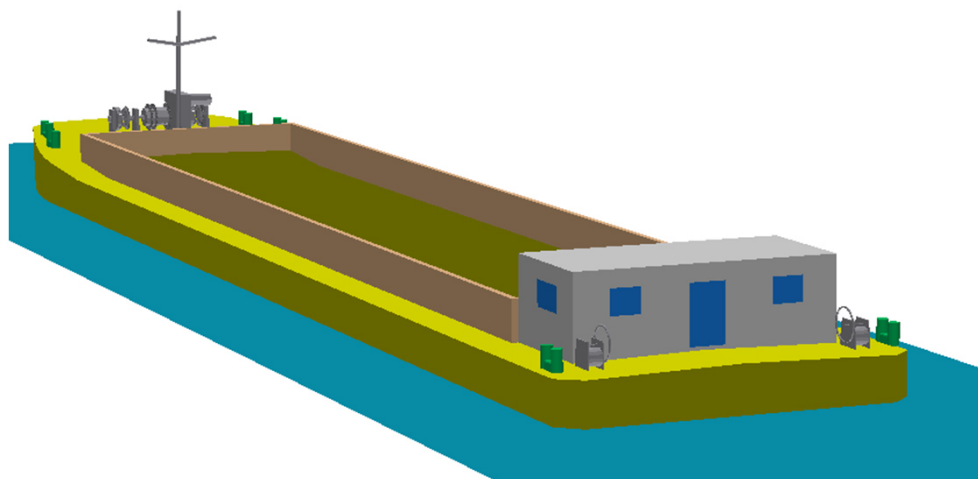
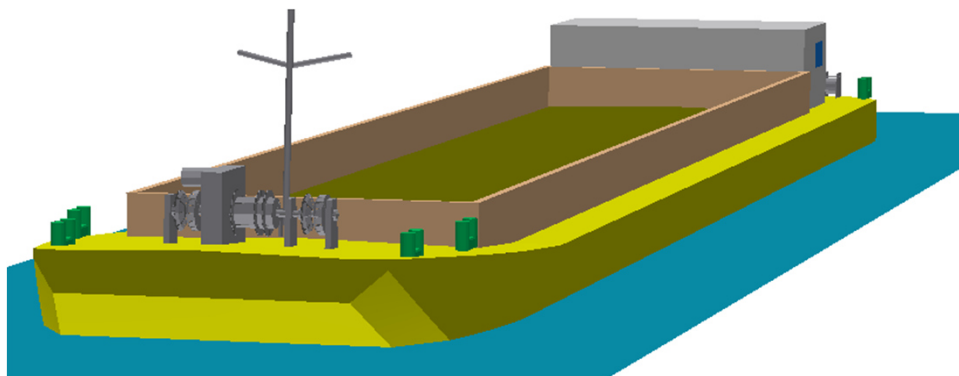


## Dumb Barge DB



### Main dimensions

Cargo type		Dumb Barge
Hull type		DB
Length o.A.	L	42,00 m
Breadth moulded	B	8,00 m
Depth Main Deck	D	2,80 m
Draught max.	T	2,50 m
Lightweight estimate		180 t
Payload at Tmax		585 t

### 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, from Diamond Harbour (West Bengal) to Allahabad (Uttar Pradesh).  
Main operation sector are reaches upstream of Farakka.

**Powering** None

### Cargo hold

	Lc	Bc	Hc	Volume
Dimensions:	31,2 m	6,1 m	3,0 m	650 m <sup>3</sup>
Double bottom, single side				

