

## Design hydrostatics report.

Designer

Created by

Comment

Filename

Powerboat 22 Alpha 202.fbm

Design length	22.000 (ft)	Midship location	11.000 (ft)
Length over all	21.428 (ft)	Relative water density	1.025
Design beam	8.500 (ft)	Mean shell thickness	0.0000 (ft)
Maximum beam	8.263 (ft)	Appendage coefficient	1.0000
Design draught	0.725 (ft)		

Volume properties		Waterplane properties	
Moulded volume	50.208 (ft <sup>3</sup> )	Length on waterline	19.469 (ft)
Total displaced volume	50.208 (ft <sup>3</sup> )	Beam on waterline	7.915 (ft)
Displacement	1.434 (tons)	Entrance angle	10.437 (Degr.)
Block coefficient	0.4496	Waterplane area	119.98 (ft <sup>2</sup> )
Prismatic coefficient	0.7875	Waterplane coefficient	0.7786
Vert. prismatic coefficient	0.5774	Waterplane center of floatation	8.128 (ft)
Wetted surface area	130.25 (ft <sup>2</sup> )	Transverse moment of inertia	504.50 (ft <sup>4</sup> )
Longitudinal center of buoyancy	8.168 (ft)	Longitudinal moment of inertia	2721.6 (ft <sup>4</sup> )
Longitudinal center of buoyancy	-14.548 %		
Vertical center of buoyancy	0.481 (ft)		
Total length of submerged body	19.469 (ft)		
Total beam of submerged body	7.915 (ft)		

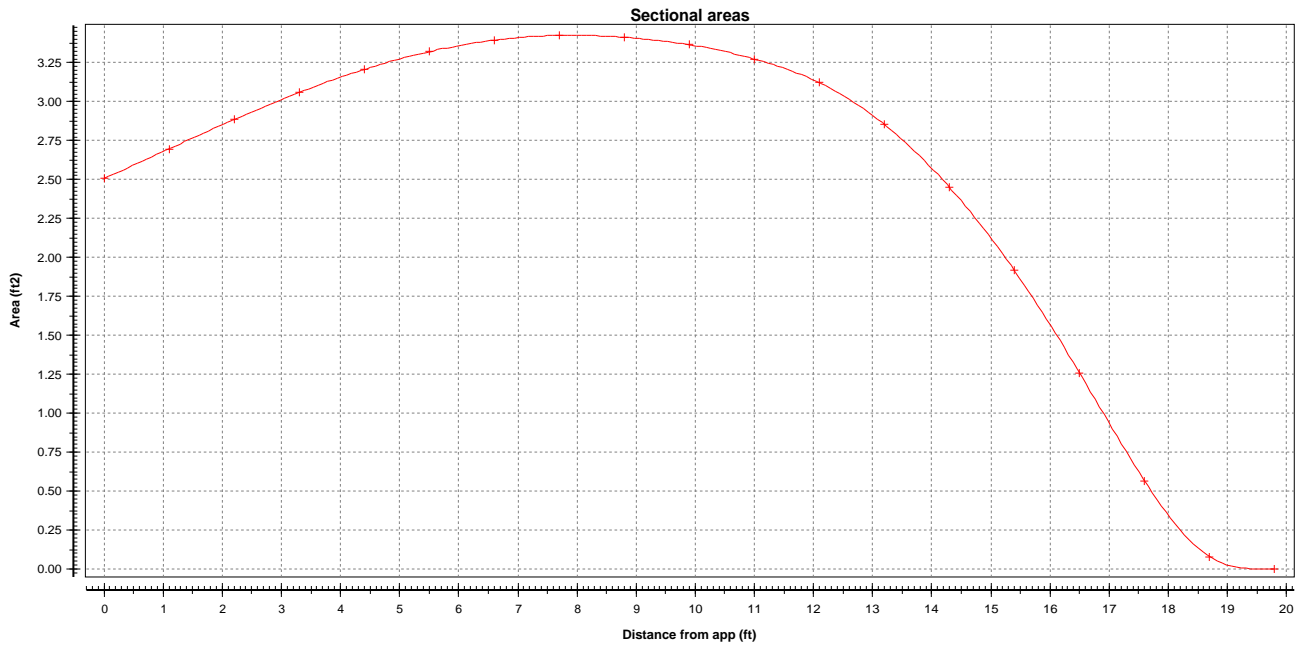
Midship properties		Initial stability	
Midship section area	3.275 (ft <sup>2</sup> )	Transverse metacentric height	10.530 (ft)
Midship coefficient	0.5709	Longitudinal metacentric height	54.689 (ft)

Lateral plane	
Lateral area	12.818 (ft <sup>2</sup> )
Longitudinal center of effort	9.304 (ft)
Vertical center of effort	0.383 (ft)

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

Location	Area (ft <sup>2</sup> )	Thickness	Weight (tons)	LCG (ft)	TCG (ft)	VCG (ft)
Layer 0	227.90	0.000	0.000	8.804	0.000 (CL)	0.893

Sectional areas									
Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )
0.000	2.506	4.400	3.208	8.800	3.414	13.200	2.853	17.600	0.564
1.100	2.697	5.500	3.321	9.900	3.366	14.300	2.450	18.700	0.079
2.200	2.885	6.600	3.395	11.000	3.275	15.400	1.915	19.800	0.000
3.300	3.059	7.700	3.426	12.100	3.122	16.500	1.259		



NOTE 1: Draught (and all other vertical heights) is measured above base Z=

NOTE 2: All calculated coefficients based on actual dimensions of submerged body.