

LOADING PROGRAM FOR CONTAINER BARGE "2483"							
Intact Stability & Longitudinal Strength Calculation According to Directive 2006/87/EC							
Voyage	114						
Loading conditions	Partly loading with containers of 20' and 40'						
Document No.	679432sA						
EDIFACT message sender	MAINROM LINE			Operation type ? [L / D]		L	
EDIFACT message recipient	CASP			Secured containers ? [Y / N]		Y	
Place of operation	ROCND			Water density [t/m3]		1.000	
User	Papiniu Ovidiu			Speed of convoy [m/s]		7.000	
DESCRIPTION	WEIGHT [t]	CENTER OF GRAVITY			MOMENTS		
		LCG [m]	TCG [m]	VCG [m]	LM [mt]	TM [mt]	VM [mt]
Light ship	414.000	37.345	0.000	2.877	15460.830	0.000	1191.078
Containers in the first tier	414.744	37.615	-0.452	2.200	15600.613	-187.515	912.437
Containers in the second tier	363.600	34.543	0.573	5.100	12559.653	208.350	1854.360
Containers in the third tier	453.600	34.543	0.000	8.000	15668.478	0.000	3628.800
Container totals	1231.944	35.577	0.017	5.191	43828.744	20.835	6395.597
Afloat totals	1645.944	36.022	0.013	4.609	59289.574	20.835	7586.675

Actual Ship Data

Displacement [t]	1645.944
Volume [m3]	1645.944
LCG [m]	36.022
TCG [m]	0.013
VCG [m]	4.609

From Hydrostatic Tables

Mean Draft (Tm) [m]	2.087	OK
LCB [m]	34.853	
LCF [m]	36.124	
KMT [m]	6.362	
KML [m]	217.503	

Actual KG

Free Surface Moment (FSM) [Lm]	0.000
Free Surface Correction (FSC) [m]	0.000
Actual KG = VCG + FSC [m]	4.609

Trim and Draft Calculation

Trim Lever = LCB-LCG [m]	-1.169	
GML = KML-Actual KG [m]	212.894	
Trim = Trim Lever * 76.5 / GML [m]	-0.420	OK
Aft draft = Tm + Trim / 76.5 * LCF	1.889	OK
Fore draft = Aft draft - Trim [m]	2.309	OK

Positive trim indicates down by the stern.

Heel Calculation

Heel lever=TCG [m]	0.013	
GMT = KMT - Actual KG [m]	1.753	
Heel angle = 57.3 * TCG / GMT [°]	0.414	WARNING

Negative heel angle induces down by portside.

STABILITY ANALYSIS

Actual KG [m]	4.609	
Allowable KG [m]	5.862	
KG margin [m]	1.253	OK

LONGITUDINAL STRENGTH ANALYSIS

Maximum positive actual bending moment [tm]	122.082	at frame	115
Allowable positive bending moment [tm]	986.000		
Bending moment positive margin [tm]	863.918	OK	
Maximum negative actual bending moment [tm]	-884.963	at frame	47
Allowable negative bending moment [tm]	-1634.000		
Bending moment negative margin [tm]	-749.037	OK	
Maximum positive actual shear force [t]	72.951	at frame	108
Allowable positive shear force [t]	204.000		
Shear force positive margin [t]	131.049	OK	
Maximum negative actual shear force [t]	-64.883	at frame	7
Allowable negative shear force [t]	-204.000		
Shear force negative margin [t]	-139.117	OK	

