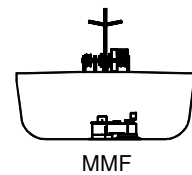
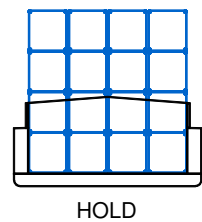
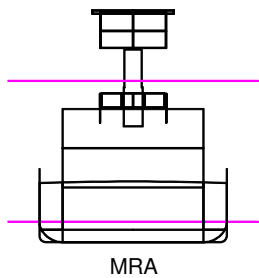
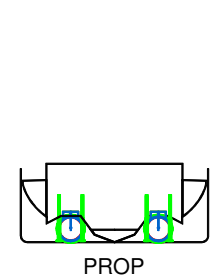
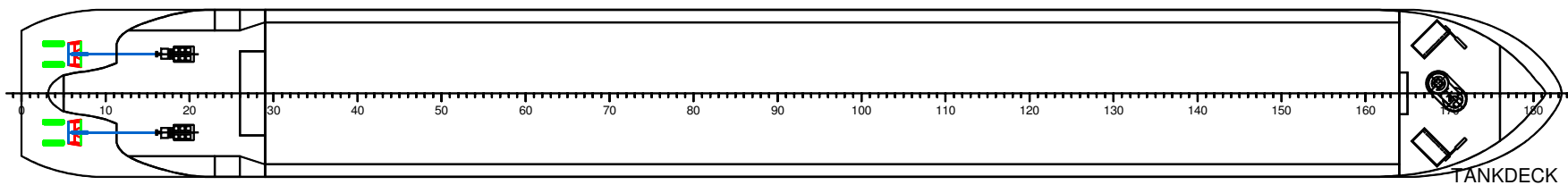
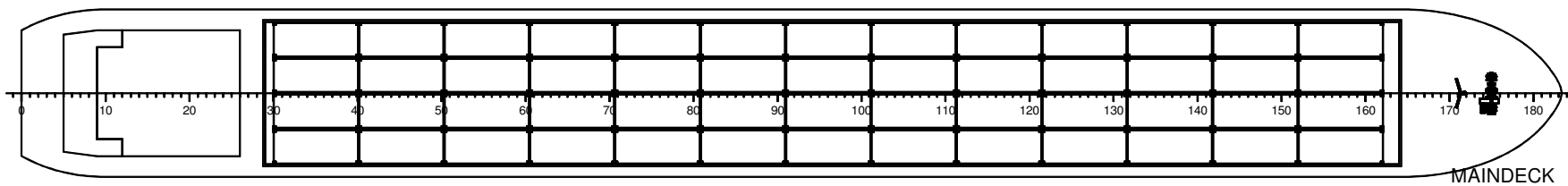
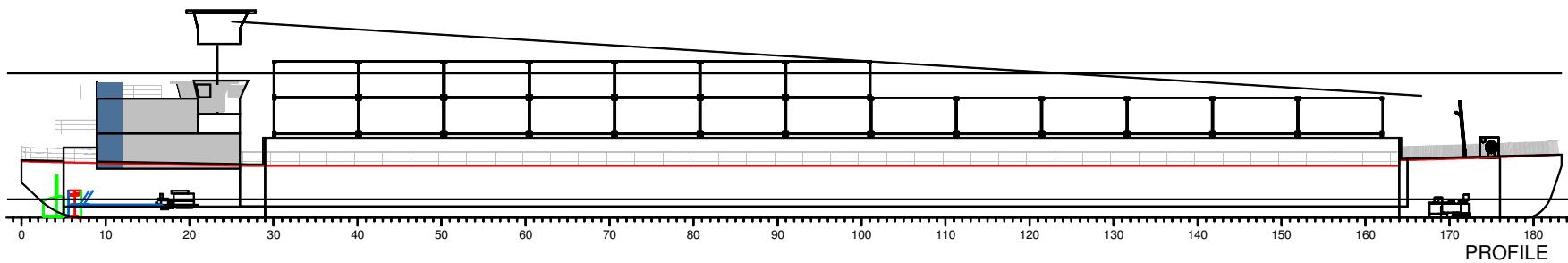
<small>Copyright © 2013 by DST. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of DST.</small>			
NOV	DATE/ENG	LINESPLAN	
01/05	2017-09-13	M2066/B2	
PLAN		Dry bulk, zone 1	
NOV	SCALE	PROJECT/NO.	ISSUE NUMBER
1/1	1:1	M2066	



### Hauptabmessungen


Laenge a. Spt      L    = 110.00 m  
 Breite a. Spt      B    = 11.96 m  
 Tiefgang CWL      T    = 2.8 m  
 Verdr. a. Spt.     V    = 3409 m<sup>3</sup>

<small>           INSTITUT FÜR SCHIFFBAU UND MASCHINENBAU            UNIVERSITÄT DUISBURG ESSEN            LEHRGEBIET SCHIFFBAU         </small>			
<small>           NAME            DATUM            STATUS            BLATT         </small>	<small>           DST/1206            2017-09-13            M2066/B2            Dry bulk, zone 1         </small>	<small>           PROJECT/STANDARD NAME            M2066         </small>	
<small>           1/1         </small>	<small>           9         </small>	<small>           10         </small>	<small>           10         </small>



