

# Ontwerp #03 2019, Mini Transat Racer

Project : Mini Transat Racer  
Designer : Delta Consultants-Pim Visser  
Filename : I:\freeships\minitransat#01\minitransat#01.fbm

Design length : 6.480 m  
Length over all : 7.586 m (including bowsprit)  
Beam over all : 2.746 m  
Draft : 1.800 m  
Midship location : 2.100 m  
Water density : 1.025 t/m<sup>3</sup>  
Appendage coefficient : 1.0000

## Volume properties:

Displaced volume : 0.985 m<sup>3</sup>  
Displacement : 1.009 tonnes  
Total length of submerged body : 6.220 m  
Total beam of submerged body : 2.267 m  
Block coefficient : 0.0388  
Prismatic coefficient : 0.6191  
Vert. prismatic coefficient : 0.0667  
Wetted surface area : 11.572 m<sup>2</sup>  
Longitudinal center of buoyancy : 3.037 m  
Longitudinal center of buoyancy : -5.462 %  
Transverse center of buoyancy : 0.000 m  
Vertical center of buoyancy : 1.647 m

## Midship properties:

Midship section area : 0.256 m<sup>2</sup>  
Midship coefficient : 0.0627

## Waterplane properties:

Length on waterline : 5.739 m  
Beam on waterline : 2.267 m

# Ontwerp #03 2019, Mini Transat Racer

Waterplane area	:	8.203 m <sup>2</sup>
Waterplane coefficient	:	0.5818
Waterplane center of floatation	:	2.919 m
Y coordinate of DWL area CoG	:	0.000 m
Half entrance angle of DWL	:	5.579 degr
Transverse moment of inertia	:	2.479 m <sup>4</sup>
Longitudinal moment of inertia	:	11.974 m <sup>4</sup>

## Initial stability:

Vertical of transverse metacenter	:	4.165 m
Tranverse metacentric radius	:	2.518 m
Longitudinal transverse metacenter	:	13.809 m
Longitudinal metacentric radius	:	12.163 m

## Lateral plane:

Lateral area	:	1.936 m <sup>2</sup>
Longitudinal center of effort	:	2.764 m
Vertical center of effort	:	1.199 m

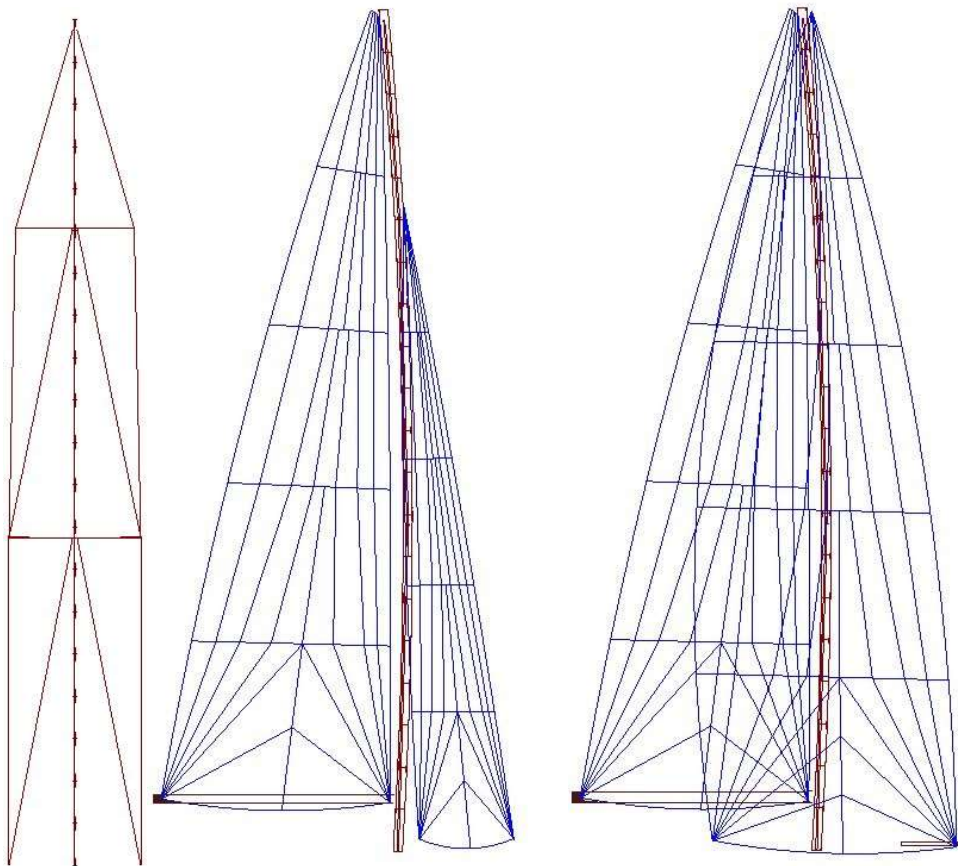
## Hull characteristics above waterline:

