

BOAT Name TANGENT Sail Nr USA53228	GPH 611.8	HULL Length Overall 11.580m Maximum Beam 3.390m Displacement 5,581kg Draft 1.863m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.207% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder No Crew Arm Extension IMSL 10.841m VCGD 0.081m Sink 21.36kg/mm RL 8.573m VCGM 0.020m WS 28.25m² LSM0 10.731m Displacement/Length ratio 4.5164
GENERAL Class Cape Fear 38 Designer Marek Builder Cape Fear Yachts Series 03/2003 Age 06/2004 Age Allowance 0.455% Offset File CAPEFEAR38SD.off - 18/04/2017 Measurement by Dobbs Davis - 14/04/2017		

SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time On Distance	593.8			667.0		
Time On Time	1.0105			1.0120		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	711.1	539.7	473.0	929.0	672.5	573.6
Time on Time	0.9492	1.2508	1.4271	0.7266	1.0037	1.1768

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1095.2	895.7	787.0	721.2	693.7	680.4	666.4
52°	703.9	584.2	518.6	489.3	478.9	473.7	468.0
60°	656.3	548.8	496.9	474.3	463.5	458.0	453.3
75°	617.6	521.4	481.7	460.9	444.4	431.9	421.8
90°	616.0	510.0	471.7	458.8	440.3	420.7	392.1
110°	610.4	504.4	464.8	438.2	419.8	406.2	381.6
120°	628.1	516.3	471.2	443.8	414.4	389.9	363.3
135°	699.3	565.1	494.5	462.9	437.0	409.3	352.9
150°	833.2	660.6	556.3	494.0	464.2	440.2	389.4
Run VMG	962.1	762.8	642.3	564.2	514.1	477.3	429.9
Selected Courses							
Windward / Leeward	1028.7	829.2	714.7	642.7	603.9	578.8	548.2
Circular Random	852.2	684.1	593.1	539.5	505.8	483.1	452.9
Ocean for PCS	1048.3	805.1	667.1	582.0	526.1	486.7	431.7
Non Spinnaker	920.8	732.6	629.1	567.3	528.5	502.7	469.9

Velocity Prediction in Knots for True Wind Speeds							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	44.6°	43.2°	42.8°	41.8°	40.5°	39.9°	39.4°
Beat VMG	3.29	4.02	4.57	4.99	5.19	5.29	5.40
52°	5.11	6.16	6.94	7.36	7.52	7.60	7.69
60°	5.49	6.56	7.25	7.59	7.77	7.86	7.94
75°	5.83	6.90	7.47	7.81	8.10	8.33	8.54
90°	5.84	7.06	7.63	7.85	8.18	8.56	9.18
110°	5.90	7.14	7.75	8.21	8.58	8.86	9.43
120°	5.73	6.97	7.64	8.11	8.69	9.23	9.91
135°	5.15	6.37	7.28	7.78	8.24	8.80	10.20
150°	4.32	5.45	6.47	7.29	7.76	8.18	9.25
Run VMG	3.74	4.72	5.60	6.38	7.00	7.54	8.37
Gybe Angles	140.4°	148.5°	150.0°	155.6°	170.0°	180.0°	180.0°



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2017
ORC International
Certificate

Rating Office

Offshore
Racing
Congress

Invalid for
Racing

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Certificate
Number **US6177**
ORC Ref **USA00000929**
Issued On **18/04/2017**
VPP Ver. **2017 1.00**
Valid until **28/02/2018**

Crew Weight
Declared **761kg**
Default* **761kg**
Non Manual Pwr

Special Scoring
ToD ToT
Non Spin GPH **649.9 0.9232**
Non Spin OSN **630.0 0.9524**

Sails Limitations
Headsails **6** Spinnakers **4**

Class Division Length
CDL = **9.708**

Storm Sails Areas
Heavy Weather Jib **27.53**
Storm Jib (JL=9.28) **10.20**
Storm Trysail **11.96**

