

## Design hydrostatics report

### Mess About 12

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Comment			
Filename	Biber 380 Mess About - design.fbm		
Design length	3.785 (m)	Midship location	1.893 (m)
Length over all	3.785 (m)	Relative water density	1.0000
Design beam	0.695 (m)	Mean shell thickness	0.0000 (m)
Maximum beam	0.671 (m)	Appendage coefficient	1.0000
Design draft	0.120 (m)		

Volume properties		Waterplane properties	
Moulded volume	0.120 (m <sup>3</sup> )	Length on waterline	3.653 (m)
Total displaced volume	0.120 (m <sup>3</sup> )	Beam on waterline	0.570 (m)
Displacement	0.120 (tonnes)	Entrance angle	10.353 (Degr.)
Block coefficient	0.3789	Waterplane area	1.321 (m <sup>2</sup> )
Prismatic coefficient	0.5680	Waterplane coefficient	0.5021
Vert. prismatic coefficient	0.7546	Waterplane center of floatation	1.818 (m)
Wetted surface area	1.770 (m <sup>2</sup> )	Transverse moment of inertia	0.024 (m <sup>4</sup> )
Longitudinal center of buoyancy	1.810 (m)	Longitudinal moment of inertia	0.821 (m <sup>4</sup> )
Longitudinal center of buoyancy	-2.259 ‰		
Vertical center of buoyancy	0.071 (m)		

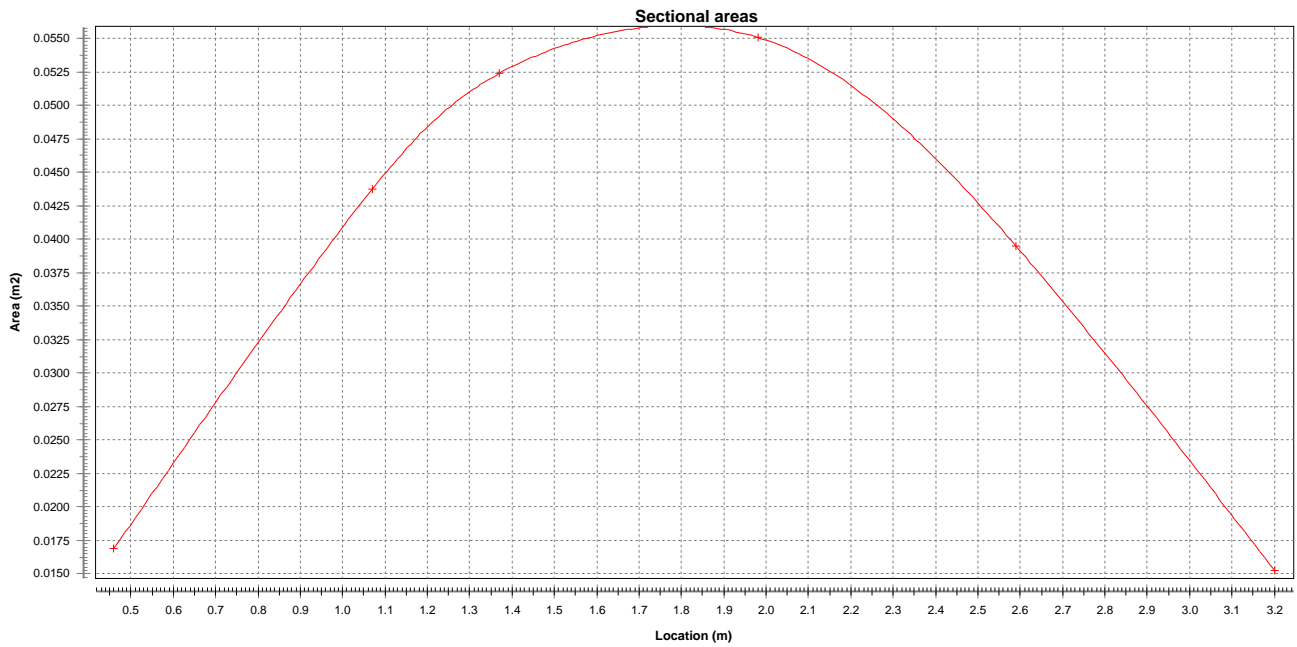
Midship properties		Initial stability	
Midship section area	0.056 (m <sup>2</sup> )	Transverse metacentric height	0.273 (m)
Midship coefficient	0.6670	Longitudinal metacentric height	6.935 (m)

Lateral plane	
Lateral area	0.412 (m <sup>2</sup> )
Longitudinal center of effort	1.886 (m)
Vertical center of effort	0.062 (m)

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

Location	Area (m <sup>2</sup> )	Thickness (m)	Weight (tonnes)	LCG (m)	TCG (m)	VCG (m)
deck	1.282	0.000	0.000	1.859	0.000 (CL)	0.290
side	1.741	0.000	0.000	1.953	0.000 (CL)	0.165
bottom	1.249	0.000	0.000	1.832	0.000 (CL)	0.023
coaming	0.201	0.000	0.000	1.931	0.000 (CL)	0.321
Total	4.473		0.000	0.000	0.000 (CL)	0.000

Sectional areas									
Location (m)	Area (m <sup>2</sup> )	Location (m)	Area (m <sup>2</sup> )	Location (m)	Area (m <sup>2</sup> )	Location (m)	Area (m <sup>2</sup> )	Location (m)	Area (m <sup>2</sup> )
0.460	0.017	1.370	0.052	2.590	0.039				
1.070	0.044	1.980	0.055	3.200	0.015				



*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.*