Lateral wind area	:	4.145 m <sup>2</sup>
Z coordinate of wind area CoG above DWL	:	0.382 m
Distance from bow to wind area CoG	:	2.016 m

# Ontwerp #03 2019, Mini Transat Racer

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

Layer	Area	Thickness	Weight	COG X	COG Y	COG Z
	m <sup>2</sup>	mm	tonnes	m	m	m
Hull	19.456	20.000	0.195	2.947	0.000	1.908
Deck & superstructure	9.723	10.000	0.049	3.788	0.000	2.498
Trapezoidal rudder NACA	0.712		0.015	0.177	0.000	1.325
Trapezoidal keel NACA63	1.541		0.150	3.256	0.000	0.924
Round wing_NACA0020	0.793		0.350	2.979	0.000	0.120
Rig,sails & interior			0.230			
<b>Total</b>	<b>32.225</b>		<b>0.989</b>	<b>2.883</b>	<b>0.000</b>	<b>1.729</b>

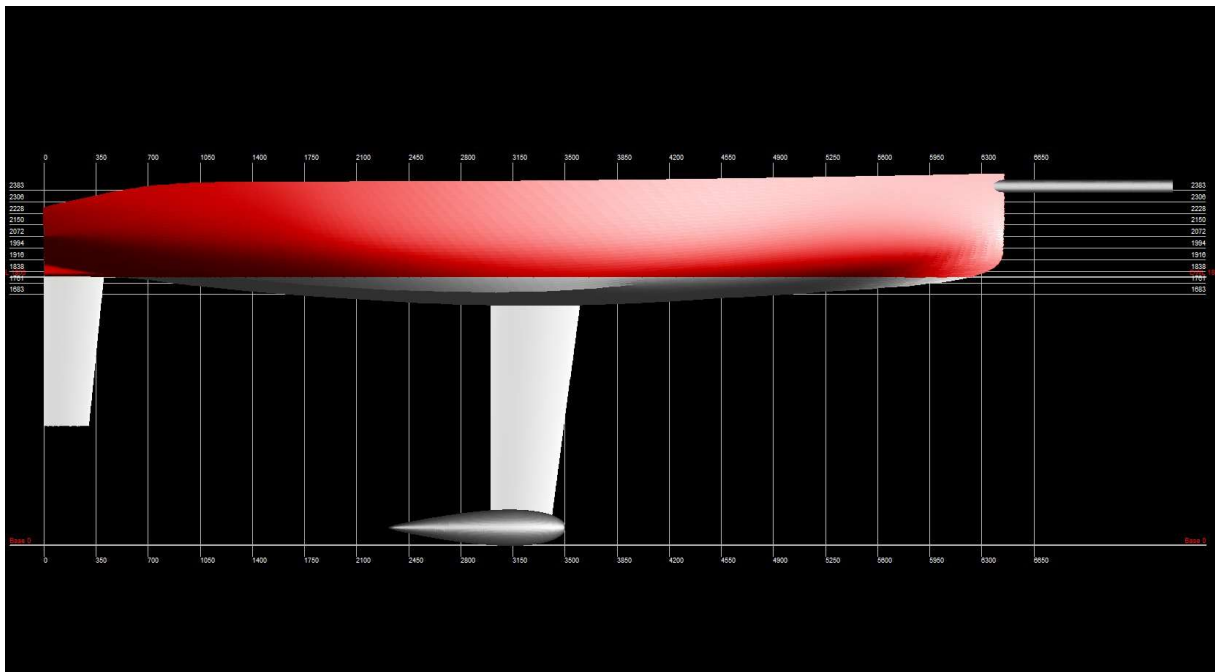
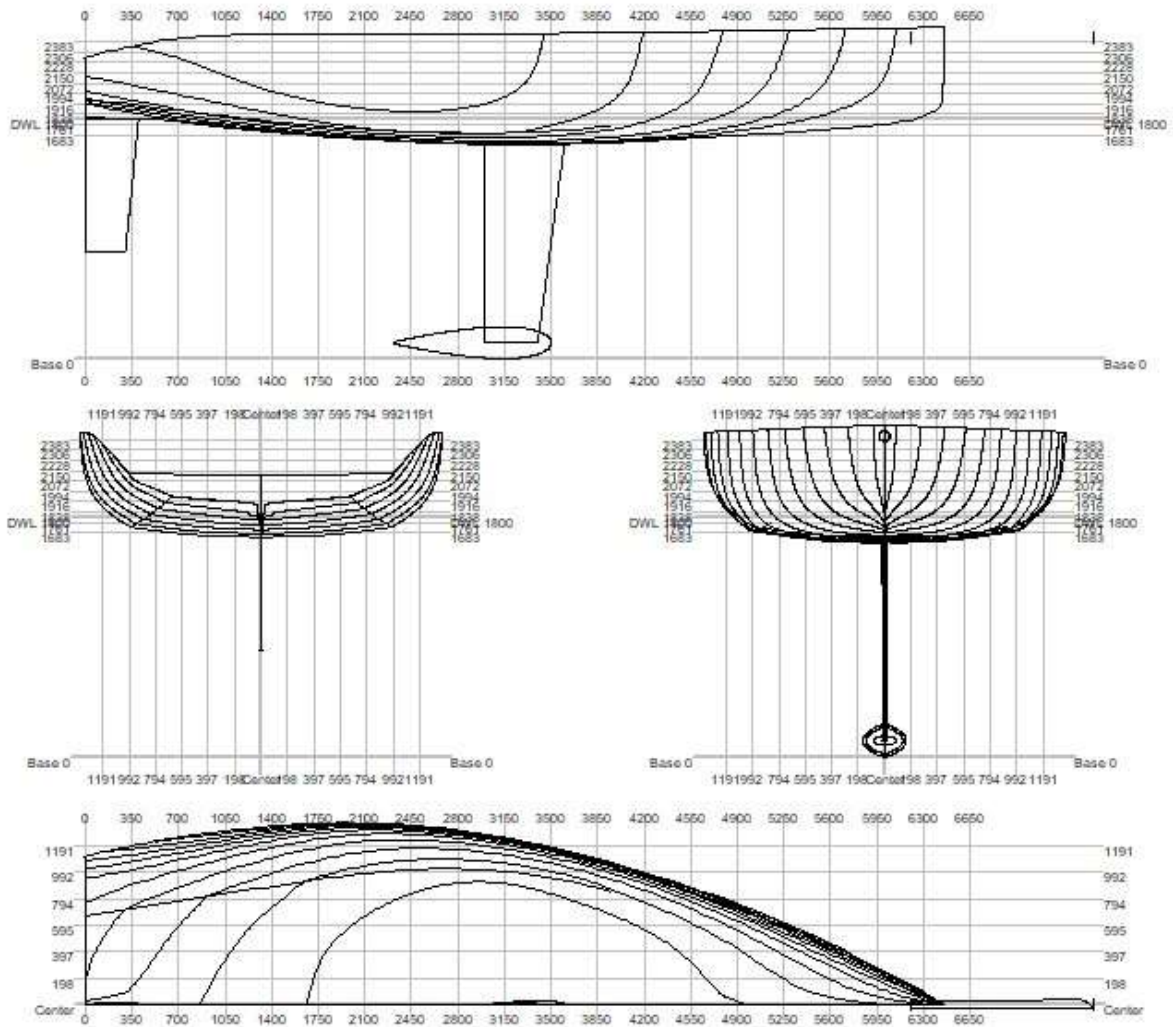


2-spreader rig    Sailplan with high aspect One 8.6m<sup>2</sup>    Sailplan with code Zero 39m<sup>2</sup>

