

Design hydrostatics report

Sea Tour 17 Expedition

Designer	Thomas Yost		
Created by	Ruedi Anneler		
Comment			
Filename	20 - Sea Tour 17 EXP - delftship - hull.fbm		
Design length	5.182 (m)	Midship location	2.591 (m)
Length over all	5.182 (m)	Relative water density	1.0250
Design beam	0.575 (m)	Mean shell thickness	0.0000 (m)
Maximum beam	0.562 (m)	Appendage coefficient	1.0000
Design draft	0.120 (m)		

Volume properties		Waterplane properties	
Moulded volume	0.127 (m ³)	Length on waterline	4.764 (m)
Total displaced volume	0.127 (m ³)	Beam on waterline	0.516 (m)
Displacement	0.130 (tonnes)	Entrance angle	13.557 (Degr.)
Block coefficient	0.3540	Waterplane area	1.621 (m ²)
Prismatic coefficient	0.5005	Waterplane coefficient	0.5443
Vert. prismatic coefficient	0.6504	Waterplane center of floatation	2.529 (m)
Wetted surface area	1.997 (m ²)	Transverse moment of inertia	0.025 (m ⁴)
Longitudinal center of buoyancy	2.511 (m)	Longitudinal moment of inertia	1.796 (m ⁴)
Longitudinal center of buoyancy	-1.671 ‰		
Vertical center of buoyancy	0.076 (m)		

Midship properties		Initial stability	
Midship section area	0.049 (m ²)	Transverse metacentric height	0.272 (m)
Midship coefficient	0.7072	Longitudinal metacentric height	14.270 (m)

Lateral plane	
Lateral area	0.429 (m ²)
Longitudinal center of effort	2.413 (m)
Vertical center of effort	0.071 (m)

The following layer properties are calculated for both sides of the ship

Location	Area (m ²)	Thickness (m)	Weight (tonnes)	LCG (m)	TCG (m)	VCG (m)
Deck	1.957	0.000	0.000	2.601	0.000 (CL)	0.237
Side top	1.031	0.000	0.000	2.642	0.000 (CL)	0.179
Side bottom	0.625	0.000	0.000	2.495	0.000 (CL)	0.057
Bottom	0.908	0.000	0.000	2.512	0.000 (CL)	0.024
Side middle	0.548	0.000	0.000	2.620	0.000 (CL)	0.101
Total	5.070		0.000	0.000	0.000 (CL)	0.000

NOTE 1: Draft (and all other vertical heights) is measured from base Z=0.000

NOTE 2: All calculated coefficients based on project length, draft and beam.