


					14000DWT 成品油/化学品船 14000DWT PRODUCT OIL/CHEMICAL TANKER	TECHNICAL DESIGN		
						JR557-020-10JS		
						SIGN	WEIGHT	SCALE
						PAGE 1		TOTAL 53
SIGN	NUM.	DESCRIPTION	SIG.	DATA	各种装载情况稳性计算书 LOADING STABILITY CALCULATIONS	 上海京荣船舶设计有限公司 SHANGHAI JINGRONG MERCHANT SHIP DESIGN CO., LTD.		
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VERIFIED	—							
APPROVED	林德弘	DATA	2007.2.8		PROJECT NUMBER	SL17/20		
					SURVEY DEPARTMENT	BV		

1. EXPLANSTION

1. Calculations is according to IMO A.749(18).
2. The vessel navigation area is international voyages.
3. Main particulars

Length between perpendicular	L_{BP}	137.20m
Breadth molded	B	22.00m
Depth molded	D	10.80m
Designed Draft	T	7.80m

4. Density of each tank

Freshwater	1.0t/m^3
Fuel oil	0.95 t/m^3
Lub.oil	0.90 t/m^3
Ballast water	1.025 t/m^3
Marine Diesel oil	0.85 t/m^3

5. Check loading condition of stability calculatona

- (1) Departure(full load 0.74t/m^3)
- (2) Arrival (full load 0.74t/m^3)
- (3) Departure(full load 0.84t/m^3)
- (4) Arrival (full load 0.84t/m^3)
- (5) Departure (load 0.92t/m^3)
- (6) Arrival (load 0.92t/m^3)
- (7) Departure (full load 0.788t/m^3)
- (8) Arrival (full load 0.788t/m^3)
- (9) Departure (load 1.025t/m^3)
- (10)Arrival (load 1.025t/m^3)
- (11)Departure(part load 0.788t/m^3)
- (12) Arrival(part load 0.788t/m^3)
- (13) Departure(ballast condition)
- (14)Arrival (ballast condition)
- (15)I/25A

6. Specification in the Loading Calculation

- (1) Forecastal, poop to be counted in stability calculation.
- (2) The flooding entering point to be taken at the door of the funnel at stern.
 $X=2.450\text{m}$, $Y=9.926\text{m}$, $Z=19.085\text{m}$.

(3) Consideration of tank consuming

Take departure 100%

Take arrival 10%

(4) Accounting with ice

Calculations of weight of ice, center of gravity is according to
“Technical regulations for international voyage vessels”.

7. Item for pay attention to loading condition

(1) All loading condition are basic loading condition. If there is
difference in actual loading condition, master should be checked
and accounted effect of free liquid according to the actual loading
condition before departure.

(2) Fuel oil, lubrication oil must be reminded 2% expend volume.

8. Reference information

GENERAL ARRANGEMENT	JR557-020-03
LINES	JR557-020-04
HYDROSTATIC	JR557-020-05
CROSS CURVES TABLE	JR557-020-06
SOUNGING TABLE FOR TANKS	JR557-020-09

2. STABILITY CALCULATION SUMMARIZE TABLE

				Departure (full load 0.74t/m ³)	Arrival (full load 0.74t/m ³)	Departure (full load 0.84t/m ³)	Arrival (full load 0.84t/m ³)
1.	DISPLACEMENT	T		18417.8	17492.1	18779.5	17853.8
2.	DEADWEIGHT	t		13617.8	12692.1	13979.5	13053.8
3.	CARRY CARGO	t		12345.9	12345.9	12707.6	12707.6
4.	BALLAST WATER	t		0.0	0.0	0.0	0.0
5.	DRAFT	BOW DRAFT	m	6.503	6.995	6.875	7.371
		STERNDRAFT	m	8.731	7.647	8.642	7.551
		MEAN DRAFT	m	7.617	7.321	7.800	7.461
6.	V.C.G	m		6.966	6.983	6.815	6.823
7.	L.C.G(from AP)	m		67.130	69.667	67.770	70.288
8.	CORRECTED GM			1.765	1.714	1.881	1.823
9.	CORRECTED VCG			7.571	7.619	7.462	7.504
10.	30° STATIC STABILITY LEVER	m		0.856	0.951	0.872	0.969
11.	ANGLE CORRESPONDING TO MAX STATIC STABILITY LEVER °			35.42≥25.0	36.39	35.54	36.72
12.	AREA UNGER GZ-CURVE (0°-30°)			0.249≥ 0.055	0.257	0.258	0.267
13.	AREA UNGER GZ-CURVE(0°-40° OR 0°- f)			0.397≥ 0.090	0.421	0.409	0.434
14.	AREA UNGER GZ-CURVE(30°- 40° OR 30°- f)			0.148≥ 0.03	0.164	0.151	0.167
15.	STABILITY CRITERION NUMERAL ≥1			4.41≥1	4.91	4.21	4.73
16.	FLOODING ANGLE °			60.00	60.00	60.00	60.00
17.	ROLLING ANGLE °			19.39	19.18	19.69	19.38
18.	ROLLING PERIOD s			12.55	12.82	12.12	12.39
19.	CONCLUSION			OK	OK	OK	OK