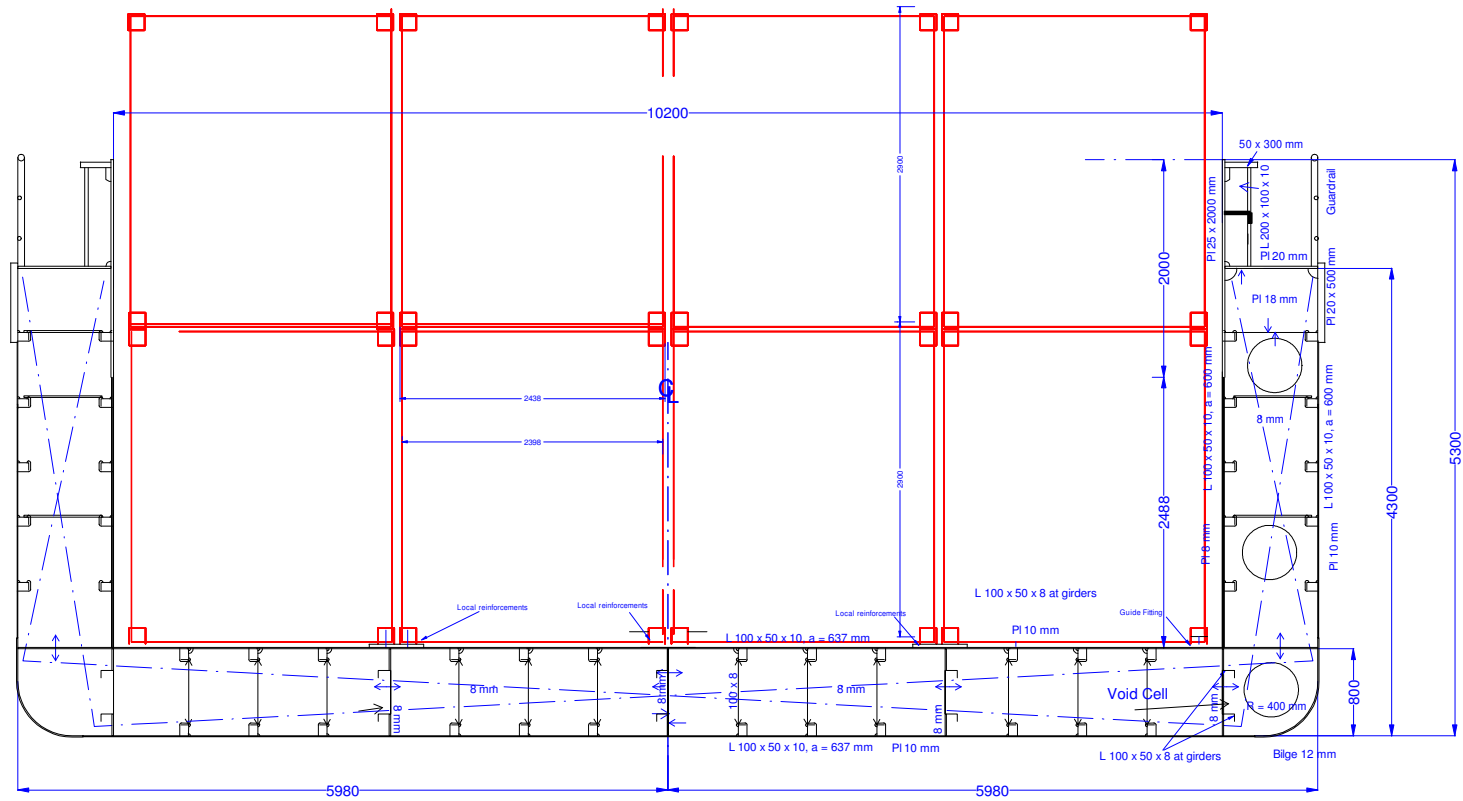
Main dimensions

Length	L =	110,00	m
Breadth moulded	B =	12,00	m
Breadth oA	BoA =	12,05	m
Draught max	T =	2,50	m

																	
<b>CONTAINER CARRIER CO1</b>																	
<table border="1"> <tr><td>Model</td><td>CO1</td></tr> <tr><td>Date</td><td>2017-05-12</td></tr> <tr><td>Client</td><td></td></tr> <tr><td>Scale</td><td></td></tr> <tr><td>Author</td><td></td></tr> <tr><td>Drawn</td><td></td></tr> </table>	Model	CO1	Date	2017-05-12	Client		Scale		Author		Drawn		<table border="1"> <tr> <td>Project number</td> <td>2017-05-12</td> <td>Page</td> <td>1/...</td> </tr> </table>	Project number	2017-05-12	Page	1/...
Model	CO1																
Date	2017-05-12																
Client																	
Scale																	
Author																	
Drawn																	
Project number	2017-05-12	Page	1/...														


# Container Carrier Co2 - Main Frame and Scantling

Frame distance 1800 mm



Main Dimensions	
Lenght PP	: 110.000 m
Breadth moulded	: 11.960 m
Breadth o. all	: 12.000 m
Draught design	: 2.800 m
Navigation Zone 1	

Date 19.08.2017

	
<b>Container Carrier Co2</b> <b>Main Section</b>	
Scale: 1/25 Date: 2016-11-30	Sheet: G 1

M2066/CO2

## PROJECT INFO

L x B = 110.00 x 11.96 m

Project M2066/CO2

T m	DISP t	DW t	MCT tm/cm	TCP t/cm	KMT m	TK m
0.800	933.84	80.8	89.3	11.88	14.909	0.810
0.900	1052.84	199.8	90.2	11.92	13.373	0.910
1.000	1172.22	319.2	91.1	11.96	12.152	1.010
1.100	1291.95	438.9	91.9	11.99	11.158	1.110
1.200	1411.99	559.0	92.7	12.03	10.339	1.210
1.300	1532.61	679.6	94.3	12.09	9.676	1.310
1.400	1653.99	801.0	96.3	12.18	9.125	1.410
1.500	1776.54	923.5	98.5	12.27	8.650	1.510
1.600	1899.46	1046.5	99.3	12.31	8.213	1.610
1.700	2022.88	1169.9	101.2	12.39	7.851	1.710
1.800	2146.82	1293.8	101.6	12.41	7.513	1.810
1.900	2270.96	1418.0	102.1	12.43	7.216	1.910
2.000	2395.31	1542.3	102.6	12.45	6.956	2.010
2.100	2519.89	1666.9	103.2	12.47	6.728	2.110
2.200	2644.70	1791.7	103.8	12.49	6.525	2.210
2.300	2769.74	1916.7	104.3	12.52	6.344	2.310
2.400	2895.02	2042.0	104.8	12.54	6.182	2.410
2.500	3020.50	2167.5	105.3	12.56	6.037	2.510
2.600	3146.17	2293.2	105.7	12.57	5.908	2.610
2.700	3271.99	2419.0	106.0	12.59	5.791	2.710
2.800	3397.97	2545.0	106.4	12.60	5.687	2.810
2.900	3524.09	2671.1	106.7	12.62	5.593	2.910
3.000	3650.35	2797.4	107.0	12.63	5.509	3.010



M2066/CO2

## PROJECT INFO

L x B = 110.00 x 11.96 m

Project M2066/CO2, 2017-09-13

## LOADING CASES

NAME	TEXT	DISP t	MASS t	MASS t	T m	TR m
1-LIGHTSHIP		888.00	0.00	0.00	0.771	-1.062
2-3STACKS	3 stacks at 14t/TEU	2994.00	0.00	0.00	2.492	0.000
3-4STACKS	4 stacks, top stack .	2983.60	0.00	0.00	2.484	-0.026
4-T130	56 TEU on two stacks	1699.00	0.00	0.00	1.447	-0.028

M2066/CO2

LOADING CONDITION 1-LIGHTSHIP

L O A D I N G   C O M P O N E N T S

Name		Max. weight	Mass	Center of gravity cgx    cgy    cgz			Free s. moment
-----							
Diesel Oil, RHO=0.860							
-----							
DOA	Diesel oil a.	26.7	17.00	16.50	0.00	1.73	24.75
DOF	Diesel oil f.	5.4	3.00	98.70	0.00	1.79	0.00
-----							
Total of DO		32.1	20.00	28.83	0.00	1.74	24.75
-----							
Fresh Water, RHO=1.000							
-----							
FW	Side Tanks a.	14.6	10.00	14.70	0.00	1.76	30.43
Deadweight			35.0	22.39	0.00	2.64	55.2
Lightweight			853.0	46.75	0.00	2.56	
Displacement (rho=1.000)			888.0	45.79	0.00	2.56	55.2