### Provisions for crew

Fresh Water	2 t
Black Water	2 t

### Equipment

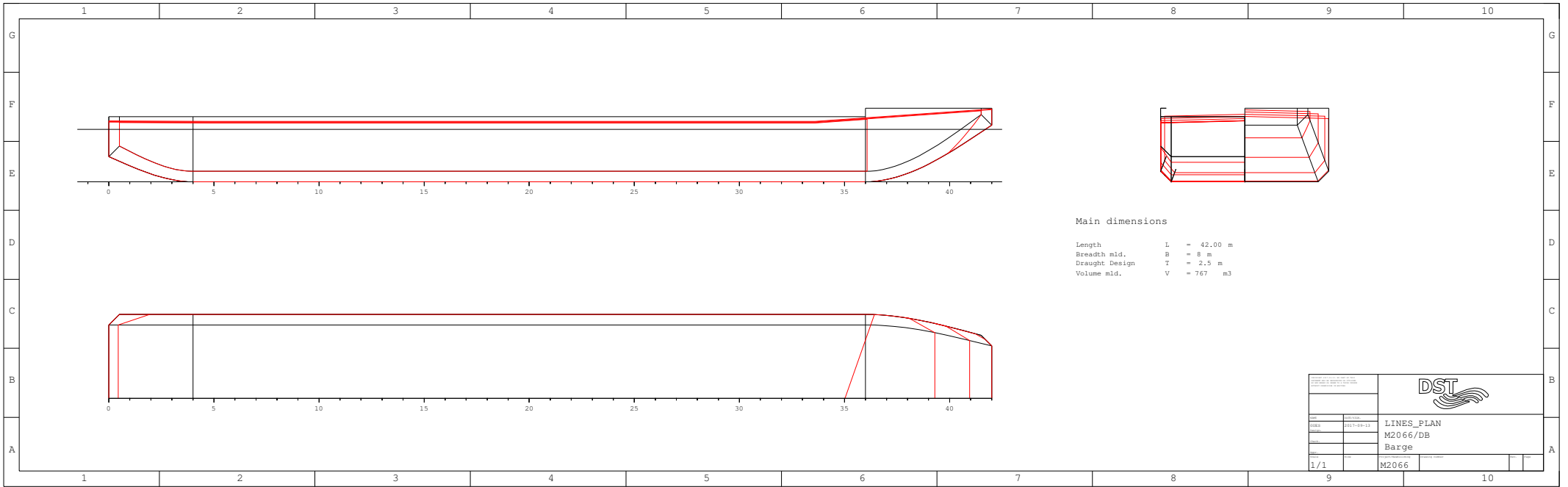
- Two bow anchors, each 570 kg
- 2 Coupling winches at the bow, 2 coupling winches at the stern.  
Manually operated, holding force 250 kN each.  
Coupling steel cables with break load of 200 kN, (diameter 22 mm).

### Accommodation

- Accommodation for guard crew of 2 persons:
- Small kitchen, sanitary, sleeping cabin.
- 3 m<sup>3</sup> photovoltaic panel for 24V DC supply on battery, lighting, fans


### Weight calculation results for major components

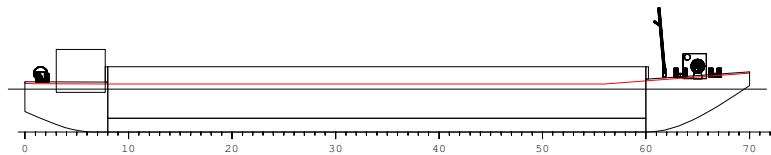
Steel weight, longt. Framing	160 t
Accommodation	10 t
Deck equipment	10 t
<b>Sum</b>	<b>180 t</b>



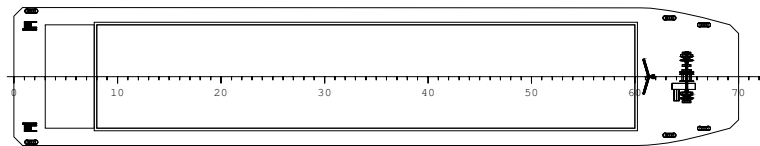
Main dimensions

Length L = 42.00 m  
 Breadth mid. B = 8 m  
 Draught Design T = 2.5 m  
 Volume mid. V = 767 m<sup>3</sup>

<small>           1. This drawing is the property of DST            2. It is not to be used for any other purpose without the written consent of DST            3. All dimensions are in meters unless otherwise stated         </small>		
<small>           Date: 11/11/2011            Drawn by: M2066/DB            Checked by: M2066/DB            Scale: 1/1         </small>	<small>           Project: M2066            Drawing: LINES_PLAN            Title: Barge         </small>	



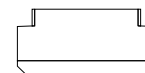
PROFILE




MAINDECK

Main dimensions

Length L = 42.0 m  
 Breadth moulded B = 08.0 m  
 Breadth oA BoA = 08.05 m  
 Draught max T = 2.50 m