				Departure (load 0.92t/m ³)	Arrival (load 0.92t/m ³)	Departure (full load 0.788t/m ³)	Arrival (full load 0.788t/m ³)
20.	DISPLACEMENT	T		18779.5	17853.8	18779.5	17853.8
21.	DEADWEIGHT	t		13979.5	13053.8	13979.5	13053.8
22.	CARRY CARGO	t		12707.6	12707.6	12707.6	12707.6
23.	BALLAST WATER	t		0.0	0.0	0.0	0.0
24.	DRAFT	BOW DRAFT	m	7.084	7.589	7.086	7.590
		STERNDRAFT	m	8.453	7.347	8.452	7.346
		MEAN DRAFT	m	7.800	7.468	7.769	7.468
25.	V.C.G	m		6.493	6.485	6.955	6.970
26.	L.C.G(from AP)	m		68.354	70.903	68.358	70.907
27.	CORRECTED GM			2.146	2.101	1.778	1.715
28.	CORRECTED VCG			7.198	7.226	7.565	7.612
29.	30° STATIC STABILITY LEVER	m		1.027	1.137	0.813	0.906
30.	ANGLE CORRESPONDING TO MAX STATIC STABILITY LEVER °			37.43≥25.0	38.26	34.69	36.06
31.	AREA UNGER GZ-CURVE (0°-30°)			0.294≥ 0.055	0.304	0.244	0.252
32.	AREA UNGER GZ-CURVE(0°-40° OR 0°- f)			0.471≥ 0.090	0.499	0.385	0.409
33.	AREA UNGER GZ-CURVE(30°- 40° OR 30°- f)			0.177≥ 0.03	0.195	0.141	0.156
34.	STABILITY CRITERION NUMERAL ≥1			4.25≥1	4.95	4.18	4.75
35.	FLOODING ANGLE °			60.00	60.00	60.00	60.00
36.	ROLLING ANGLE °			20.10	19.30	19.54	19.19
37.	ROLLING PERIOD s			11.35	11.54	12.47	12.78
38.	CONCLUSION			OK	OK	OK	OK

				Departure (full load 1.025t/m ³)	Arrival (full load 1.025t/m ³)	Departure (part load 0.788t/m ³)	Arrival (part load 0.788t/m ³)
39.	DISPLACEMENT	T		18779.5	17853.8	16358.5	15432.8
40.	DEADWEIGHT	t		13979.5	13053.8	11558.5	10632.8
41.	CARRY CARGO	t		12707.6	12707.6	10286.6	10286.6
42.	BALLAST WATER	t		0.0	0.0	0.0	0.0
43.	DRAFT	BOW DRAFT	m	7.084	7.588	5.431	5.956
		STERNDRAFT	m	8.454	7.348	8.291	7.155
		MEAN DRAFT	m	7.769	7.468	6.861	6.555
44.	V.C.G	m		6.213	6.190	6.698	6.701
45.	L.C.G(from AP)	m		68.353	70.902	66.348	68.177
46.	CORRECTED GM			2.351	2.317	1.959	1.956
47.	CORRECTED VCG			6.993	7.010	7.399	7.443
48.	30° STATIC STABILITY LEVER	m		1.152	1.270	1.237	1.338
49.	ANGLE CORRESPONDING TO MAX STATIC STABILITY LEVER °			38.70≥25.0	39.33	38.12	38.02
50.	AREA UNGER GZ-CURVE (0°-30°)			0.321≥ 0.055	0.333	0.303	0.312
51.	AREA UNGER GZ-CURVE(0°-40° OR 0°- f)			0.519≥ 0.090	0.549	0.515	0.541
52.	AREA UNGER GZ-CURVE(30°- 40° OR 30°- f)			0.198≥ 0.03	0.217	0.212	0.229
53.	STABILITY CRITERION NUMERAL ≥1			4.31≥1	4.72	5.52	6.07
54.	FLOODING ANGLE °			60.00	60.00	60.00	60.00
55.	ROLLING ANGLE °			20.25	19.99	19.12	18.69
56.	ROLLING PERIOD s			10.84	10.99	12.13	12.26
57.	CONCLUSION			OK	OK	OK	OK

				Departure (ballast condition)	Arrival (ballast condition)	I/25A
58.	DISPLACEMENT	T		12193.1	11267.4	17679.1
59.	DEADWEIGHT	t		7393.1	6467.4	12879.1
60.	CARRY CARGO	t		0.0	0.0	11543.1
61.	BALLAST WATER	t		6121.2	6121.2	64.1
62.	DRAFT	BOW DRAFT	m	4.207	4.969	6.094
		STERNDRAFT	m	6.430	4.877	8.597
		MEAN DRAFT	m	5.318	4.923	7.346
63.	V.C.G	m		6.086	6.040	6.90
64.	L.C.G(from AP)	m		67.560	71.533	66.798
65.	CORRECTED GM			3.775	4.105	1.092
66.	CORRECTED VCG			6.169	6.129	8.238
67.	30° STATIC STABILITY LEVER	m		2.576	2.719	0.583
68.	ANGLE CORRESPONDING TO MAX STATIC STABILITY LEVER °			42.68≥25.0	42.77	31.75
69.	AREA UNGER GZ-CURVE (0°-30°)			0.567≥ 0.055	0.607	0.171
70.	AREA UNGER GZ-CURVE(0°-40° OR 0°- f)			0.995≥ 0.090	1.058	0.269
71.	AREA UNGER GZ-CURVE(30°- 40° OR 30°- f)			0.428≥ 0.03	0.451	0.098
72.	STABILITY CRITERION NUMERAL ≥1			4.65≥1	4.20	5.83
73.	FLOODING ANGLE °			60.00	60.00	60.00
74.	ROLLING ANGLE °			21.77	22.62	16.31
75.	ROLLING PERIOD s			9.27	9.06	16.06
76.	CONCLUSION			OK	OK	OK