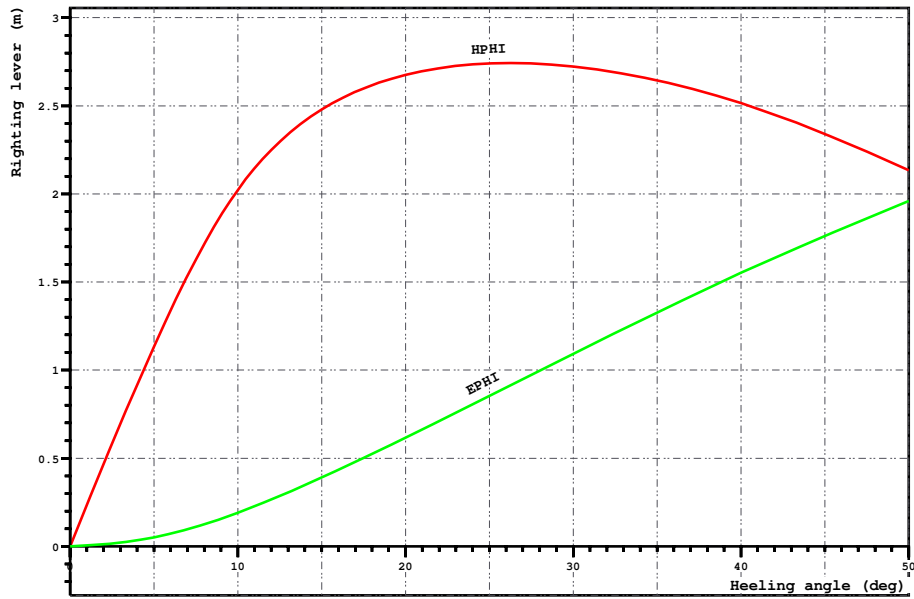
FLOATING POSITION

Draught moulded	0.765	m	KM	15.71	m
Trim	-1.027	m	KG	2.56	m
Heel, PS=+	0.0	deg			
TA	1.279	m	GM0	13.14	m
TF	0.251	m	GMCORR	-0.06	m
Trimming moment	-9295	tonm	GM	13.08	m



Height of the wheelhouse top above waterline: 14.52 m

Loading case1 1-LIGHTSHIP,

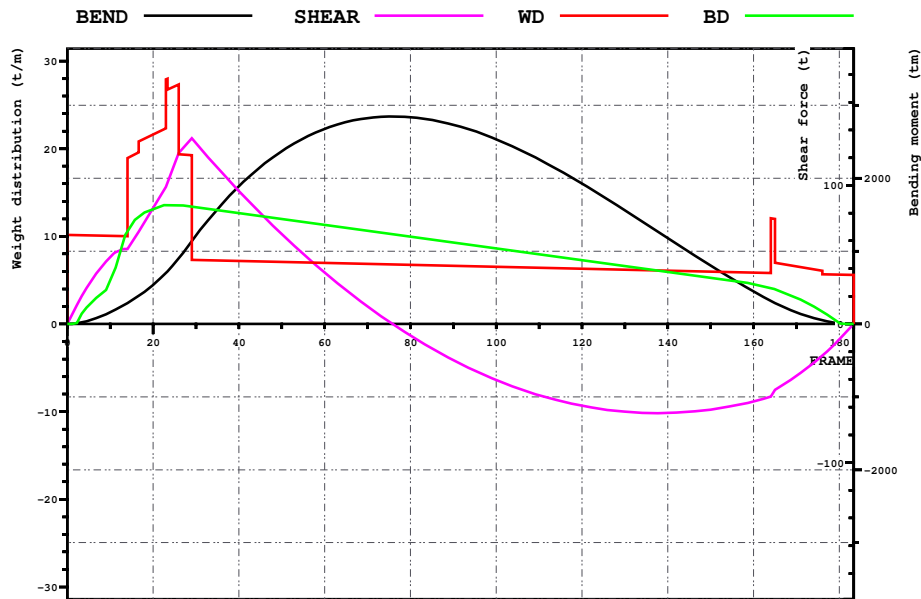


LOADING CONDITION 1-LIGHTSHIP

HEEL deg	MS m	HPHI m	EPHI mrad	FSMOM tm	DGZ m
0.0	0.000	0.00	0.000	0.0	0.000
5.0	-0.007	1.13	0.050	4.8	0.005
10.0	-0.249	2.02	0.191	9.7	0.011
15.0	-0.907	2.48	0.390	14.7	0.017
20.0	-1.800	2.68	0.616	18.6	0.021
30.0	-3.822	2.72	1.092	24.6	0.028
40.0	-5.903	2.52	1.552	27.4	0.031
50.0	-7.905	2.13	1.959	27.2	0.031

M2066/CO2

Loading case1 1-LIGHTSHIP,



LOADING CONDITION 1-LIGHTSHIP

X m	FR #	BEND tm	SHEAR t	WD t/m	BD t/m
0.000	0.00	0	0	10.17	0.00
6.000	10.00	163	48	10.06	5.03
12.000	20.00	537	84	21.62	13.08
18.000	30.00	1212	130	7.31	13.33
24.000	40.00	1891	96	7.20	12.66
30.000	50.00	2373	65	7.08	11.99
36.000	60.00	2678	37	6.97	11.32
42.000	70.00	2827	13	6.86	10.65
48.000	80.00	2839	-8	6.75	9.98
54.000	90.00	2735	-26	6.64	9.31
60.000	100.00	2535	-40	6.52	8.63
66.000	110.00	2260	-51	6.41	7.96
72.000	120.00	1928	-59	6.30	7.29
78.000	130.00	1561	-63	6.19	6.62
84.000	140.00	1178	-64	6.08	5.95
90.000	150.00	800	-62	5.97	5.28
96.000	160.00	447	-56	5.85	4.54
102.000	170.00	161	-37	6.57	2.97
108.000	180.00	11	-11	5.63	0.14

