

# Mainsail: 8000132 Toby-2 Freedom 40 Mizzen.des

Design Info  
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Design File:  
\\NAS\Engineering files\Queenie-Customer Order\Fareast Sails\2024 Orders\Need to be Confirmed\8000132 Toby Fre

Initial Design Date: 16/3/2024  
Boat:  
Freedom 40  
Client:

Comments:

Design Data  
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## Main

### Measurements

Luff geodesic: 12.844m  
Leech geodesic: 13.589m  
Foot geodesic: 4.514m  
Head geodesic: 0.135m  
Upper width (MUW): 1.209m  
Three-quarter width (MTW): 2.157m  
Half width (MHW): 3.429m  
Quarter width (MQW): 4.119m  
Foot median: 13.183m  
ORC Mainsail area: 38.726m?  
Surface area: 40.718m?  
Clew height: 0.100m  
Mast rake: 0.000m

### Battens

Position	Length	Roach	Angle	Luff	Leech	Full
87.317%	1.454m	0.660m	72.563?	11.209m	11.785m	Full
73.901%	2.454m	0.992m	72.563?	9.486m	9.974m	Full
60.711%	3.119m	1.042m	72.563?	7.792m	8.194m	Full
47.035%	3.632m	0.953m	72.563?	6.037m	6.348m	Full
32.445%	4.006m	0.718m	72.563?	4.164m	4.379m	Full
17.056%	4.277m	0.385m	72.563?	2.189m	2.302m	Full

### Reefing Points

1, Luff: 1.566m ; Leech: 1.593m ; Offset: 0.000m ; Number Eyelets: 0  
2, Luff: 3.531m ; Leech: 3.586m ; Offset: 0.000m ; Number Eyelets: 0

### Draft Stripes

1, Luff: 3.210m ; Leech: 3.154m ;  
2, Luff: 6.420m ; Leech: 6.440m ;  
3, Luff: 9.631m ; Leech: 9.806m ;

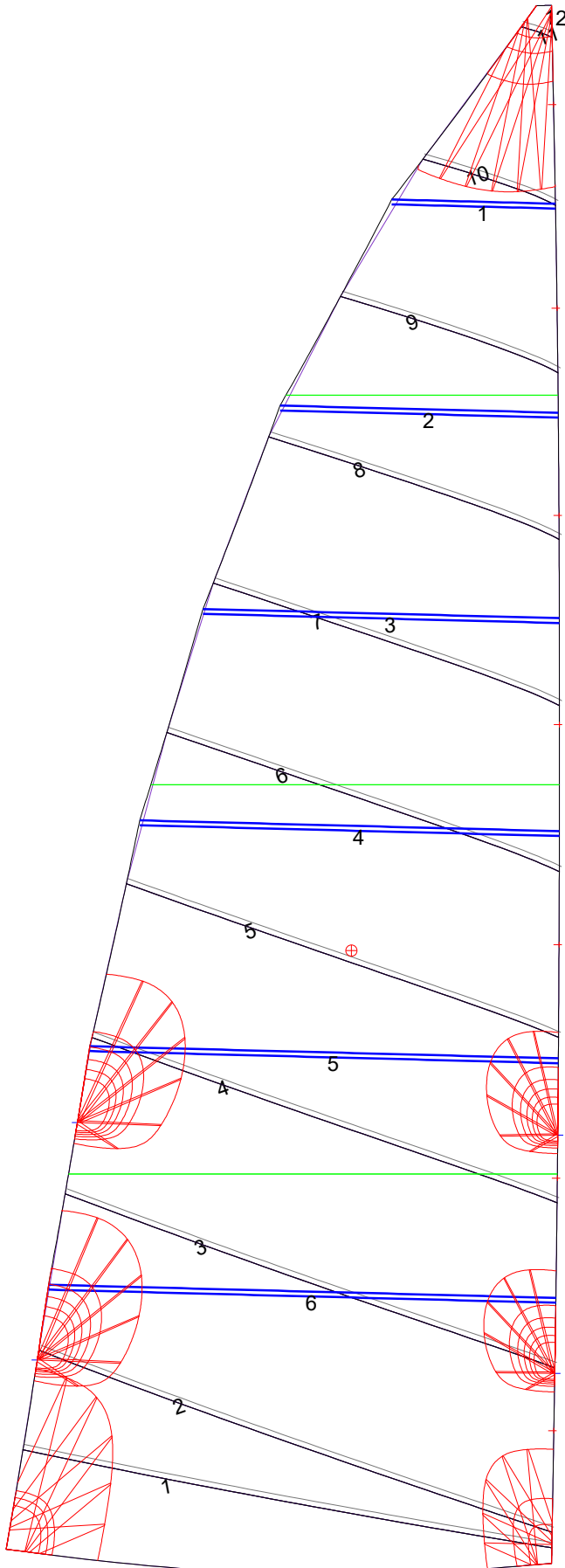
### Luff Slides

1, Position: 1.094m  
2, Position: 3.176m  
3, Position: 5.100m  
4, Position: 6.914m  
5, Position: 8.639m  
6, Position: 10.347m  
7, Position: 12.026m

### Luff Curve

		Fanned Luff (@ 5.00% [0.225m])	Before BSeam
12.843m,	0.000m	100% (12.844m) :	0.000m
11.243m,	-0.032m	90% (11.560m) :	0.019m
9.633m,	-0.054m	80% (10.275m) :	0.033m
8.018m,	-0.064m	70% (8.991m) :	0.042m
6.422m,	-0.065m	60% (7.706m) :	0.046m
4.786m,	-0.060m	50% (6.422m) :	0.045m
3.211m,	-0.048m	40% (5.138m) :	0.042m
1.600m,	-0.027m	30% (3.853m) :	0.035m
0.000m,	0.000m	20% (2.569m) :	0.025m
		10% (1.285m) :	0.012m
		0% (0.000m) :	0.000m

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Seam Allowances			
Zone: 1	Split	Radial	Cross
	0.045m	0.045m	0.045m

Edge Excesses			
Sail:	Luff	Leech	Foot
	0.000m	0.000m	0.000m

Total Seam Lengths (m)

Horizontal	34.51
Radial/Vertical	0.00
Bi-Radial Split	0.00

Materials

Material	Area (m <sup>2</sup> )	Panels
Material 1	40.66	1,2,3,4,5 6,7,8,9,10 11,12