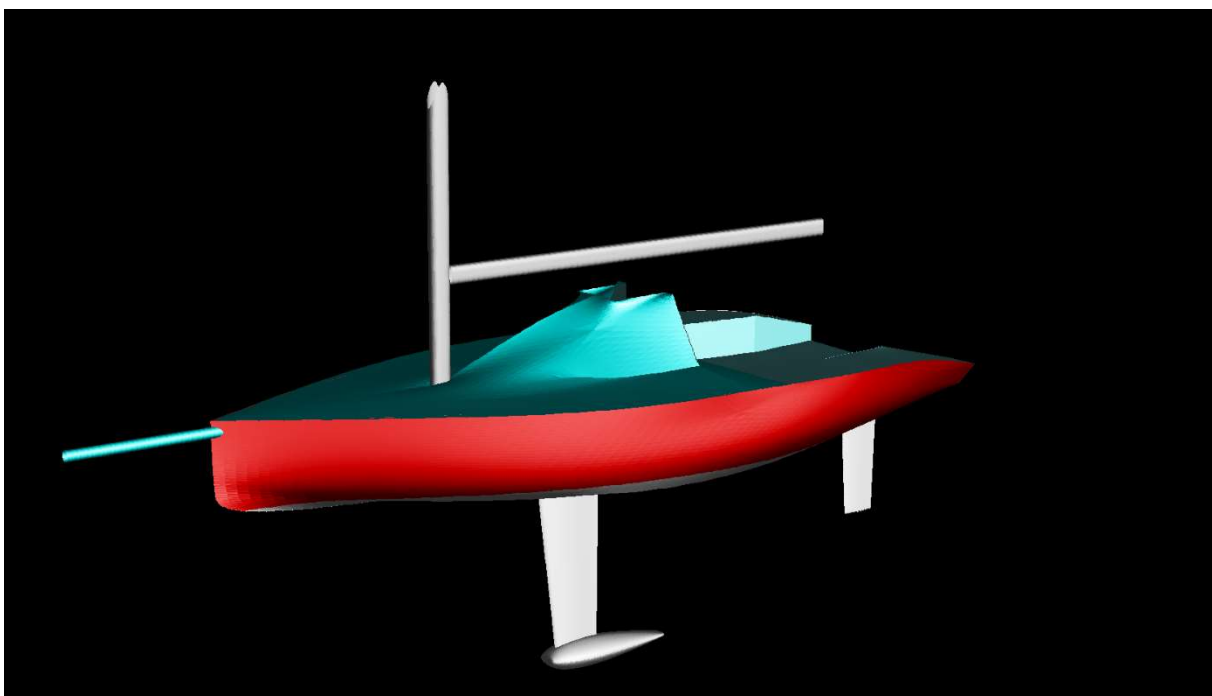
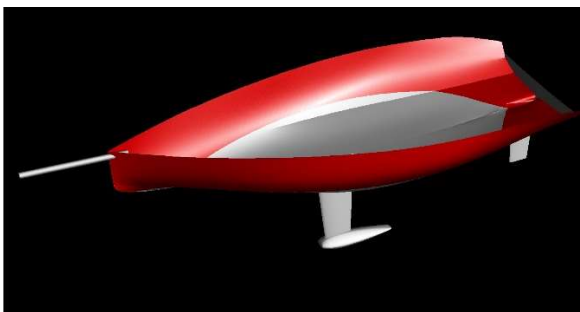
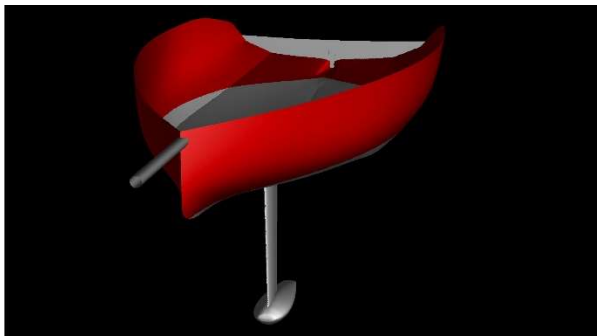
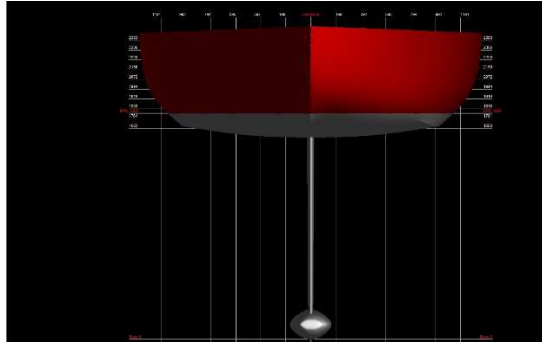
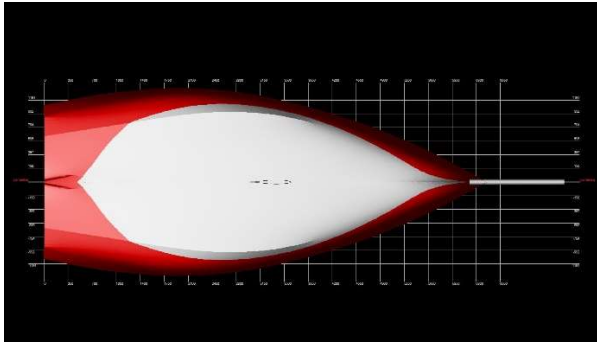
Main 26m<sup>2</sup>

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



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