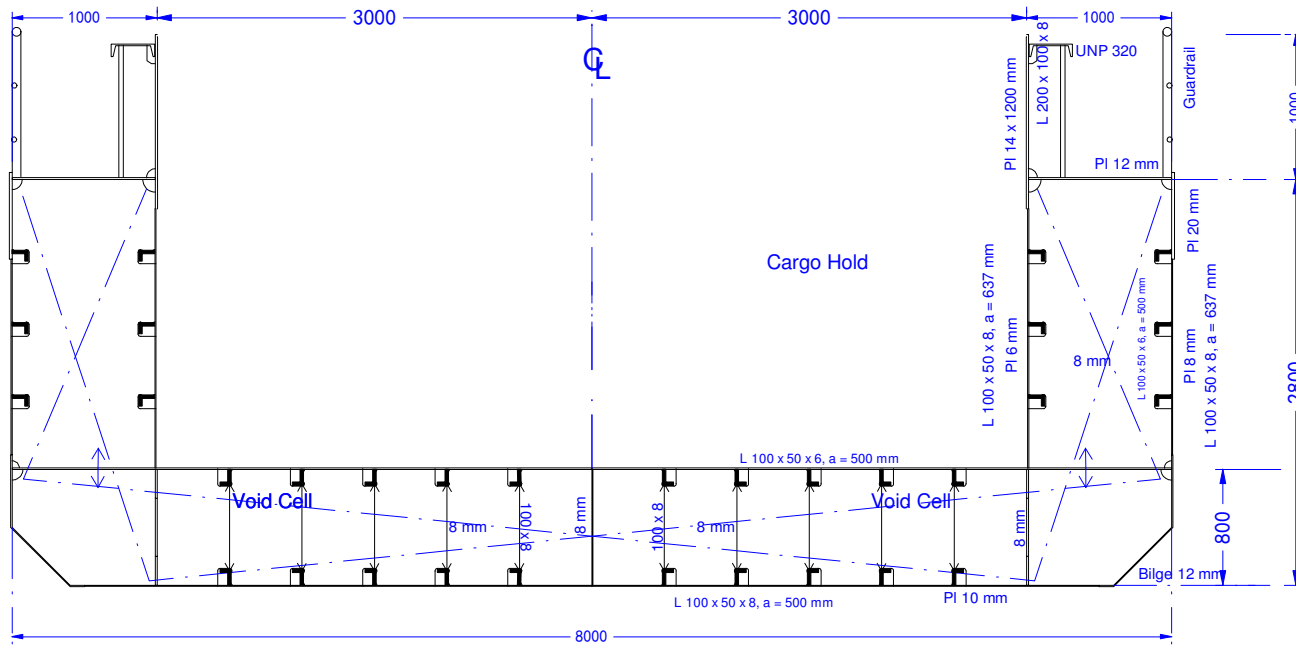


HOLD

	
General Arrangement	
DB	
NW-1	
1/...	BM 2017-09-13 1


# Dumb Barge DB - Main Frame and Scantling

Frame distance 1800 mm



Main Dimensions	
Lenght PP	: 42.000 m
Breadth moulded	: 8.000 m
Draught design	: 2.500 m
Navigation Zone 1	

Date 28.08.2017

	
<b>Dumb Barge</b> <b>Main Section</b>	
Scale: _____ Date: _____ Drawn: _____ Checked: _____ Approved: _____	G 1

## PROJECT INFO

L x B = 42.00 x 8 m

Project M2066/DB

T m	DISP t	DW t	MCT tm/cm	TCP t/cm	KMT m	TK m
0.800	223.28	43.3	8.6	3.03	7.604	0.810
0.900	253.75	73.7	8.9	3.06	6.860	0.910
1.000	284.54	104.5	9.1	3.09	6.274	1.010
1.100	315.65	135.7	9.4	3.13	5.806	1.110
1.200	347.08	167.1	9.7	3.15	5.428	1.210
1.300	378.71	198.7	9.8	3.17	5.096	1.310
1.400	410.49	230.5	9.9	3.18	4.820	1.410
1.500	442.40	262.4	10.1	3.19	4.590	1.510
1.600	474.40	294.4	10.2	3.20	4.397	1.610
1.700	506.48	326.5	10.3	3.21	4.230	1.710
1.800	538.65	358.7	10.4	3.23	4.090	1.810
1.900	570.93	390.9	10.5	3.24	3.971	1.910
2.000	603.30	423.3	10.6	3.25	3.870	2.010
2.100	635.78	455.8	10.7	3.26	3.784	2.110
2.200	668.42	488.4	10.8	3.27	3.711	2.210
2.300	701.17	521.2	10.9	3.28	3.649	2.310
2.400	734.01	554.0	11.0	3.29	3.594	2.410
2.500	766.95	586.9	11.1	3.30	3.547	2.510
2.600	799.96	620.0	11.2	3.30	3.509	2.610
2.700	833.06	653.1	11.2	3.31	3.477	2.710

