

Mini Transat Racer with double daggerboards and rudders

Project : Mini Transat Racer #02
Designer : Delta Consultants-Pim Visser
Filename : I:\freeships\minitransat#02\mtp2.fbm

Length over all : 6.490 m
Beam over all : 2.809 m
Draft : 1.800 m
Midship location : 2.596 m
Water density : 1.025 t/m³
Appendage coefficient : 1.0000

Volume properties:

Displaced volume : 1.766 m³
Displacement : 1.810 tonnes
Total length of submerged body : 6.403 m
Total beam of submerged body : 2.476 m
Block coefficient : 0.0619
Prismatic coefficient : 0.4953
Vert. prismatic coefficient : 0.0976
Wetted surface area : 11.435 m²
Longitudinal center of buoyancy : 2.867 m
Longitudinal center of buoyancy : -6.076 %
Transverse center of buoyancy : 0.000 m
Vertical center of buoyancy : 1.689 m

Midship properties:

Midship section area : 0.557 m²
Midship coefficient : 0.1249

Waterplane properties:

Length on waterline : 6.403 m
Beam on waterline : 2.476 m
Waterplane area : 10.048 m²
Waterplane coefficient : 0.6336

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Waterplane center of floatation	:	2.651 m
Y coordinate of DWL area CoG	:	0.000 m
Half entrance angle of DWL	:	8.793 degr
Transverse moment of inertia	:	3.528 m ⁴
Longitudinal moment of inertia	:	19.161 m ⁴

Initial stability:

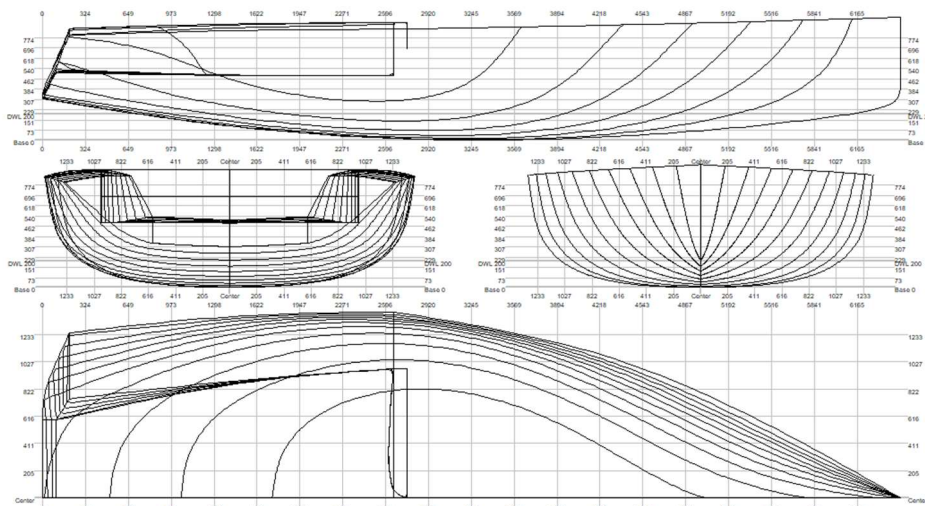
Vertical of transverse metacenter	:	3.687 m
Tranverse metacentric radius	:	1.998 m
Longitudinal transverse metacenter	:	12.538 m
Longitudinal metacentric radius	:	10.849 m

Lateral plane:

Lateral area	:	1.589 m ²
Longitudinal center of effort	:	3.338 m
Vertical center of effort	:	1.520 m

Hull characteristics above waterline:

Lateral wind area	:	2.728 m ²
Z coordinate of wind area CoG above DWL	:	0.256 m
Distance from bow to wind area CoG	:	2.427 m



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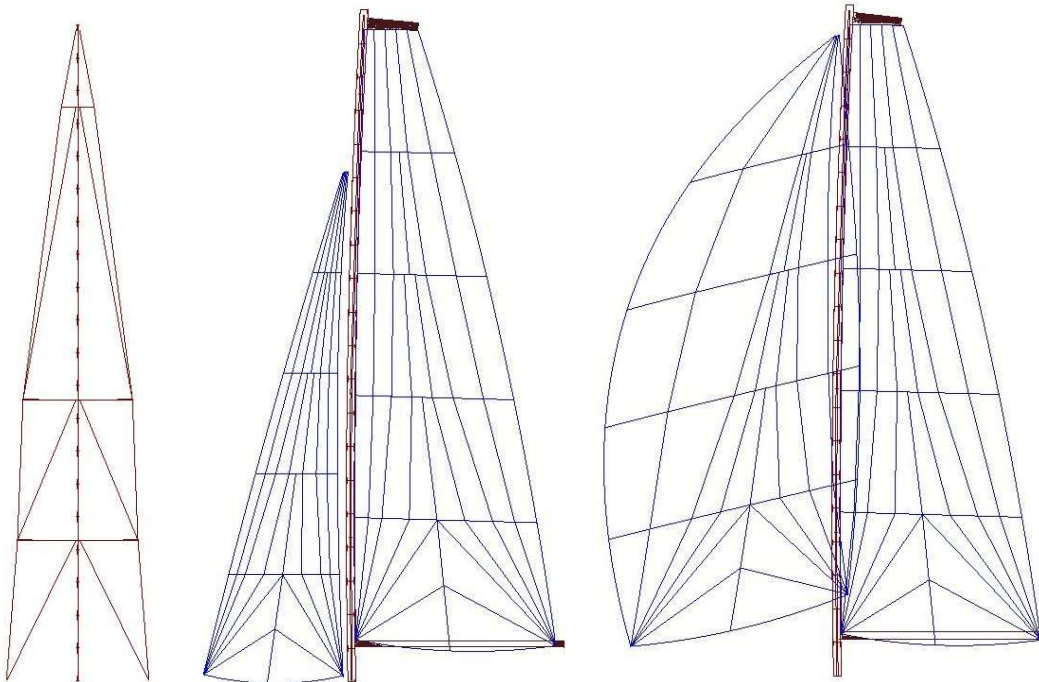
The following layer properties are calculated for both sides of the ship:

