

Mainsail: 8000132 Toby-1 Freedom 40 Mainsail.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: 13.652m
Leech geodesic: 14.585m
Foot geodesic: 5.207m
Head geodesic: 0.135m
Upper width (MUW): 1.321m
Three-quarter width (MTW): 2.380m
Half width (MHW): 3.847m
Quarter width (MQW): 4.690m
Foot median: 14.044m
ORC Mainsail area: 46.479m?
Surface area: 48.962m?
Clew height: 0.100m
Mast rake: 0.000m

Battens

Position	Length	Roach	Angle	Luff	Leech	Full
87.317%	1.601m	0.706m	70.987?	11.915m	12.641m	Full
73.901%	2.728m	1.062m	70.987?	10.083m	10.699m	Full
60.711%	3.491m	1.115m	70.987?	8.283m	8.789m	Full
47.035%	4.094m	1.020m	70.987?	6.417m	6.809m	Full
32.445%	4.549m	0.768m	70.987?	4.426m	4.697m	Full
17.056%	4.895m	0.413m	70.987?	2.327m	2.469m	Full

Reefing Points

1, Luff: 1.665m ; Leech: 1.702m ; Offset: 0.000m ; Number Eyelets: 0
2, Luff: 3.753m ; Leech: 3.831m ; Offset: 0.000m ; Number Eyelets: 0
3, Luff: 5.801m ; Leech: 5.926m ; Offset: 0.000m ; Number Eyelets: 0

Draft Stripes

1, Luff: 3.412m ; Leech: 3.361m ;
2, Luff: 6.824m ; Leech: 6.876m ;
3, Luff: 10.237m ; Leech: 10.488m ;

Luff Slides

1, Position: 1.163m
2, Position: 3.377m
3, Position: 5.422m
4, Position: 7.351m
5, Position: 9.184m
6, Position: 11.000m
7, Position: 12.784m

Luff Curve

		Fanned Luff (@ 5.00% [0.259m])	Before BSeam
13.652m,	0.000m	100% (13.652m) :	0.000m
11.950m,	-0.032m	90% (12.287m) :	0.070m
10.239m,	-0.054m	80% (10.922m) :	0.125m
8.523m,	-0.064m	70% (9.557m) :	0.162m
6.826m,	-0.065m	60% (8.191m) :	0.175m
5.087m,	-0.060m	50% (6.826m) :	0.175m
3.413m,	-0.048m	40% (5.461m) :	0.162m
1.701m,	-0.027m	30% (4.096m) :	0.136m
0.000m,	0.000m	20% (2.730m) :	0.099m
		10% (1.365m) :	0.049m
		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	40.61
Radial/Vertical	0.00
Bi-Radial Split	0.00

Materials

Material	Area (m ²)	Panels
Material 1	48.93	1,2,3,4,5 6,7,8,9,10 11,12

