

Design hydrostatics report

moderfartøy

Designer	Thomas Apalnes		
Created by			
Comment			
Filename	Moderfartøy 0 - første runde.fbm		
Design length	85,899 (m)	Midship location	42,950 (m)
Length over all	99,008 (m)	Relative water density	1,0250
Design beam	18,000 (m)	Mean shell thickness	0,0280 (m)
Maximum beam	18,000 (m)	Appendage coefficient	1,0000
Design draft	6,110 (m)		

Volume properties		Waterplane properties	
Moulded volume	7229,29 (m ³)	Length on waterline	91,616 (m)
Total displaced volume	7293,14 (m ³)	Beam on waterline	18,000 (m)
Displacement	7475,47 (tonnes)	Entrance angle	32,364 (Degr.)
Block coefficient	0,7720	Waterplane area	1457,7 (m ²)
Prismatic coefficient	0,7714	Waterplane coefficient	0,9428
Vert. prismatic coefficient	0,8117	Waterplane center of floatation	35,010 (m)
Wetted surface area	2280,6 (m ²)	Transverse moment of inertia	35839 (m ⁴)
Longitudinal center of buoyancy	38,869 (m)	Longitudinal moment of inertia	829080 (m ⁴)
Longitudinal center of buoyancy	-4,454 ‰		
Vertical center of buoyancy	3,423 (m)		

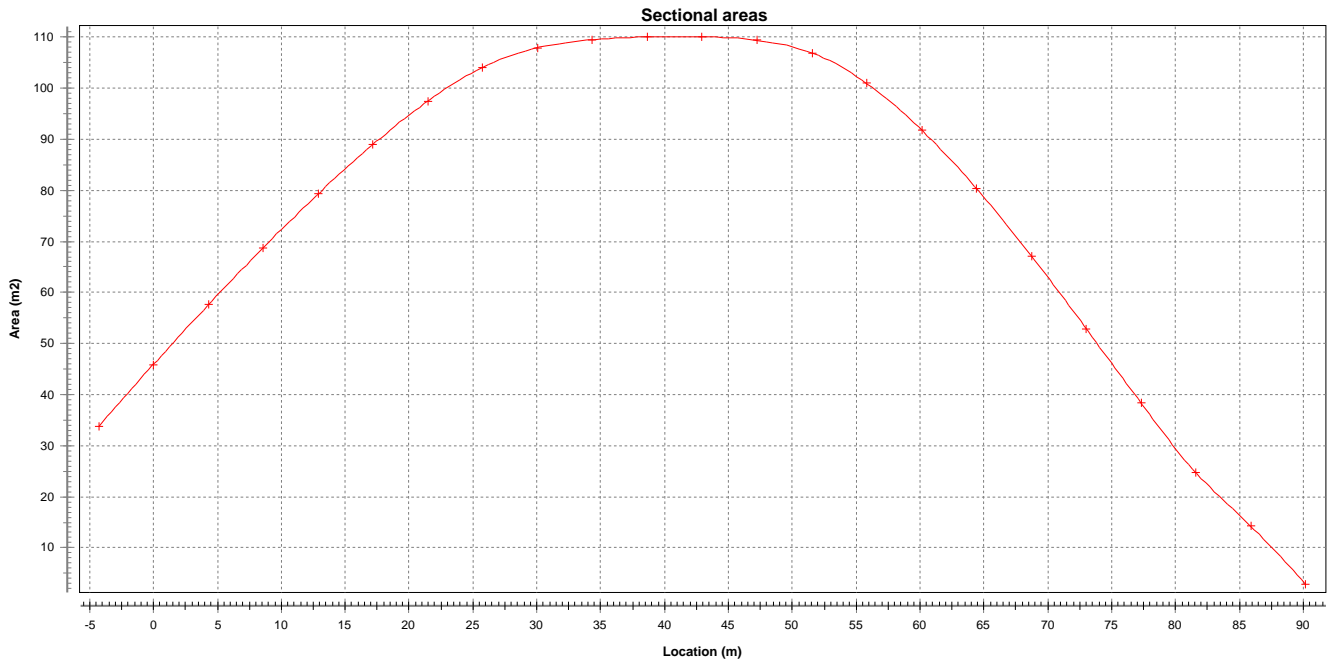
Midship properties		Initial stability	
Midship section area	110,1 (m ²)	Transverse metacentric height	8,380 (m)
Midship coefficient	1,0008	Longitudinal metacentric height	118,11 (m)

Lateral plane	
Lateral area	525,8 (m ²)
Longitudinal center of effort	45,453 (m)
Vertical center of effort	3,270 (m)

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

Location	Area	Thickness	Weight	LCG	TCG	VCG
	(m ²)	(m)	(tonnes)	(m)	(m)	(m)
Skrog	4107,6	0,028	908,60	40,430	0,000 (CL)	5,759
Overbygg dekk	1720,1	0,010	135,88	41,875	0,000 (CL)	14,278
Dykkerbåt	616,0	0,218	5,50	42,000	0,000 (CL)	17,000
Overbygg	508,0	0,000	0,00	76,848	0,000 (CL)	17,149
BRO	182,2	0,000	0,00	81,691	0,000 (CL)	20,108
Total	7133,9		1049,99	40,625	0,000 (CL)	6,920

Sectional areas									
Location	Area	Location	Area	Location	Area	Location	Area	Location	Area
(m)	(m ²)	(m)	(m ²)	(m)	(m ²)	(m)	(m ²)	(m)	(m ²)
-4,295	33,9	17,180	89,0	38,655	110,0	60,129	91,8	81,604	24,7
0,000	45,9	21,475	97,5	42,950	110,1	64,424	80,3	85,899	14,2
4,295	57,6	25,770	104,1	47,244	109,4	68,719	67,1	90,194	2,9
8,590	68,8	30,065	107,9	51,539	106,9	73,014	52,9		
12,885	79,3	34,360	109,5	55,834	100,9	77,309	38,3		



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.