Owner

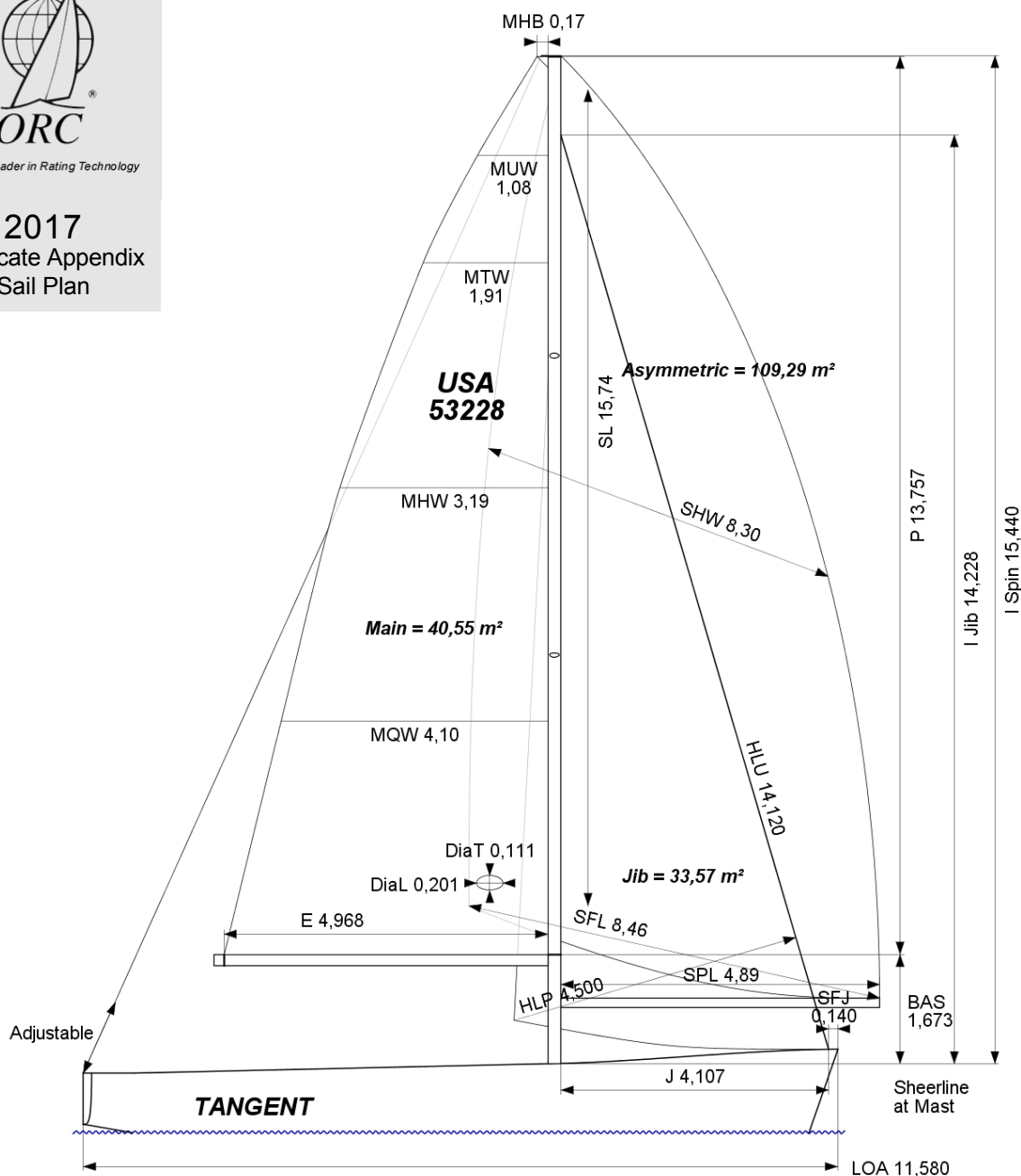
BOAT Name TANGENT Sail Nr USA53228 File US6177 Data in meters/kilograms		INCLINING TEST AND FREEBOARDS Inclining Test Current Inclining Flotation date 14/04/2017 SG 1.0160 FFM 1.265 FF 1.267 SFFP 0.311 FAM 0.907 FA 0.912 SAFFP 10.802 W1 75.9 PD1 530.0 WD 12.905 W2 75.9 PD2 525.0 GSA 1.0 W3 75.9 PD3 526.0 RSA 1.0 W4 75.9 PD4 528.0 PLM 9000.0 LCF from stem on CL / on sheer 6.448 / 6.664 Maximum beam station from stem 7.160 RM Measured 146.3kg·m RM Default 146.3kg·m Limit of positive stability / Stab.Index 111.8° / 114.8 Freeboard at mast at 4.247 1.055																																																																					
RIG Forestay Tension Aft Spreaders 2 Inner Stay None Fitted Runners 0 Carbon Mast No Jumper Struts None Taper Hollows No Jib Furler No Fiber Rigging No Main Furler No Lenticular Rigging No Without Backstay No Articulated Bowsprit No P 13.757 E 4.968 MDT1 0.111 MW 0.201 IG 14.228 J 4.107 MDL1 0.201 GO 0.216 ISP 15.440 SFJ 0.140 MDT2 0.111 BD BAS 1.673 SPL 4.895 MDL2 0.201 MWT FSP 0.064 TPS TL 0.000 MCG		PROPELLER Installation Strut PRD 0.410 Type Folding 2 blades PBW 0.111 Twin Screw No PIPA 0.0032 ST1 0.048 ST3 0.170 ST5 0.314 ST2 0.170 ST4 0.098 EDL 2.510																																																																					
MIZZEN RIG AND SAILS N/A		MOVEABLE BALLAST N/A																																																																					
COMMENTS 652038F tmyachtracing@gmail.com		CENTERBOARD N/A																																																																					
SAILS (Maximum Areas) <table border="1"> <thead> <tr> <th>Mainsail</th> <th>MHB</th> <th>MUW</th> <th>MTW</th> <th>MHW</th> <th>MQW</th> <th>Area</th> <th>Area (r)</th> <th>Formula</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.170</td> <td>1.08</td> <td>1.91</td> <td>3.19</td> <td>4.10</td> <td>40.55</td> <td>41.42</td> <td>$P/8 \cdot (E + 2 \cdot MQW + 2 \cdot MHW + 1.5 \cdot MTW + MUW + 0.5 \cdot