Layer	Area	Thickness	Weight	COG X	COG Y	COG Z
	m ²	mm	tonnes	m	m	m
Rull	20.088	40.000	0.562	2.869	0.000	1.829
Deck	16.084	25.000	0.281	2.588	0.000	2.242
Trap.keel NACA63	0.611	20.000	0.050	3.151	0.000	0.750
Round p._NACA0020	0.308		0.800	3.151	0.000	0.000
Daggerboards	1.713	30.000	0.026	2.916	0.000	1.375
Rudders	0.757	30.000	0.011	-0.249	0.000	1.529
Int.spars,sails,rest						

Total	39.561		1.730	2.740	0.000	1.944
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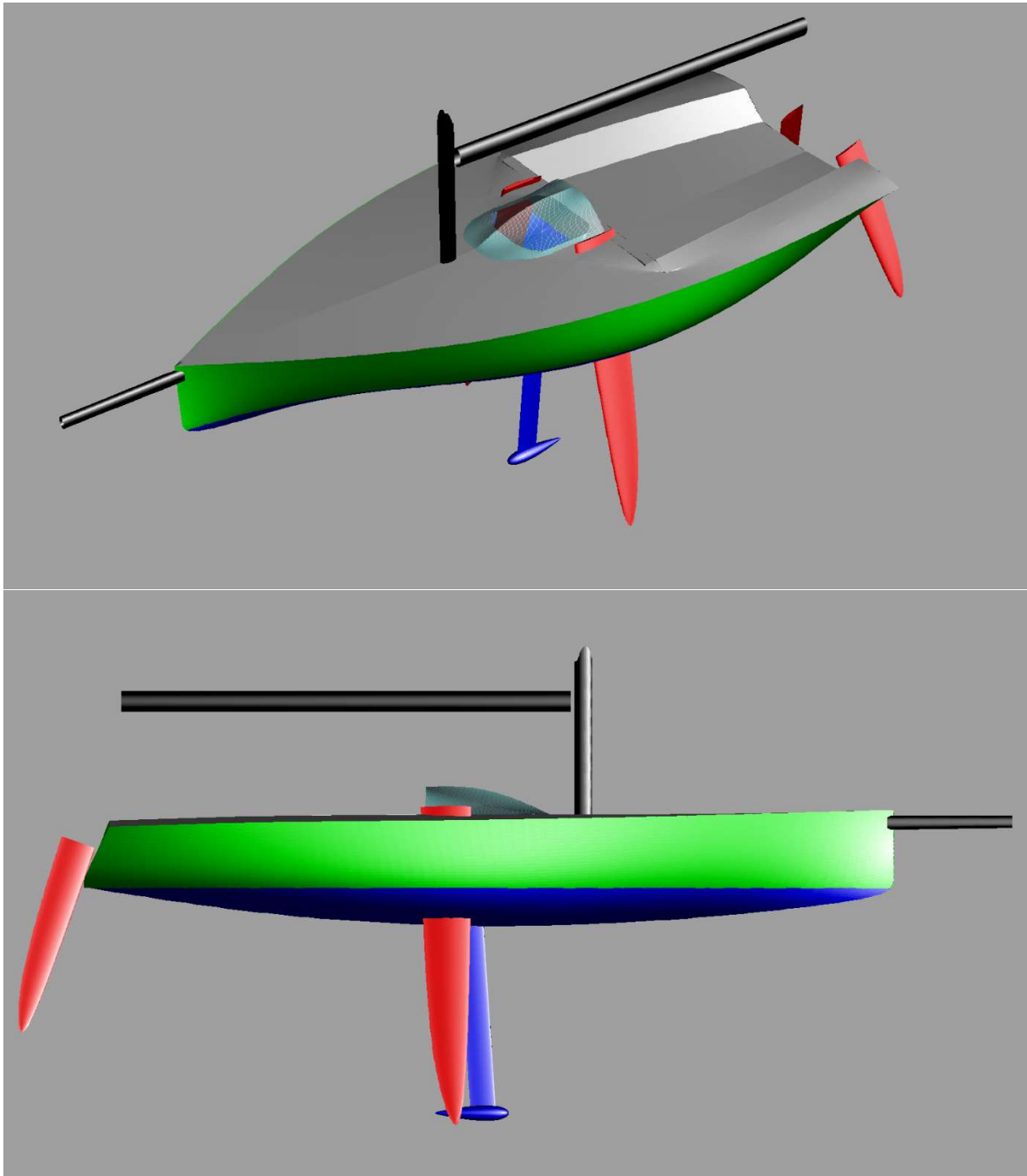
NOTE 1: Draft (and all other vertical heights) is measured above the lowest point of the hull! (Z= 0.000)

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



Main 28m² High aspect 11.6m² Code zero 40m²

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