

# LAMPIRAN VII: STABILITY AND TRIM CALCULATION



**PT MERATUS TONGKANG SERVICE**  
**STABILITY AND TRIM CALCULATION**  
**MV.MARINA STAR 3**

Voyage : 84/JKT - AMA/2015

Arrival Port : Amamapare  
 Arrival Date / Time : 13/12/2015 / 18.12

ITEM	Weight	V.Moment	L. Moment	Fs Corr
	(M.Ton)	(M.Ton)	(M.Ton)	
Cargo Total	7415.91	62726.23	572740.21	2291.81
Water Ballast	695.00	1424.04	67567.50	
Fresh Water	160.00	638.40	5038.40	
Fuel Oil	370.00	505.30	30079.10	
Diesel Oil	113.97	62.90	4028.89	
Lub Oil	25.00	77.625	237.50	
Light Ship	5473.78	49701.92	326292.03	
Constant & Others	400.00	4896.00	28000.00	
<b>Displacement</b>	<b>14653.66</b>	<b>120032.41</b>	<b>1033983.63</b>	

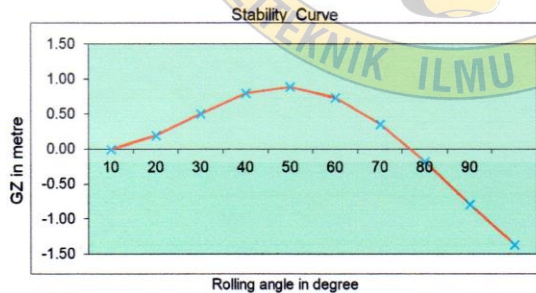
Heel Angle	STATICAL STABILITY			
	Sin Q	M S	G o M	
			Sin Q	G Z
0	0	0	0	0
10	0.174	1.620	1.425	0.195
20	0.342	3.310	2.801	0.509
30	0.500	4.900	4.096	0.804
40	0.643	6.160	5.267	0.893
50	0.766	7.010	6.275	0.735
60	0.866	7.450	7.094	0.356
70	0.939	7.520	7.700	-0.180
80	0.984	7.280	8.068	-0.788
90	1.000	6.830	8.191	-1.361

D - Mean	6.50	Mtrs	Actual Draft
Trim	0.01	Mtrs	
D - Fwd	6.50	Mtrs	
D - Aft	6.50	Mtrs	
Trim by Stern			
Draft Max 8.102			

Maximum GZ	0.89	Mtrs
Angle of Max GZ	40	Degs
Angle of Vanishing GZ	70	Degs

GoM	0.85	Mtrs
Rolling Period	16.90	Sec
Propeller Immersion	69.46	%

Good GoM		ACTUALITY	
CRITERIA STABILITY (IMO A.167)			
* Area 30° ( ≥ 0.055 m-rad )	0.191	OK	
* Area 40° ( ≥ 0.09 m-rad )	0.343	OK	
* Area 30°-40° ( ≥ 0.03 m-rad )	0.153	OK	
* GZ at 30° ( ≥ 0.20 m )	0.804	OK	
* Angle of max GZ ≥ 25°	40	OK	
* Initial GM ≥ 0.15 m	0.85	OK	
* Mean Draft ≤ 8.083 ( S )	6.50	OK	



Prepared by :

**Supantara**  
Chief Officer

Approved by

**Capt. Hadi Priyono**  
Master