DELFT SHIP
Marine Software

Design hydrostatics report.

Designer
Created by
Comment
Filename   Powerboat 22 Alpha 128.fbm

Design length	22.000 (ft)	**Midship location**	11.000 (ft)
Length over all	21.400 (ft)	**Relative water density**	1.025
Design beam	8.500 (ft)	**Mean shell thickness**	0.0000 (ft)
Maximum beam	8.269 (ft)	**Appendage coefficient**	1.0000
Design draught	0.725 (ft)		

Volume properties

Moulded volume	49.543 (ft^3)
Total displaced volume	49.543 (ft^3)
Displacement	1.415 (tons)
Block coefficient	0.4743
Prismatic coefficient	0.7800
Vert. prismatic coefficient	0.6038
Wetted surface area	122.49 (ft^2)
Longitudinal center of buoyancy	8.244 (ft)
Longitudinal center of buoyancy	-14.278 %
Vertical center of buoyancy	0.475 (ft)
Total length of submerged body	19.305 (ft)
Total beam of submerged body	7.466 (ft)

Waterplane properties

Length on waterline	19.305 (ft)
Beam on waterline	7.466 (ft)
Entrance angle	22.614 (Degr.)
Waterplane area	113.22 (ft^2)
Waterplane coefficient	0.7855
Waterplane center of floatation	8.113 (ft)
Transverse moment of inertia	421.59 (ft^4)
Longitudinal moment of inertia	2605.4 (ft^4)

Midship properties

Midship section area	3.290 (ft^2)
Midship coefficient	0.6081

Initial stability

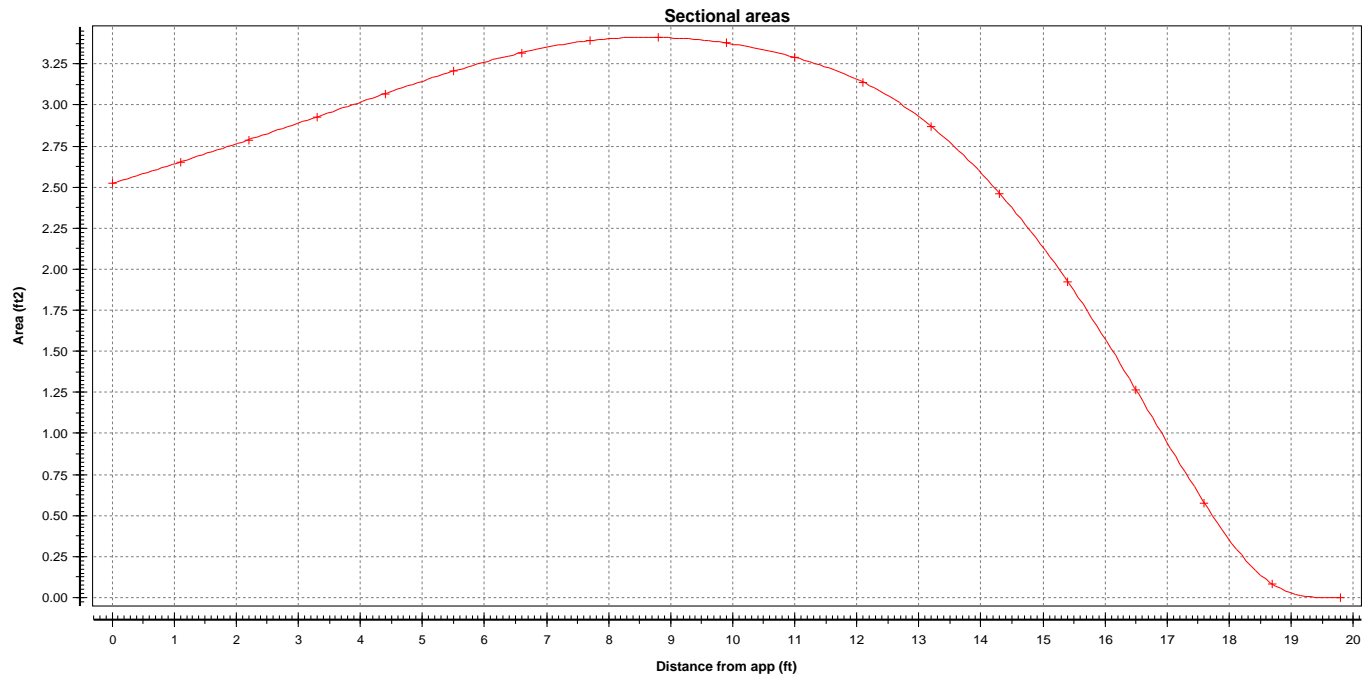|	
Transverse metacentric height	8.985 (ft)
Longitudinal metacentric height	53.064 (ft)

Lateral plane

Lateral area	12.796 (ft^2)
Longitudinal center of effort	9.300 (ft)
Vertical center of effort	0.382 (ft)

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

Location	Area	Thickness	Weight	LCG	TCG	VCG
	(ft^2)		(tons)	(ft)	(ft)	(ft)
Layer 0	221.98	0.000	0.000	8.860	0.000 (CL)	0.912

Sectional areas

Location	Area	Location	Area	Location	Area	Location	Area	Location	Area
(ft)	(ft^2)	(ft)	(ft^2)	(ft)	(ft^2)	(ft)	(ft^2)	(ft)	(ft^2)
0.000	2.521	4.400	3.070	8.800	3.412	13.200	2.870	17.600	0.576
1.100	2.653	5.500	3.205	9.900	3.377	14.300	2.461	18.700	0.082
2.200	2.788	6.600	3.319	11.000	3.290	15.400	1.923	19.800	0.000

Sectional areas

Location (ft)	Area (ft²)	Location (ft)	Area (ft²)	Location (ft)	Area (ft²)	Location (ft)	Area (ft²)	Location (ft)	Area (ft²)
3.300	2.927	7.700	3.392	12.100	3.139	16.500	1.265		

Sectional areas

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.