

# LAMPIRAN VI: STABILITY AND TRIM CALCULATION



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

Voyage : 84/JKT - AMA/2016

Departure Port : Surabaya  
Departure Date : 12/8/2015

ITEM	Weight (M.Ton)	V.Moment (M.Ton)	L. Moment (M.Ton)	Fs Corr
Cargo Total	7710.50	64564.71	596510.05	2267.48
Water Ballast	465.00	485.18	36565.80	
Fresh Water	220.00	1159.40	6927.80	
Fuel Oil	836.00	2257.54	70754.38	
Diesel Oil	213.97	174.40	7943.89	
Lub Oil	30.00	108.75	285.00	
Light Ship	5473.78	49701.92	326292.03	
Constant & Others	400.00	4896.00	28000.00	
Displacement	15349.25	123347.90	1073278.94	

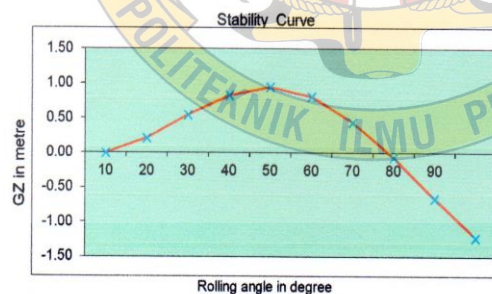
Heel Angle	STATICAL STABILITY			
	Sin Q	M S	G o M Sin Q	G Z
0	0	0	0	0
10	0.174	1.610	1.398	0.212
20	0.342	3.300	2.748	0.552
30	0.500	4.850	4.018	0.832
40	0.643	6.120	5.167	0.953
50	0.766	6.970	6.156	0.814
60	0.866	7.400	6.959	0.441
70	0.939	7.490	7.554	-0.064
80	0.984	7.260	7.916	-0.656
90	1.000	6.820	8.036	-1.216

D - Mean	6.80	Mtrs	Actual
Trim	0.48	Mtrs	Draft
D - Fwd	6.56	Mtrs	
D - Aft	7.04	Mtrs	
Trim by Stern			
Draft Max 8.102			

Maximum GZ	0.95	Mtrs
Angle of Max GZ	40	Degs
Angle of Vanishing GZ	70	Degs

GoM	0.94	Mtrs
Rolling Period	16.03	Sec
Propeller Immersion	80.50	%

Good GoM		
CRITERIA STABILITY (IMO A.167)		ACTUALITY
* Area 30° ( ≥ 0.055 m-rad )	0.204	OK
* Area 40° ( ≥ 0.09 m-rad )	0.362	OK
* Area 30°-40° ( ≥ 0.03 m-rad )	0.158	OK
* GZ at 30° ( ≥ 0.20 m )	0.832	OK
* Angle of max GZ ≥ 25°	40	OK
* Initial GM ≥ 0.15 m	0.94	OK
* Mean Draft ≤ 8.083 (S)	6.80	OK



Prepared by :

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Approved by

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Master