## PROJECT INFO

L x B = 42.00 x 8 m

Project M2066/DB, 2017-09-13

## LOADING CASES

NAME	TEXT	DISP t	MASS t	MASS t	T m	TR m
1-LIGHTSHIP		180.00	0.00	0.00	0.655	-0.043
2-CAS	Cargo hold loaded	764.00	584.00	0.00	2.491	0.000

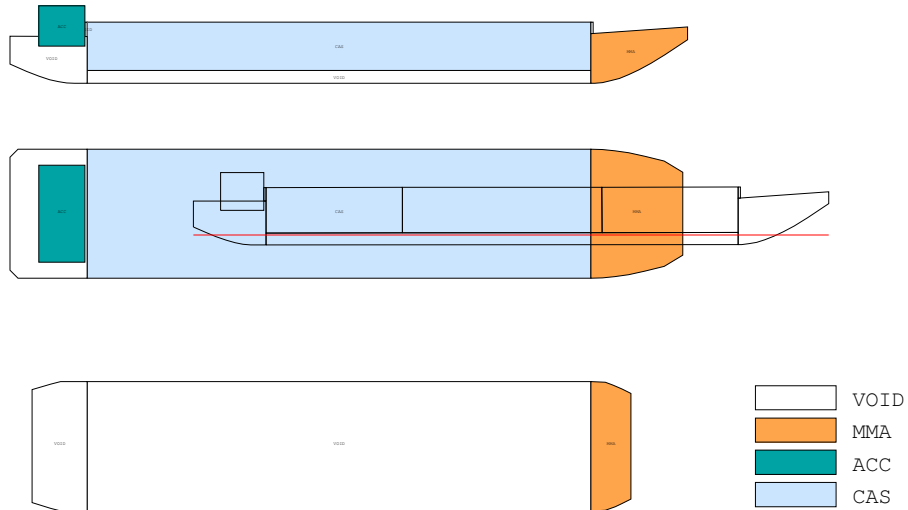
LOADING CONDITION 1-LIGHTSHIP

L O A D I N G   C O M P O N E N T S  
 -----

Deadweight	0.0	0.00	0.00	0.00	0.0
Lightweight	180.0	19.77	0.00	2.28	
Displacement (rho=1.000)	180.0	19.77	0.00	2.28	0.0

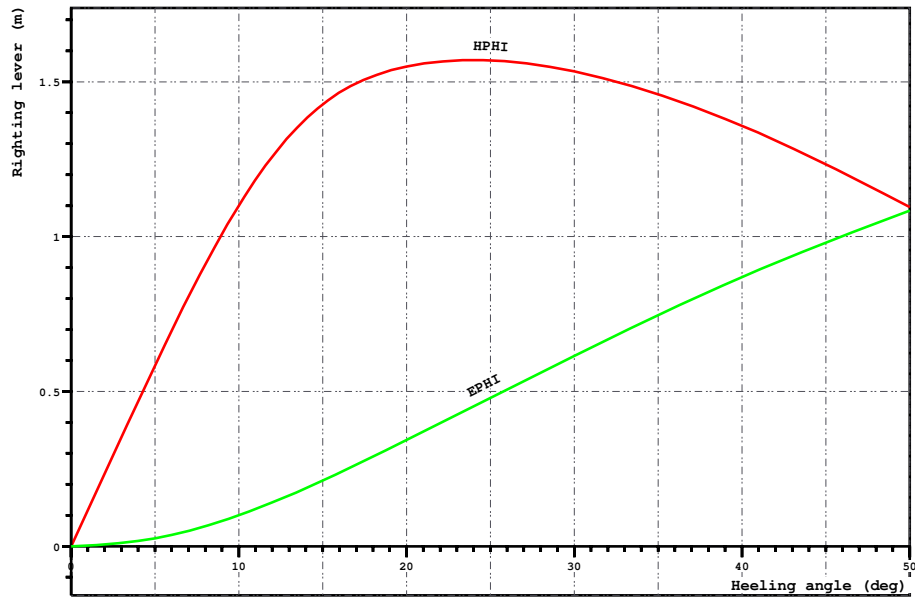
FLOATING POSITION

Draught moulded	0.655	m	KM	9.11	m
Trim	-0.043	m	KG	2.28	m
Heel, PS=+	0.0	deg			
TA	0.676	m	GM0	6.83	m
TF	0.633	m	GMCORR	0.00	m
Trimming moment	-35	tonm	GM	6.83	m





