

[Sample Form]

Date:

Messrs.
Dear Sirs,

LETTER OF PROTEST

M.V. Voy.
Port

This is to advise you that the quantity of the cargo loaded on the vessel at this port is as follows:

Description of Cargo:

Destination of Cargo:

Stowage Tank:

Shore figures given by Shippers (A) :	<u>M/T</u>
Ship's figures by ullaging/draft survey (B) :	<u>M/T</u>
Discrepancy between both figures (A-B) :	<u>M/T</u>

Whereas the said discrepancy being beyond vessel's control, the Owners, the Master, the Vessel and the Crew are not responsible for any dispute and all consequences and/or liabilities of any kind whatsoever directly or indirectly arising from or relating to the said discrepancy.

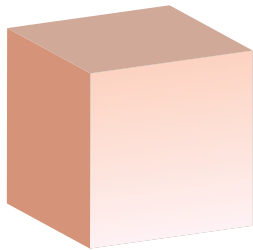
Kindly acknowledge receipt of this letter by signing at the space below.

Yours faithfully,

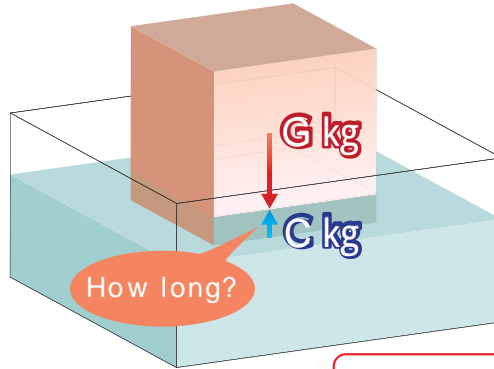
We hereby confirm receipt of this letter and accept the above.

Master: _____

Stevedore Company: _____



A cube of 1m x 1m x 1m
Weight of 300kg



Answer : 30 cm
Answer : 700kgs

- Density of water 1000kg/m³
- Cubic volume of submerged portion
- Depth of submerged portion
- Area of base of submerged portion
- Density of floating body 300kg/m³
- Cubic volume of floating body
- Height of floating body
- Area of base of floating body
- Acceleration due to gravity

- w kg/m³
- V w m³
- H w m
- s w = 1 m²
- kg/m³
- V = 1 m³
- H = 1 m
- s = 1 m²
- g = 9.8m/s²

- Weight of floating body G kg
- Weight of submerged portion C kg
- Buoyant force = Weight of floating body

$$\begin{aligned}
 \rho_f V_f g &= \rho_w V_w \cdot s \\
 \rho_f V_f &= \rho_w V_w \cdot s \\
 \rho_f H \cdot s &= \rho_w H_w \cdot s_w \\
 s &= s_w \\
 \rho_f H &= \rho_w H_w \\
 H_w &= \left(\frac{\rho_f}{\rho_w} \right) \cdot H \\
 &= \left(\frac{300}{1000} \right) \cdot 1 \text{ (m)} \\
 &= 30 \text{ cm}
 \end{aligned}$$

It is necessary to increase the density of floating body to totally submerge it in water
It should be $\rho_f = 1000$ to be $H_w = H = 1$
additional density : ρ_f

$$\begin{aligned}
 \rho_f &= \rho_w \\
 300 + \rho_f &= 1000 \\
 \rho_f &= 1000 - 300 = 700 \\
 \rho_f V_f &= 700 \text{ kg/m}^3 \times 1 \text{ m}^3 \\
 &= 700 \text{ kg}
 \end{aligned}$$

Attachment Format of displacement calculation

DISPLACEMENT CALCULATION			
LN	VESSEL:XXXXXXXX		PORT: DAMPIER, AUSTRALIA
3	PARAMETERS	VALUE	OBTAINED FROM
4	Observations at Draft Survey		
5	Forward draft Port:	8.06	By Actual Observation
6	Forward draft Starboard:	8.04	By Actual Observation
7	Midship draft Port:	9.08	By Actual Observation
8	Midship draft Stbd:	8.68	By Actual Observation
9	Aft draft Port:	9.96	By Actual Observation
10	Aft draft Stbd:	9.92	By Actual Observation
11	Density	1.013	By Actual Observation
12	Draft at Marks		
13	Forward	8.050	Mean of Forward Port and Forward Stbd(L5+L6)/2
14	Midships	8.880	Mean of Midship Port and Midship Stbd (L7+L8)/2
15	Aft	9.940	Mean of Aft Port and Aft Stbd (L9+L10)/2
16	Trim between draft Marks	1.890	Difference between Aft and Ford drafts (L15-L13)
17	Distance between draft Marks	266.200	From Ship's Particulars
18	Distances between draft Marks and Perpendiculars to calculate draft correction		
19	Convention: Correction Negative if Perpendicular forward of Mark		
20	Forward	-5.000	From Ship's Particulars
21	Midships	0.000	From Ship's Particulars
22	Aft	7.800	From Ship's Particulars
23	Corrections to Draft Marks:		
24	Forward	-0.035	Values at (L16/L17)*L20 (TrimxDist.between draft mark and perpendicular)/
25	Midships	0.000	Values at (L16/L17)*L21 Dist between marks
26	Aft	0.055	Values at (L16/L17)*L22
27	Drafts at Perpendiculars(Corrected)		
28	Forward	8.015	
29	Midships	8.880	Correction applied as per convention
30	Aft	9.995	
31	Trim between Perpendiculars	1.98	L30-L28 Difference between Aft and Ford draft
32	Mean of Means Correction:	8.911	((L29*6)+(L28+L30))/8
33	Displacement	91058.290	From Hydrostatic Table
34	Length between Perpendiculars	279.000	Ships Particulars
35	Convention: Negative if LCF or Longitudinal Centre of flotation forward of the midpoint		
36			
37	LCF	9.280	From Hydrostatic Table
38	TPC or Tonnes per Centimetre	109.820	From Hydrostatic Table
39	First trim correction	723.574	Add if LCF is in same direction as deepest draft
40	Mean of means + 0.50	9.411	Value at L32+0.5(Corrected mean of mean + 0.50)
41	Mean of means - 0.50	8.411	Value at L32-0.5(Corrected mean of mean - 0.50)
42	To find difference of MCTC between mean of mean+0.50 and mean of mean -0.50		
43	at mean of means + 0.50	1942.000	Hydrostatic Table
44	at mean of means - 0.50	1888.160	Hydrostatic Table
45	Difference of MCTC	53.840	
46	Second Trim correction	37.861	Always add correction
47	Difference between Midship drafts	0.400	Values at LN7-LN8
48	To find difference between TPC or Tonnes per Centimetre for heel correction.		
49	At midship draft Port	110.020	Hydrostatic Table
50	At midship draft Stbd.	108.920	Hydrostatic Table
51	Difference Between TPC	1.100	Values at LN 49-LN50
52	Heel correction	2.640	Always add correction
53	Displacement	91822.365	Corrected for trim,heel
54	Density observed	1.013	
55	Density correction = Displacement corrected for trim,heel X density of dockwater/1.025		
56	Final corrected Displacement	90747.371	Corrected for Density
57	Light ship	2127.000	
58	Ballast	64729.000	
59	Fresh water	165.000	
60	Drinking water	100.000	
61	D.Oil	58.000	
62	F.Oil	3986.000	
63	CONSTANT	432.371	
64	Cargo on Board:	0.000	
			Values to be entered Manually
			Values calculated Automatically