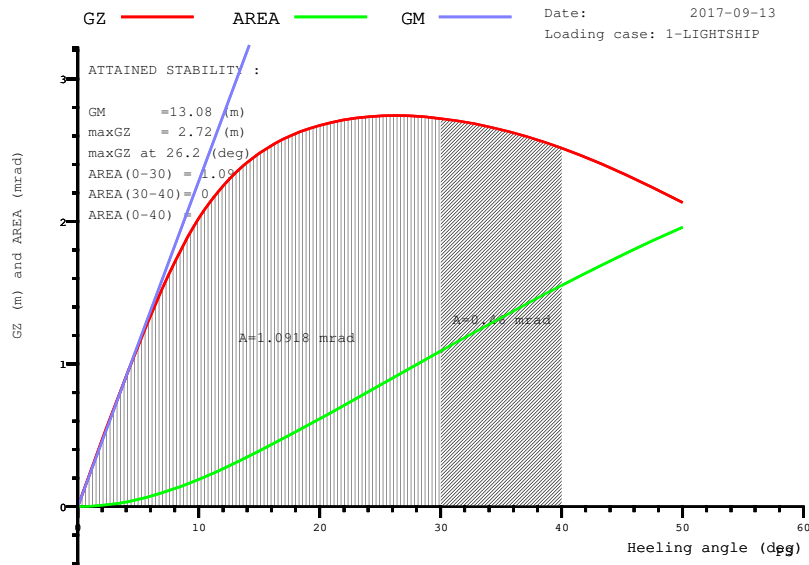
M2066/CO2

Loading condition: 1-LIGHTSHIP

RCR	TEXT	REQ	ATTN UNIT	STAT
AREA30	Area under GZ curve .	0.055	1.092 mrad	OK
AREA40	Area under GZ curve .	0.090	1.552 mrad	OK
AREA3040	Area under GZ curve .	0.030	0.460 mrad	OK
GZ0.2	Max GZ > 0.2	0.200	2.723 m	OK
MAXGZ25	Max. GZ at an angle .	25.000	26.209 deg	OK
GM0.15	GM > 0.15 m	0.150	13.082 m	OK

### ATTAINED STABILITY VERSUS IMO CRITERIA

According to IMO Resolution A.749(18)



IMO STABILITY CRITERIA:

STATUS: OK / NOT MET

GM >= 0.15 m	OK
GZ >= 0.20 m in angle of heel >= 30 degr	OK
GZ max in angle of heel >= 25 degr	OK
Area 0...30 degr. >= 0.055 mrad	*) OK
Area 30...40 degr. >= 0.03 mrad	**) OK
Area 0...40 degr. >= 0.09 mrad	**) OK

\*) From 0 degr. or the angle of steady equilibrium

\*\*) To 40 degr. or the angle of flooding

M2066/CO2

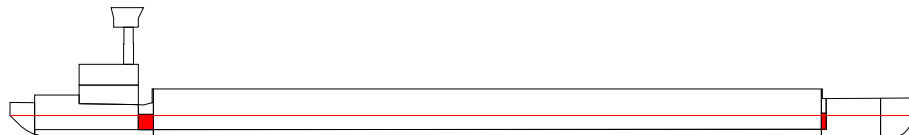
LOADING CONDITION 2-3STACKS, 3 stacks at 14t/TEU

LOADING COMPONENTS

Name		Max. weight	Mass	Center of gravity			Free s. moment
				cgx	cgz		
-----							
Diesel Oil, RHO=0.860							
-----							
DOA	Diesel oil a.	26.7	17.00	16.50	0.00	1.73	24.75
DOF	Diesel oil f.	5.4	3.00	98.70	0.00	1.79	0.00
-----							
Total of DO		32.1	20.00	28.83	0.00	1.74	24.75
-----							
Fresh Water, RHO=1.000							
-----							
FW	Side Tanks a.	14.6	10.00	14.70	0.00	1.76	30.43
-----							
STACK1							
-----							
(STACK1)		0.0	702.00	59.00	0.00	2.00	0.00
-----							
STACK2							
-----							
(STACK2)		0.0	702.00	59.00	0.00	4.90	0.00
-----							
STACK3							
-----							
(STACK3)		0.0	702.00	59.00	0.00	7.80	0.00
-----							
Deadweight			2141.0	58.40	0.00	4.86	55.2
Lightweight			853.0	46.75	0.00	2.56	
Displacement (rho=1.000)			2994.0	55.08	0.00	4.21	55.2

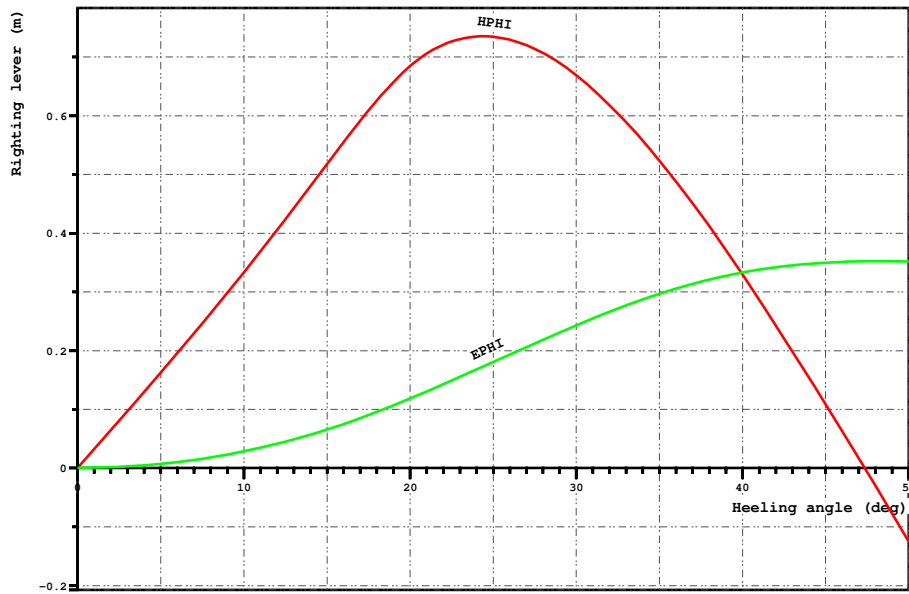
FLOATING POSITION

Draught moulded	2.477	m	KM	6.08	m
Trim	-0.036	m	KG	4.21	m
Heel, PS=+	0.0	deg			
TA	2.495	m	GM0	1.87	m
TF	2.459	m	GMCORR	-0.02	m
Trimming moment	-377	tonm	GM	1.85	m