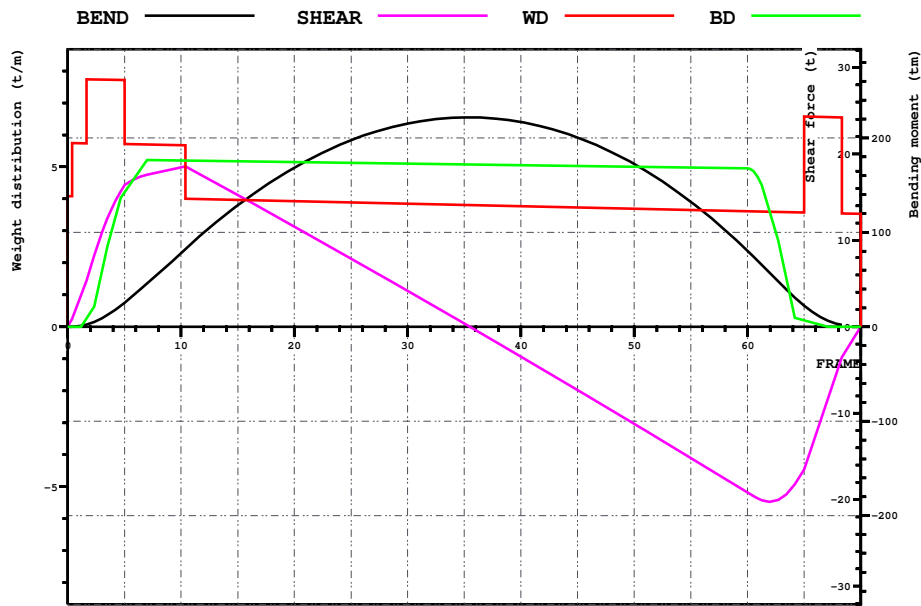
Loading case1 1-LIGHTSHIP,



LOADING CONDITION 1-LIGHTSHIP

HEEL deg	MS m	HPFI m	EPHI mrad	FSMOM tm	DGZ m
0.0	0.000	0.00	0.000	0.0	0.000
5.0	-0.011	0.58	0.026	0.0	0.000
10.0	-0.084	1.10	0.100	0.0	0.000
15.0	-0.339	1.43	0.212	0.0	0.000
20.0	-0.785	1.55	0.343	0.0	0.000
30.0	-1.879	1.53	0.615	0.0	0.000
40.0	-3.029	1.36	0.869	0.0	0.000
50.0	-4.134	1.10	1.084	0.0	0.000

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	4.09	0.00
6.000	10.00	78	18	5.67	5.20
12.000	20.00	169	12	3.93	5.15
18.000	30.00	215	4	3.85	5.10
24.000	40.00	217	-3	3.77	5.05
30.000	50.00	172	-11	3.69	5.00
36.000	60.00	80	-19	3.61	4.95

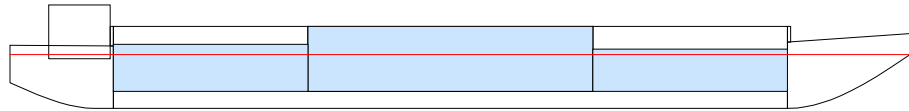
LOADING CONDITION 2-CAS, Cargo hold loaded

LOADING COMPONENTS

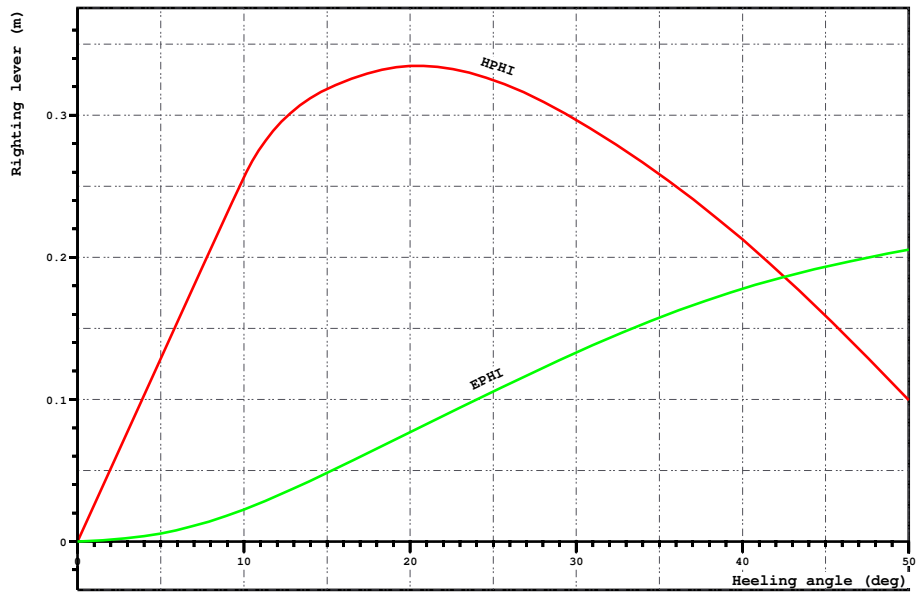
Name	Max. weight	Mass	Center of gravity			Free s. moment
			cgx	cgz	cgz	
-----						
Solid cargo, RHO=1.000						
LR2	290.7	290.74	20.40	0.00	2.21	0.00
LR1	198.6	139.89	31.50	0.00	1.77	0.00
LR3	198.2	153.38	9.30	0.00	1.87	0.00
-----						
Total of CAS	687.6	584.00	20.14	0.00	2.01	0.00
Deadweight		584.0	20.14	0.00	2.01	0.0
Lightweight		180.0	19.77	0.00	2.28	
Displacement (rho=1.000)		764.0	20.06	0.00	2.08	0.0