MHB)$</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Symmetric</th> <th>SLU</th> <th>SLE</th> <th>SL</th> <th>SHW</th> <th>SFL</th> <th>Area</th> <th>Formula</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Asymmetric</td> <td>16.40</td> <td>15.08</td> <td>15.74</td> <td>8.30</td> <td>8.46</td> <td>109.29</td> <td>$AS \cdot (SFL + 4 \cdot SHW) / 6$</td> </tr> </tbody> </table> HEADSAILS Area = $0.1125 \cdot HLU \cdot (1.445 \cdot HLP + 2 \cdot HQW + 2 \cdot HHW + 1.5 \cdot HTW + HUW + 0.5 \cdot HHB)$ <table border="1"> <thead> <tr> <th>HHB</th> <th>HUW</th> <th>HTW</th> <th>HHW</th> <th>HQW</th> <th>HLP</th> <th>HLU</th> <th>Area</th> <th>Btn</th> <th>Fly</th> <th>Meas.Date</th> <th>Material</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>0.08</td> <td>0.66</td> <td>1.25</td> <td>2.45</td> <td>3.58</td> <td>4.50</td> <td>14.12</td> <td>33.58</td> <td>Y</td> <td></td> <td>27/03/2017</td> <td>Unknown</td> <td></td> </tr> </tbody> </table>				Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula		0.170	1.08	1.91	3.19	4.10	40.55	41.42	$P/8 \cdot (E + 2 \cdot MQW + 2 \cdot MHW + 1.5 \cdot MTW + MUW + 0.5 \cdot MHB)$	Symmetric	SLU	SLE	SL	SHW	SFL	Area	Formula	Not Available								Asymmetric	16.40	15.08	15.74	8.30	8.46	109.29	$AS \cdot (SFL + 4 \cdot SHW) / 6$	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment	0.08	0.66	1.25	2.45	3.58	4.50	14.12	33.58	Y		27/03/2017	Unknown	
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2017 Certificate Appendix Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.170	1.08	1.91	3.19	4.10	40.55	Todd Baker	27/03/2017	Chesapeake	Unknown	

HEADSAILS (1)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.08	0.66	1.25	2.45	3.58	4.50	14.12	110%	33.58	Y		Todd	27/03/2017	Chesapeake	Unknown	

SYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
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ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
1	16.40	15.08	15.74	8.30	8.46	109.29	asym	Todd Baker	27/03/2017	Chesapeake	Unknown	