Height of the wheelhouse top above waterline: 13.16 m

Loading case 2-3STACKS, 3 stacks at 14t/TEU

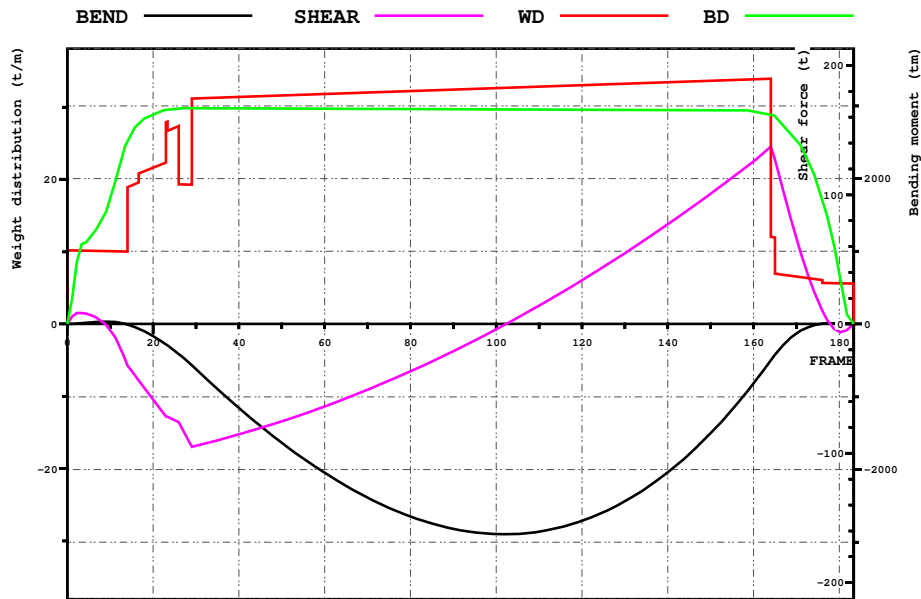


LOADING CONDITION 2-3STACKS, 3 stacks at 14t/TEU

HEEL deg	MS m	HPHI m	EPII mrad	FSMOM tm	DGZ m
0.0	0.000	0.00	0.000	0.0	0.000
5.0	0.002	0.16	0.007	4.8	0.002
10.0	0.012	0.33	0.029	9.7	0.003
15.0	0.039	0.52	0.066	14.7	0.005
20.0	0.052	0.68	0.119	18.6	0.006
30.0	-0.257	0.67	0.243	24.6	0.008
40.0	-0.863	0.33	0.333	27.4	0.009
50.0	-1.547	-0.12	0.352	27.2	0.009

M2066/CO2

Loading case 2-3STACKS, 3 stacks at 14t/TEU



LOADING CONDITION 2-3STACKS, 3 stacks at 14t/TEU

X m	FR #	BEND tm	SHEAR t	WD t/m	BD t/m
0.000	0.00	0	0	10.17	0.02
6.000	10.00	32	-5	10.06	17.47
12.000	20.00	-166	-58	21.62	28.94
18.000	30.00	-621	-94	31.22	29.87
24.000	40.00	-1156	-85	31.42	29.84
30.000	50.00	-1634	-75	31.63	29.82
36.000	60.00	-2047	-64	31.83	29.80
42.000	70.00	-2387	-51	32.03	29.77
48.000	80.00	-2646	-37	32.23	29.75
54.000	90.00	-2815	-21	32.43	29.72
60.000	100.00	-2887	-4	32.63	29.70
66.000	110.00	-2853	14	32.84	29.68
72.000	120.00	-2706	34	33.04	29.65
78.000	130.00	-2437	55	33.24	29.63
84.000	140.00	-2037	77	33.44	29.61
90.000	150.00	-1500	101	33.64	29.58
96.000	160.00	-816	126	33.85	29.40
102.000	170.00	-131	66	6.57	25.37
108.000	180.00	6	-6	5.63	6.91



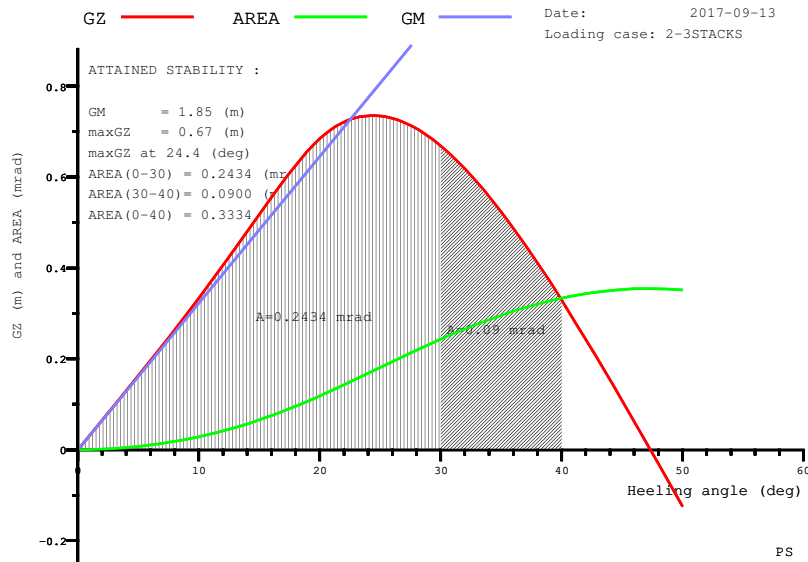
M2066/CO2

Loading condition: 3 stacks at 14t/TEU

RCR	TEXT	REQ	ATTN UNIT	STAT
AREA30	Area under GZ curve .	0.055	0.243 mrad	OK
AREA40	Area under GZ curve .	0.090	0.333 mrad	OK
AREA3040	Area under GZ curve .	0.030	0.090 mrad	OK
GZ0.2	Max GZ > 0.2	0.200	0.669 m	OK
MAXGZ25	Max. GZ at an angle .	25.000	24.387 deg	NOT MET
GM0.15	GM > 0.15 m	0.150	1.850 m	OK

ATTAINED STABILITY VERSUS IMO CRITERIA

According to IMO Resolution A.749(18)



IMO STABILITY CRITERIA:

STATUS: OK / NOT MET

GM >= 0.15 m	OK
GZ >= 0.20 m in angle of heel >= 30 degr	OK
GZ max in angle of heel >= 25 degr	NOT MET
Area 0...30 degr. >= 0.055 mrad *)	OK
Area 30..40 degr. >= 0.03 mrad **)	OK
Area 0...40 degr. >= 0.09 mrad **)	OK

\*) From 0 degr. or the angle of steady equilibrium

\*\*\*) To 40 degr. or the angle of flooding

M2066/CO2

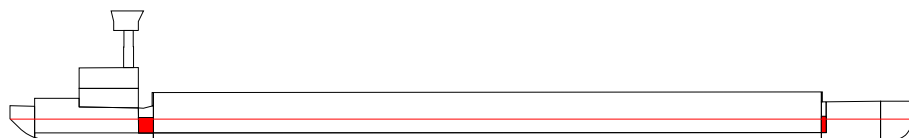
LOADING CONDITION 3-4STACKS, 4 stacks, top stack with reduced weight