FLOATING POSITION

Draught moulded	2.491	m	KM	3.55	m
Trim	0.000	m	KG	2.08	m
Heel, PS=+	0.0	deg			
TA	2.491	m	GM0	1.47	m
TF	2.491	m	GMCORR	0.00	m
Trimming moment	0	tonm	GM	1.47	m



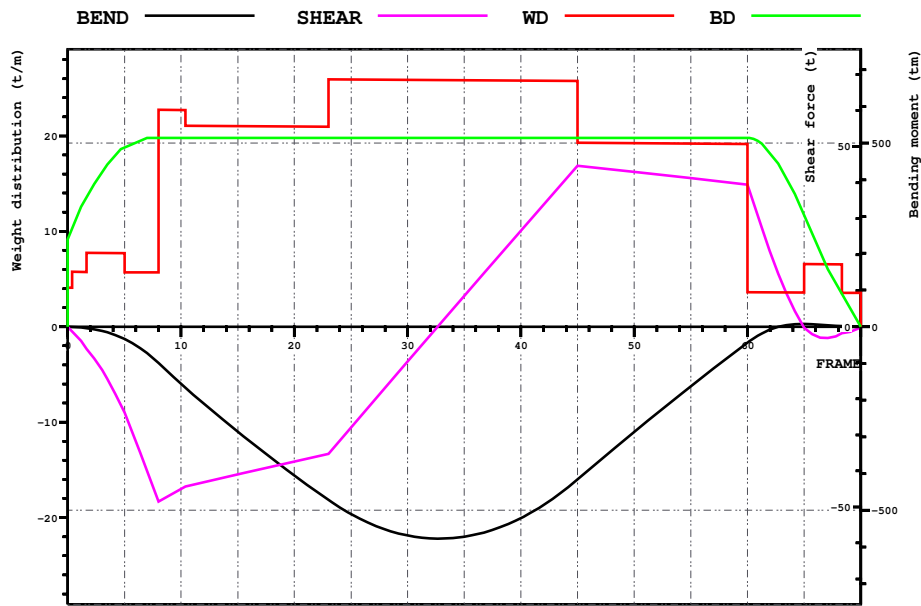
Loading case 2-CAS, Cargo hold loaded



LOADING CONDITION 2-CAS, Cargo hold loaded

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	0.000	0.13	0.006	0.0	0.000
10.0	0.000	0.26	0.022	0.0	0.000
15.0	-0.063	0.32	0.048	0.0	0.000
20.0	-0.169	0.33	0.077	0.0	0.000
30.0	-0.440	0.30	0.133	0.0	0.000
40.0	-0.735	0.21	0.178	0.0	0.000
50.0	-1.029	0.10	0.205	0.0	0.000

Loading case1 2-CAS, Cargo hold loaded



LOADING CONDITION 2-CAS, Cargo hold loaded

X	FR	BEND	SHEAR	WD	BD
m	#	tm	t	t/m	t/m
0.000	0.00	0	0	4.09	9.13
6.000	10.00	-156	-45	22.72	19.79
12.000	20.00	-405	-37	20.97	19.79
18.000	30.00	-569	-10	25.87	19.79
24.000	40.00	-521	27	25.80	19.79
30.000	50.00	-286	43	19.23	19.79
36.000	60.00	-43	39	19.16	19.79