

# Mainsail: 8000132 Toby-2 Freedom 40 MizzenV1.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: 21/3/2024  
Boat:  
Freedom 40 MIZZEN

Comments:

Client:

Design Data  
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Main

Measurements

Luff geodesic: 12.900m  
Leech geodesic: 13.641m  
Foot geodesic: 4.514m  
Head geodesic: 0.135m  
Upper width (MUW): 1.210m  
Three-quarter width (MTW): 2.158m  
Half width (MHW): 3.429m  
Quarter width (MQW): 4.119m  
Foot median: 13.238m  
ORC Mainsail area: 38.900m?  
Surface area: 40.889m?  
Clew height: 0.100m  
Mast rake: 0.000m

Battens

Position	Length	Roach	Angle	Luff	Leech	Full
87.317%	1.454m	0.660m	72.563?	11.259m	11.831m	Full
73.901%	2.454m	0.992m	72.563?	9.529m	10.013m	Full
60.711%	3.119m	1.042m	72.563?	7.829m	8.226m	Full
47.035%	3.632m	0.953m	72.563?	6.066m	6.373m	Full
32.445%	4.006m	0.718m	72.563?	4.186m	4.396m	Full
17.056%	4.277m	0.385m	72.563?	2.203m	2.311m	Full

Reefing Points

1, Luff: 1.573m ; Leech: 1.599m ; Offset: 0.000m ; Number Eyelets: 0  
2, Luff: 3.546m ; Leech: 3.601m ; Offset: 0.000m ; Number Eyelets: 0

Draft Stripes

1, Luff: 3.224m ; Leech: 3.168m ;  
2, Luff: 6.448m ; Leech: 6.468m ;  
3, Luff: 9.673m ; Leech: 9.847m ;

Luff Slides

1, Position: 1.099m  
2, Position: 3.190m  
3, Position: 5.122m  
4, Position: 6.945m  
5, Position: 8.677m  
6, Position: 10.393m  
7, Position: 12.079m

Luff Curve

		Fanned Luff (@ 5.00% [0.225m])	Before BSeam
12.899m,	0.000m	100% (12.900m) :	0.000m
11.292m,	-0.032m	90% (11.610m) :	0.019m
9.675m,	-0.054m	80% (10.320m) :	0.033m
8.053m,	-0.064m	70% (9.030m) :	0.042m
6.450m,	-0.065m	60% (7.740m) :	0.045m
4.806m,	-0.060m	50% (6.450m) :	0.044m
3.225m,	-0.048m	40% (5.160m) :	0.041m
1.607m,	-0.027m	30% (3.870m) :	0.035m
0.000m,	0.000m	20% (2.580m) :	0.025m
		10% (1.290m) :	0.012m
		0% (0.000m) :	0.000m

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

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

Total Seam Lengths (m)

Horizontal	34.66
Radial/Vertical	0.00
Bi-Radial Split	0.00

Materials

Material	Area (m <sup>2</sup> )	Panels
Material 1	40.83	1,2,3,4,5 6,7,8,9,10 11,12