LOADING COMPONENTS

Name		Max. weight	Mass	Center of gravity			Free s. moment
				cgx	cgy	cgz	
-----							
Diesel Oil, RHO=0.860							
-----							
DOA	Diesel oil a.	26.7	17.00	16.50	0.00	1.73	24.75
DOF	Diesel oil f.	5.4	3.00	98.70	0.00	1.79	0.00
-----							
Total of DO		32.1	20.00	28.83	0.00	1.74	24.75
-----							
Fresh Water, RHO=1.000							
-----							
FW	Side Tanks a.	14.6	10.00	14.70	0.00	1.76	30.43
-----							
STACK1							
-----							
(STACK1)		0.0	629.20	58.90	0.00	2.00	0.00
-----							
STACK2							
-----							
(STACK2)		0.0	629.20	58.90	0.00	4.90	0.00
-----							
STACK3							
-----							
(STACK3)		0.0	629.20	58.90	0.00	7.80	0.00
-----							
STACK4							
-----							
(STACK4)		0.0	208.00	58.90	0.00	10.70	0.00
-----							
Deadweight			2130.6	58.30	0.00	5.43	55.2
Lightweight			853.0	46.75	0.00	2.56	
Displacement (rho=1.000)			2983.6	55.00	0.00	4.61	55.2

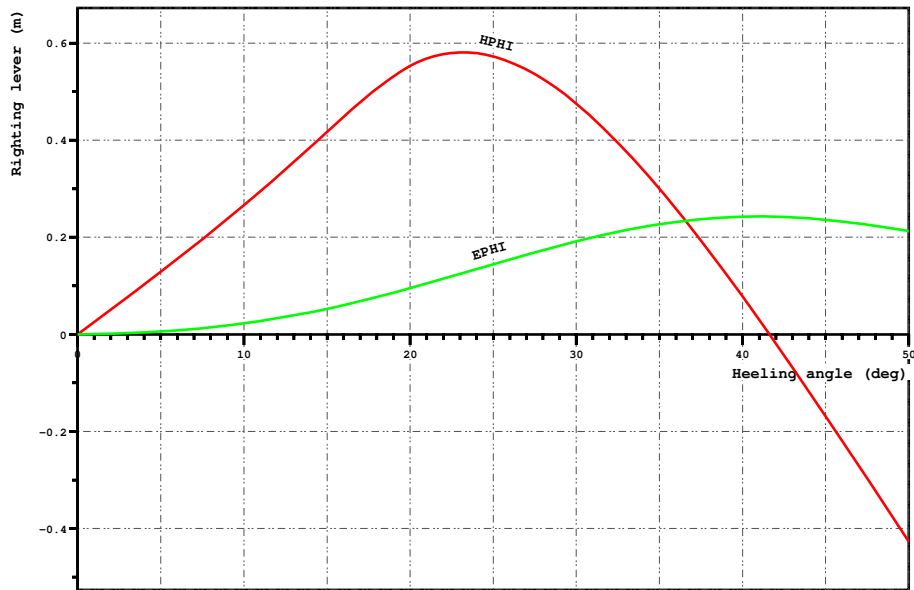
FLOATING POSITION

Draught moulded	2.469	m	KM	6.09	m
Trim	-0.061	m	KG	4.61	m
Heel, PS=+	0.0	deg			
TA	2.499	m	GM0	1.48	m
TF	2.438	m	GMCORR	-0.02	m
Trimming moment	-639	tonm	GM	1.46	m



Height of the wheelhouse top above waterline: 13.16 m

Loading case 3-4STACKS, 4 stacks, top stack with reduced weight

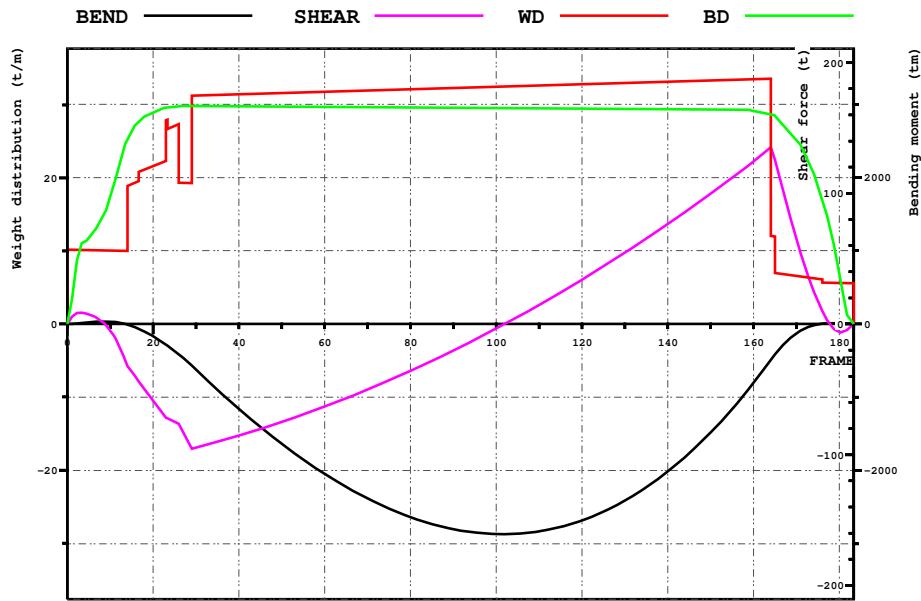


LOADING CONDITION 3-4STACKS, 4 stacks, top stack with reduced weight

HEEL deg	MS m	HPHI m	E PHI mrad	FSMOM tm	DGZ m
0.0	0.000	0.00	0.000	0.0	0.000
5.0	0.002	0.13	0.006	4.8	0.002
10.0	0.012	0.27	0.023	9.7	0.003
15.0	0.039	0.42	0.052	14.7	0.005
20.0	0.053	0.55	0.095	18.6	0.006
30.0	-0.256	0.48	0.192	24.6	0.008
40.0	-0.863	0.08	0.243	27.4	0.009
50.0	-1.550	-0.43	0.213	27.2	0.009

M2066/CO2

Loading case 3-4STACKS, 4 stacks, top stack with reduced weight



LOADING CONDITION 3-4STACKS, 4 stacks, top stack with reduced weight

X m	FR #	BEND tm	SHEAR t	WD t/m	BD t/m
0.000	0.00	0	0	10.17	0.04
6.000	10.00	31	-5	10.06	17.50
12.000	20.00	-168	-59	21.62	28.95
18.000	30.00	-625	-95	31.29	29.86
24.000	40.00	-1160	-85	31.46	29.82
30.000	50.00	-1637	-75	31.64	29.78
36.000	60.00	-2047	-63	31.81	29.74
42.000	70.00	-2383	-50	31.98	29.70
48.000	80.00	-2637	-36	32.15	29.66
54.000	90.00	-2801	-20	32.32	29.62
60.000	100.00	-2868	-3	32.50	29.58
66.000	110.00	-2830	15	32.67	29.54
72.000	120.00	-2680	34	32.84	29.50
78.000	130.00	-2411	55	33.01	29.46
84.000	140.00	-2013	77	33.18	29.42
90.000	150.00	-1480	100	33.36	29.38
96.000	160.00	-803	124	33.53	29.19
102.000	170.00	-128	65	6.57	25.16
108.000	180.00	6	-6	5.63	6.82