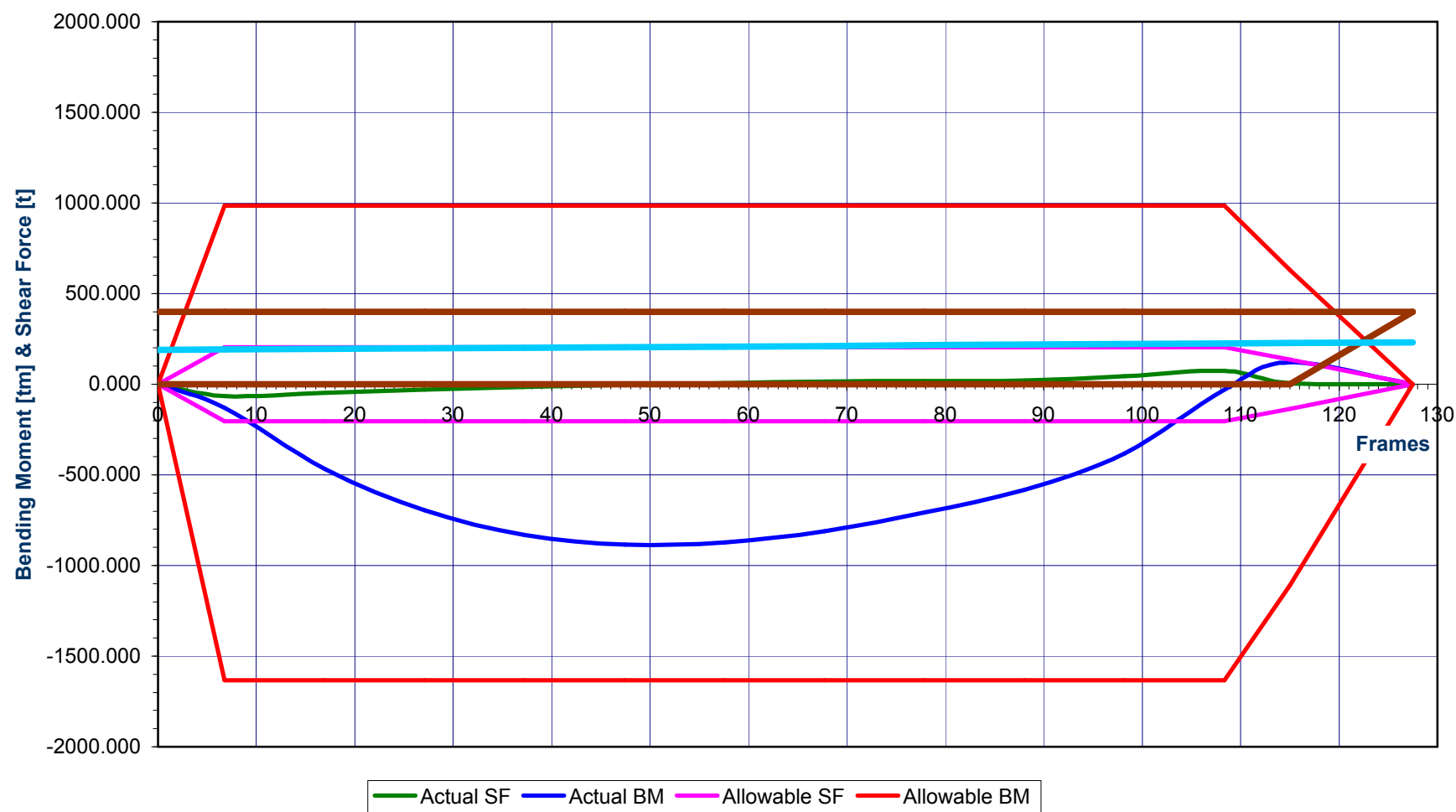
Loading conditions: Partly loading with containers of 20' and 40'

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Place : ROCND

User : Papiniu Ovidiu

BENDING MOMENT AND SHEAR FORCE DIAGRAM



Loading conditions: Partly loading with containers of 20' and 40'

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LIST OF CONTAINERS DATA IN THE FIRST TIER

NR	BAY	ROW	CONTAINER No.	TYPE	SIZE [feet]	HEIGHT [feet]	SEAL	PACKS	GROSS WH [kg]	TARE WH [kg]	TOTAL WH [kg]	DESCRIPTION	VESSEL/ VOYAGE	CLIENT	LINE	POL	POD	FPD
1	1	2	MSKU4314284	DV	20	9.6	4139345	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
2	1	0	MSKU4555317	DV	40	9.6	010485	990	40000	4288	44288	VOTCA	VANESSA 713R	CRISTALEX 94	HAPAQ	ROCND	ROGRG	ROGRG
3	1	1	MSKU3129002	DV	20	9.6	4139769	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
4	2	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
5	2	0	MSKU4555317						0	0	0							
6	2	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
7	3	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
8	3	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
9	3	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
10	4	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
11	4	0	PONU8001734						0	0	0							
12	4	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
13	5	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
14	5	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
15	5	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
16	6	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
17	6	0	PONU8001734						0	0	0							
18	6	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
19	7	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
20	7	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
21	7	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
22	8	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
23	8	0	PONU8001734						0	0	0							
24	8	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
25	9	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
26	9	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
27	9	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
28	10	2	AKLU6009267	DV	20	9.6	4133765	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
29	10	0	PONU8001734						0	0	0							
30	10	1	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
									359000.0	55744.0	414744.0							

