

Design hydrostatics report

Kudzu Craft - Pirogue Crawfish

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Comment			
Filename	crawfish_hull.fbm		
Design length	5.200 (m)	Midship location	2.600 (m)
Length over all	5.200 (m)	Relative water density	1.0000
Design beam	0.840 (m)	Mean shell thickness	0.0000 (m)
Maximum beam	0.866 (m)	Appendage coefficient	1.0000
Design draft	0.130 (m)		

Volume properties		Waterplane properties	
Moulded volume	0.199 (m ³)	Length on waterline	4.848 (m)
Total displaced volume	0.199 (m ³)	Beam on waterline	0.712 (m)
Displacement	0.199 (tonnes)	Entrance angle	0.000 (Degr.)
Block coefficient	0.3509	Waterplane area	2.165 (m ²)
Prismatic coefficient	0.5503	Waterplane coefficient	0.4956
Vert. prismatic coefficient	0.7082	Waterplane center of floatation	2.600 (m)
Wetted surface area	2.818 (m ²)	Transverse moment of inertia	0.063 (m ⁴)
Longitudinal center of buoyancy	2.591 (m)	Longitudinal moment of inertia	2.397 (m ⁴)
Longitudinal center of buoyancy	-0.187 ‰		
Vertical center of buoyancy	0.081 (m)		

Midship properties		Initial stability	
Midship section area	0.070 (m ²)	Transverse metacentric height	0.397 (m)
Midship coefficient	0.6377	Longitudinal metacentric height	12.112 (m)

Lateral plane	
Lateral area	0.165 (m ²)
Longitudinal center of effort	2.603 (m)
Vertical center of effort	0.034 (m)

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

Location	Area (m ²)	Thickness (m)	Weight (tonnes)	LCG (m)	TCG (m)	VCG (m)
stem	0.168	0.000	0.000	2.605	0.000 (CL)	0.209
hull	4.996	0.000	0.000	2.600	0.000 (CL)	0.134
gunwale	0.650	0.000	0.000	2.600	0.000 (CL)	0.326
seat	0.792	0.000	0.000	2.488	0.000 (CL)	0.240
Total	6.606		0.000	0.000	0.000 (CL)	0.000

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.