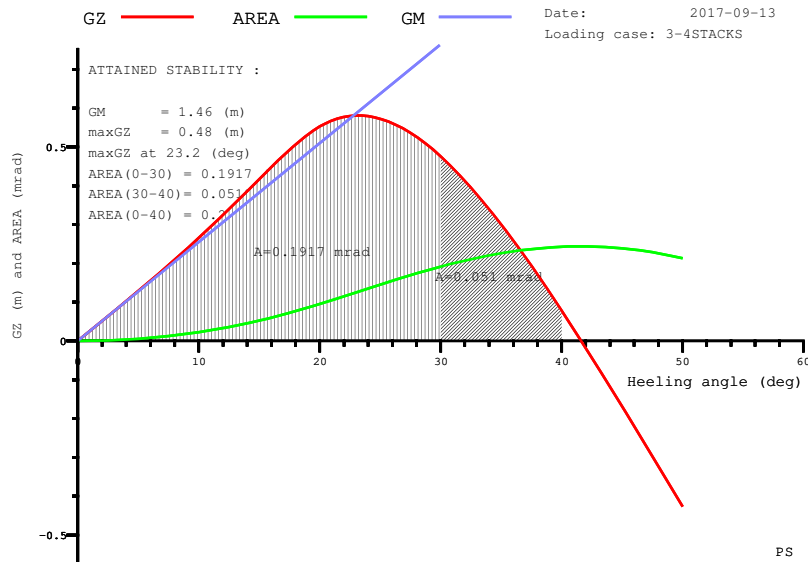
M2066/CO2

Loading condition: 4 stacks, top stack with reduced weight

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve .	0.055	0.192	mrاد	OK
AREA40	Area under GZ curve .	0.090	0.243	mrاد	OK
AREA3040	Area under GZ curve .	0.030	0.051	mrاد	OK
GZ0.2	Max GZ > 0.2	0.200	0.475	m	OK
MAXGZ25	Max. GZ at an angle .	25.000	23.158	deg	NOT MET
GM0.15	GM > 0.15 m	0.150	1.460	m	OK

ATTAINED STABILITY VERSUS IMO CRITERIA

According to IMO Resolution A.749(18)



IMO STABILITY CRITERIA: STATUS: OK / NOT MET

GM >= 0.15 m	OK
GZ >= 0.20 m in angle of heel >= 30 degr	OK
GZ max in angle of heel >= 25 degr	NOT MET
Area 0...30 degr. >= 0.055 mrad	*) OK
Area 30..40 degr. >= 0.03 mrad	***) OK
Area 0...40 degr. >= 0.09 mrad	***) OK

\*) From 0 degr. or the angle of steady equilibrium  
 \*\*) To 40 degr. or the angle of flooding

M2066/CO2

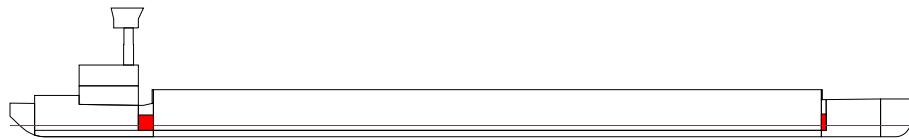
LOADING CONDITION 4-T130, 56 TEU on two stacks

LOADING COMPONENTS

Name		Max. weight	Mass	Center of gravity			Free s. moment
				cgx	cgy	cgz	
-----							
Diesel Oil, RHO=0.860							
-----							
DOA	Diesel oil a.	26.7	17.00	16.50	0.00	1.73	24.75
DOF	Diesel oil f.	5.4	3.00	98.70	0.00	1.79	0.00
-----							
Total of DO		32.1	20.00	28.83	0.00	1.74	24.75
-----							
Fresh Water, RHO=1.000							
-----							
FW	Side Tanks a.	14.6	10.00	14.70	0.00	1.76	30.43
-----							
STACK1							
-----							
(STACK1)		0.0	364.00	68.20	0.00	2.00	0.00
-----							
STACK2							
-----							
(STACK2)		0.0	364.00	68.20	0.00	4.90	0.00
-----							
Deadweight			763.0	66.10	0.00	3.41	55.2
Lightweight			853.0	46.75	0.00	2.56	
Displacement (rho=1.000)			1616.0	55.88	0.00	2.96	55.2

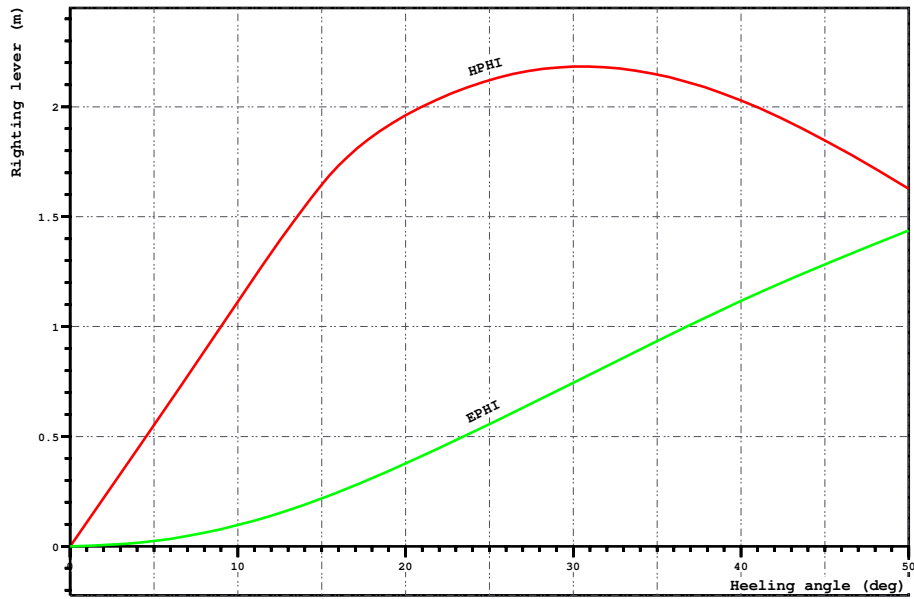
FLOATING POSITION

Draught moulded	1.367	m	KM	9.29	m
Trim	-0.007	m	KG	2.96	m
Heel, PS=+	0.0	deg			
TA	1.371	m	GM0	6.32	m
TF	1.364	m	GMCORR	-0.03	m
Trimming moment	-64	tonm	GM	6.29	m



