

Design hydrostatics report.

TWO PERSON SPORTS RECREATIONAL DINGHY

Designer		KVSGKVNG	
Created by		KVSGKVNG	
Comment		hull work in progress	
Filename		Dinghy_10_20H.fbm	
Design length	14.750 (ft)	Midship location	8.644 (ft)
Length over all	14.749 (ft)	Relative water density	1.025
Design beam	6.000 (ft)	Mean shell thickness	0.0000 (ft)
Maximum beam	7.021 (ft)	Appendage coefficient	1.0000
Design draught	0.540 (ft)		

Volume properties

Moulded volume	13.962 (ft ³)
Total displaced volume	13.962 (ft ³)
Displacement	0.399 (tons)
Block coefficient	0.2922
Prismatic coefficient	1.0898
Vert. prismatic coefficient	0.4544
Wetted surface area	61.306 (ft ²)
Longitudinal center of buoyancy	4.828 (ft)
Longitudinal center of buoyancy	-33.082 %
Vertical center of buoyancy	0.371 (ft)

Waterplane properties

Length on waterline	11.535 (ft)
Beam on waterline	6.451 (ft)
Entrance angle	0.000 (Degr.)
Waterplane area	56.906 (ft ²)
Waterplane coefficient	0.6430
Waterplane center of floatation	5.505 (ft)
Transverse moment of inertia	185.75 (ft ⁴)
Longitudinal moment of inertia	498.76 (ft ⁴)

Midship properties

Midship section area	0.869 (ft ²)
Midship coefficient	0.2681

Initial stability

Transverse metacentric height	13.675 (ft)
Longitudinal metacentric height	36.093 (ft)

Lateral plane

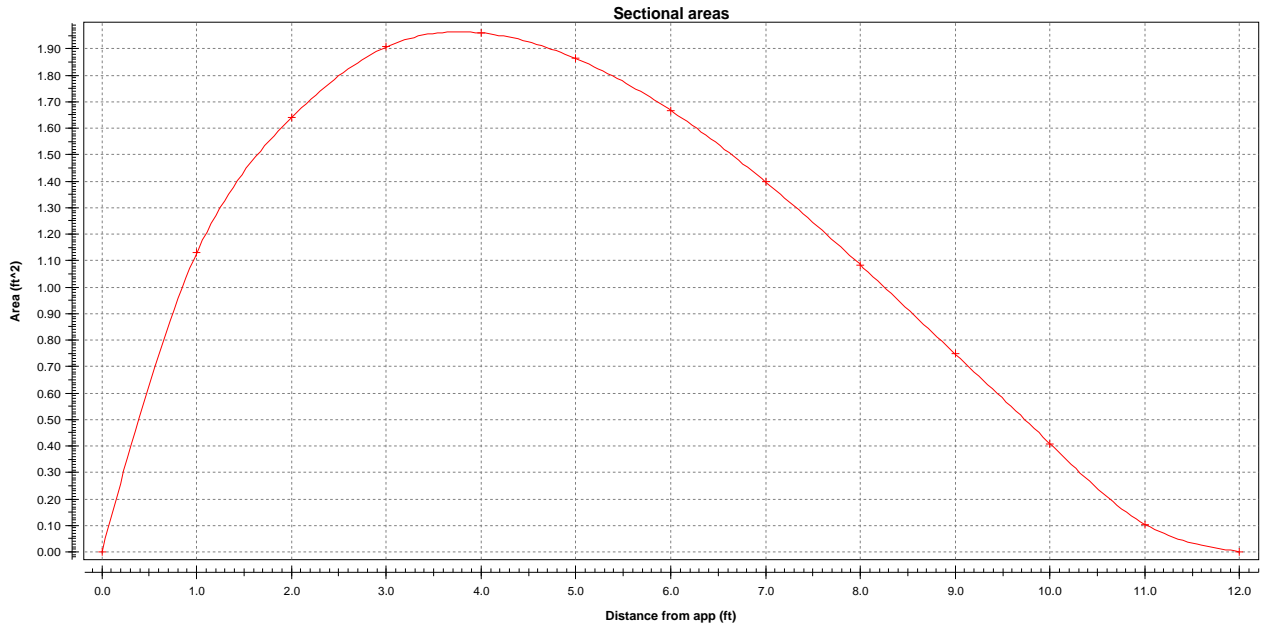
Lateral area	0.000 (ft ²)
Longitudinal center of effort	0.000 (ft)
Vertical center of effort	0.000 (ft)

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

Location	Area (ft ²)	Thickness	Weight (tons)	VCG (ft)	LCG (ft)	TCG (ft)
gunwhale_strake	54.710	0.000	0.000	1.840	6.346	0.000 (CL)
transom	8.731	0.000	0.000	1.654	0.000	0.000 (CL)
keel_strake	111.00	0.000	0.000	0.756	6.513	0.000 (CL)
middle_strake	51.115	0.000	0.000	1.191	7.498	0.000 (CL)
Total	225.55		0.000	0.000	0.000	0.000 (CL)

Sectional areas

Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)
0.000	0.000	3.000	1.907	6.000	1.667	9.000	0.747	12.000	0.000
1.000	1.129	4.000	1.960	7.000	1.397	10.000	0.409		
2.000	1.639	5.000	1.863	8.000	1.083	11.000	0.104		



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

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