User : Papiniu Ovidiu

NR	BAY	ROW	CONTAINER No.	TYPE	SIZE [feet]	HEIGHT [feet]	SEAL	PACKS	GROSS WH [kg]	TARE WH [kg]	TOTAL WH [kg]	DESCRIPTION	VESSEL/ VOYAGE	CLIENT	LINE	POL	POD	FPD
1	1	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
2	1	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
3	1	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
4	2	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
5	2	0	PONU8001734						0	0	0							
6	2	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
7	3	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
8	3	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
9	3	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
10	4	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
11	4	0	PONU8001734						0	0	0							
12	4	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
13	5	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
14	5	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
15	5	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
16	6	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
17	6	0	PONU8001734						0	0	0							
18	6	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
19	7	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
20	7	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
21	7	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
22	8	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
23	8	0	PONU8001734						0	0	0							
24	8	1	TOLU4986156	DV	20	9.6	3711556	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	MSC	ROCND	ROGRG	ROGRG
25	9	2	CLHU8291352	DV	20	9.6	4133882	32	11000	2144	13144	FERONERIE	VANESSA 713R	OLMX ECO.	MSC	ROCND	ROGRG	ROGRG
26	9	0	PONU8001734	DV	40	9.6	432											

User : Papiniu Ovidiu

NR	BAY	ROW	CONTAINER No.	TYPE	SIZE [feet]	HEIGHT [feet]	SEAL	PACKS	GROSS WH [kg]	TARE WH [kg]	TOTAL WH [kg]	DESCRIPTION	VESSEL/ VOYAGE	CLIENT	LINE	POL	POD	FPD
1	1	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
2	1	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
3	1	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
4	2	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
5	2	0	PONU8001734						0	0	0							
6	2	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
7	3	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
8	3	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
9	3	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
10	4	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
11	4	0	PONU8001734						0	0	0							
12	4	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
13	5	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
14	5	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
15	5	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
16	6	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
17	6	0	PONU8001734						0	0	0							
18	6	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
19	7	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
20	7	0	PONU8001734	DV	40	9.6	43298Z 43298 43298Z	275	0	2144	2144	CAFEA VERDE	ENERGIZER	ELITE ROMANIA	HAPAQ	ROCND	ROGRG	ROGRG
21	7	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
22	8	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
23	8	0	PONU8001734						0	0	0							
24	8	1	TCNU9581977	DV	20	9.6	4133766	42	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
25	9	2	MEDU2327741	DV	20	9.6	4139764	32	20000	2144	22144	FERONERIE	VANESSA 713R	SEA SRL	SOCEP	ROCND	ROGRG	ROGRG
26	9	0	PONU8001734	DV	40													

Loading conditions: Partly loading with containers of 20' and 40'

Document number: 679432sA

Place : ROCND

User : Papiniu Ovidiu

Container positions on the ship**Lateral view**

Bay 10	Bay 9	Bay 8	Bay 7	Bay 6	Bay 5	Bay 4	Bay 3	Bay 2	Bay 1	
45360.0	45360.0	45360.0	45360.0	45360.0	45360.0	45360.0	45360.0	45360.0	45360.0	Third tier Second tier First tier
36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	
36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	36360.0	57432.0	66432.0	
Fr. 0										

First tier view

AKLU6009267	AKLU6009267	AKLU6009267	AKLU6009267	AKLU6009267	AKLU6009267	AKLU6009267	AKLU6009267	AKLU6009267	MSKU4314284	Row 2 Row 0 Row 1
PONU8001734		PONU8001734		PONU8001734		PONU8001734		MSKU4555317		
CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	MSKU3129002	
10	9	8	7	6	5	4	3	2	1	

Second tier view

CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	CLHU8291352	Row 2 Row 0 Row 1
PONU8001734		PONU8001734		PONU8001734		PONU8001734		PONU8001734		
TOLU4986156	TOLU4986156	TOLU4986156	TOLU4986156	TOLU4986156	TOLU4986156	TOLU4986156	TOLU4986156	TOLU4986156	TOLU4986156	
10	9	8	7	6	5	4	3	2	1	

Third tier view

MEDU2327741	MEDU2327741	MEDU2327741	MEDU2327741	MEDU2327741	MEDU2327741	MEDU2327741	MEDU2327741	MEDU2327741	MEDU2327741	Row 2 Row 0 Row 1
PONU8001734		PONU8001734		PONU8001734		PONU8001734		PONU8001734		
TCNU9581977	TCNU9581977	TCNU9581977	TCNU9581977	TCNU9581977	TCNU9581977	TCNU9581977	TCNU9581977	TCNU9581977	TCNU9581977	
10	9	8	7	6	5	4	3	2	1	

Line colors

HAPAQ	MSC	SOCEP	MAERSK	
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Displacement [t]	1645.944		Fore draft [m]	2.309	OK	STABILITY ANALYSIS			LONGITUDINAL STRENGTH ANALYSIS					
Container totals [t]	1231.944		Aft draft [m]	1.889	OK	Actual KG [m]	4.609	OK	Actual BM [tm]	-884.963	OK	Actual SF [t]	72.951	OK
Mean draft [m]	2.087	OK	Heel [°]	0.414	WARNING	Allow. KG [m]	5.862		Allow. BM [tm]	-1634.000		Allow. SF [t]	204.000	