Design hydrostatics report

autonomous_boat

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Created by	
Comment	
Filename	autonomous_boat_delftship.fbm

Design length	0,522 m	Midship location	0,261 m
Length of buoyancy model	0,540 m	Water density	1,0250
Design beam	0,142 m	Mean shell thickness	0,0000 m
Maximum beam	0,141 m	Appendage coefficient	1,0000
Design draft	0,033 m		

Volume properties		Waterplane properties	
Moulded volume	0,001 m^3	Length on waterline	0,455 m
Total displaced volume	0,001 m^3	Beam on waterline	0,118 m
Displacement	0,001 t	Entrance angle	15,1 degr
Block coefficient	0,4249	Waterplane area	0,04 m^2
Prismatic coefficient	0,8001	Waterplane coefficient	0,7864
Vert. prismatic coefficient	0,5403	Waterplane center of floatation	0,206 m
Wetted surface area	0,05 m^2	Transverse moment of inertia	0,000 m^4
Longitudinal center of buoyancy	0,197 m	Longitudinal moment of inertia	0,001 m^4
Longitudinal center of buoyancy	-14,155 %		
Vertical center of buoyancy	0,022 m		
Total length of submerged body	0,455 m		
Total beam of submerged body	0,118 m		

Midship properties		Initial stability	
Midship section area	0,00 m^2	Transverse metacentric height	0,077 m
Midship coefficient	0,5311	Longitudinal metacentric height	0,719 m

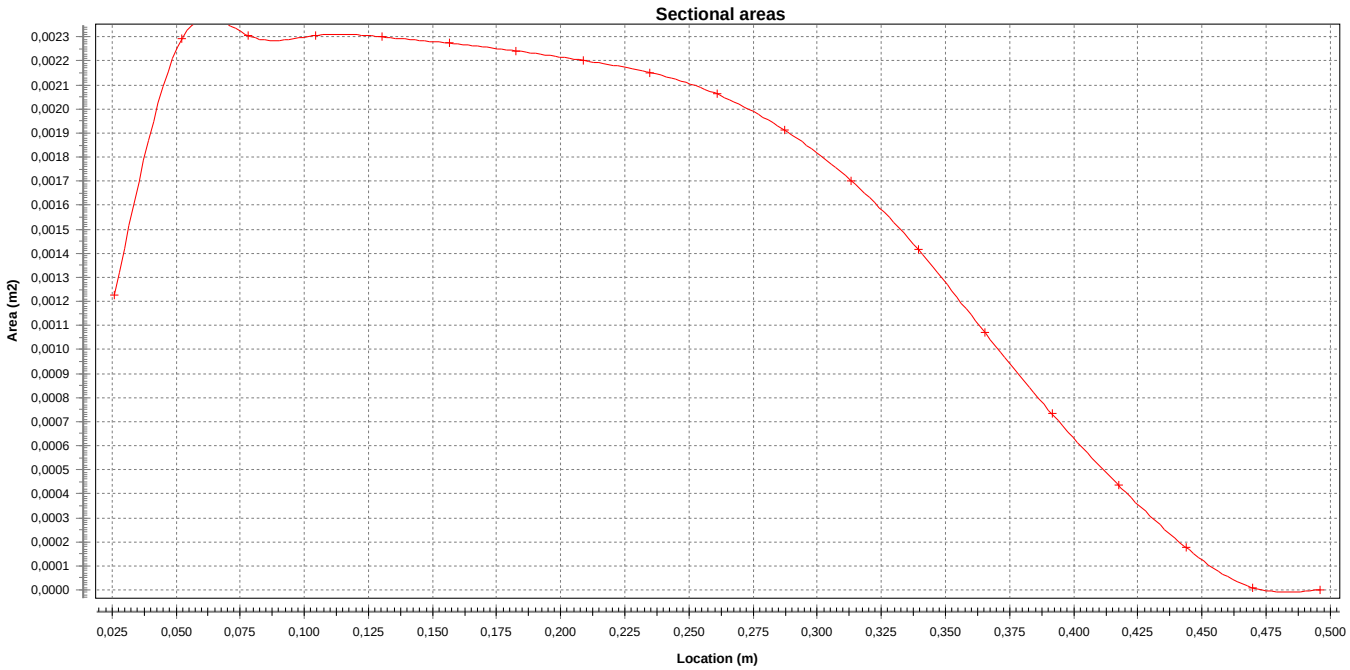
Lateral plane	
Lateral area	0,01 m^2
Longitudinal center of lateral resistance	0,232 m
Vertical center of lateral resistance	0,018 m

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

Location	Area	Thickness	Weight	LCG	TCG	VCG
	m^2	m	t	m	m	m
hull	0,12	0,019	0,004	0,228	0,000 (CL)	0,040
deck	0,04	0,011	0,001	0,276	0,000 (CL)	0,085
accomodation	0,07	0,011	0,001	0,178	0,000 (CL)	0,044
Total	0,23		0,006	0,224	0,000 (CL)	0,047

Sectional areas

Location	Area	Location	Area	Location	Area	Location	Area	Location	Area
m	m^2	m	m^2	m	m^2	m	m^2	m	m^2
0,026	0,00	0,130	0,00	0,235	0,00	0,339	0,00	0,444	0,00
0,052	0,00	0,157	0,00	0,261	0,00	0,365	0,00	0,470	0,00
0,078	0,00	0,183	0,00	0,287	0,00	0,391	0,00	0,496	0,00
0,104	0,00	0,209	0,00	0,313	0,00	0,418	0,00		



NOTE 1: Draft (and all other vertical heights) is measured from base Z=0,000
NOTE 2: All calculated coefficients based on actual dimensions of submerged body.