Height of the wheelhouse top above waterline: 14.28 m

Loading case 4-T130, 56 TEU on two stacks

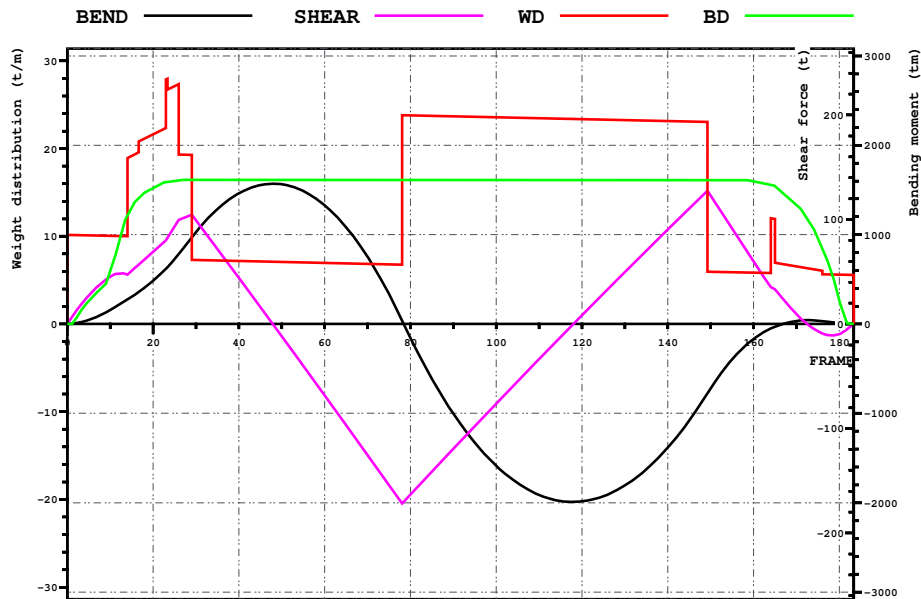


LOADING CONDITION 4-T130, 56 TEU on two stacks

HEEL deg	MS m	HPHI m	E PHI mrad	FSMOM tm	DGZ m
0.0	0.000	0.00	0.000	0.0	0.000
5.0	0.003	0.55	0.024	4.8	0.003
10.0	0.021	1.11	0.097	9.7	0.006
15.0	0.018	1.65	0.218	14.7	0.009
20.0	-0.190	1.96	0.377	18.6	0.011
30.0	-0.964	2.18	0.744	24.6	0.015
40.0	-2.019	2.03	1.116	27.4	0.017
50.0	-3.200	1.63	1.438	27.2	0.017

M2066/CO2

Loading case 4-T130, 56 TEU on two stacks



LOADING CONDITION 4-T130, 56 TEU on two stacks

X m	FR #	BEND tm	SHEAR t	WD t/m	BD t/m
0.000	0.00	0	0	10.17	0.00
6.000	10.00	158	45	10.06	6.09
12.000	20.00	485	69	21.62	15.51
18.000	30.00	1028	99	7.31	16.45
24.000	40.00	1462	44	7.20	16.44
30.000	50.00	1563	-12	7.08	16.44
36.000	60.00	1327	-68	6.97	16.43
42.000	70.00	750	-125	6.86	16.43
48.000	80.00	-159	-163	23.80	16.43
54.000	90.00	-1003	-119	23.69	16.42
60.000	100.00	-1586	-76	23.57	16.42
66.000	110.00	-1912	-34	23.46	16.41
72.000	120.00	-1984	8	23.35	16.41
78.000	130.00	-1807	50	23.24	16.40
84.000	140.00	-1383	90	23.13	16.40
90.000	150.00	-720	123	5.97	16.39
96.000	160.00	-168	60	5.85	16.26
102.000	170.00	34	10	6.57	13.58
108.000	180.00	9	-10	5.63	2.71



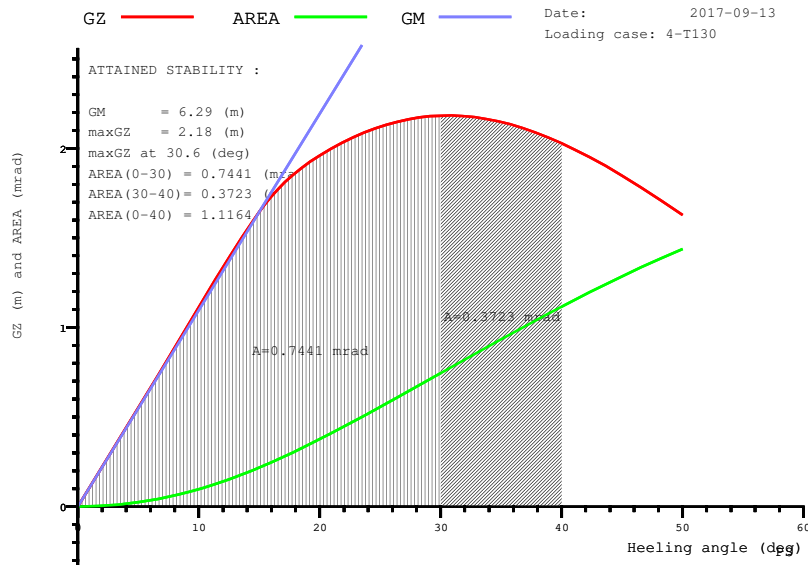
M2066/CO2

Loading condition: 56 TEU on two stacks

RCR	TEXT	REQ	ATTN UNIT	STAT
AREA30	Area under GZ curve .	0.055	0.744 mrad	OK
AREA40	Area under GZ curve .	0.090	1.116 mrad	OK
AREA3040	Area under GZ curve .	0.030	0.372 mrad	OK
GZ0.2	Max GZ > 0.2	0.200	2.183 m	OK
MAXGZ25	Max. GZ at an angle .	25.000	30.571 deg	OK
GM0.15	GM > 0.15 m	0.150	6.289 m	OK

ATTAINED STABILITY VERSUS IMO CRITERIA

According to IMO Resolution A.749(18)



IMO STABILITY CRITERIA:

STATUS: OK / NOT MET

GM >= 0.15 m	OK
GZ >= 0.20 m in angle of heel >= 30 degr	OK
GZ max in angle of heel >= 25 degr	OK
Area 0...30 degr. >= 0.055 mrad	*) OK
Area 30..40 degr. >= 0.03 mrad	**) OK
Area 0...40 degr. >= 0.09 mrad	**) OK

\*) From 0 degr. or the angle of steady equilibrium

\*\*) To 40 degr. or the angle of flooding

DST Duisburg  
NW-1

LOADING CONDITIONS

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TIME 10:05  
USER GUES  
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