



ORC
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**2020
ORC Club
Certificate**

Rating Office

**Offshore
Racing
Congress**



Certificate

Number **028/20**
Issued On **20/05/2020**
ORC Ref **03850000IJ6**
VPP Ver. **2020 1.02**
Valid until **31/12/2020**

Crew Weight

Default 301kg
Maximum **349kg**
Minimum* **262kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	789.6	0.7599
Non Spin OSN	762.9	0.7865

Sails Limitations

Headsails **5** Spinnakers **4**
Woven Polyester

Spinnaker configuration
Symmetric: **Yes** 41.63
Asymmetric: **No**
Flying H/S: **No**
Spin. Pole: **Yes**

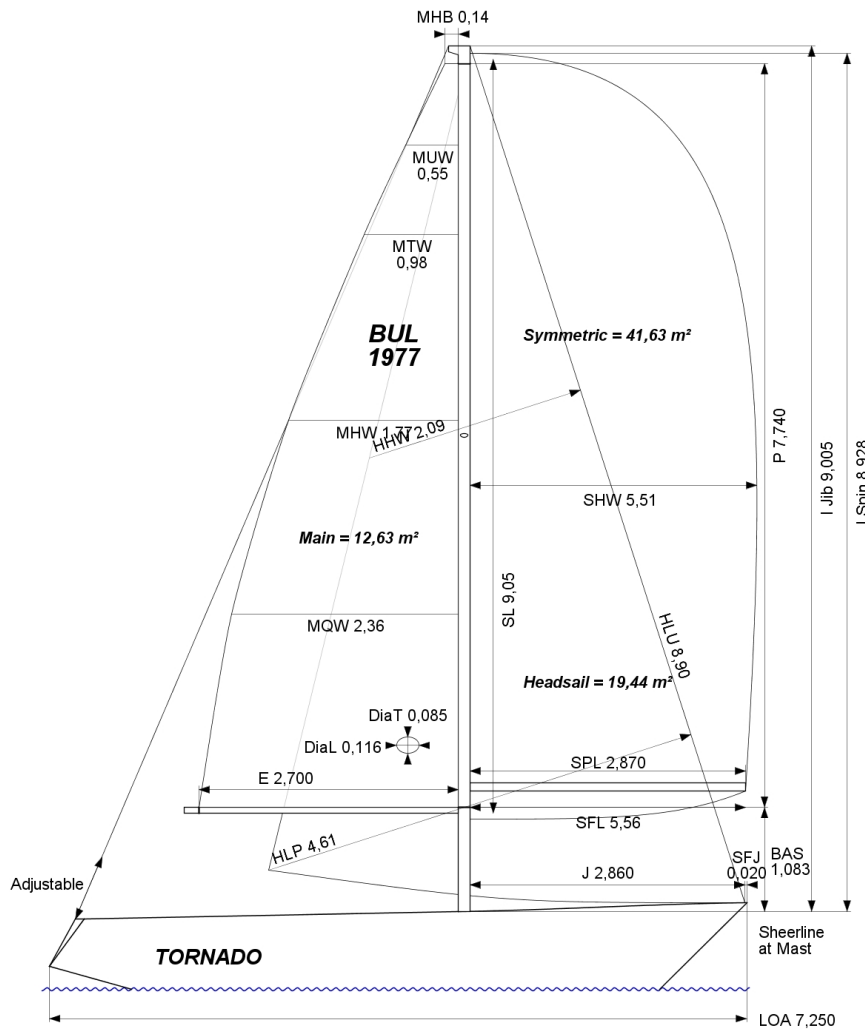
Class Division Length

CDL = 5.826

Stability (Measured)

Limit Positive Stab.: **121.2°**
Stability Index: **113.2**

Owner



BOAT	GPH	HULL
Name Tornado Sail Nr BUL-1977	757.0	Data File BUL15 LOA 7.250m Offset File Conrad24m.off MB 2.648m Displacement 1,491kg Draft 1.427m
CLASS Class Conrad 24 Designer Michel Dufour Builder Poland Series 01/1978 Age Date 01/1978 Age Allowance 0.487%		IMS Division Performance Dynamic All. 0.141% Plan Review Construction Solid Fiber Rigging No Aramid Core No Crew Arm Ex Carbon Rudder No Light Stanchions No
COMMENTS		IMSL 5.854m VCGD -0.294m Sink 8.37kg/mm RL 5.800m VCGM -0.179m WS 11.20m² LSM0 5.600m Displacement/Length ratio 8.4901
PROPELLER Type No Propeller		Water Ballast 0 Trim Tab No BLR Index 0.0000
		CENTERBOARD NA
SCORING OPTIONS		
	COASTAL / LONG DISTANCE	WINDWARD / LEEWARD
Time on Distance	733.8	812.1
Time on Time	0.8177	0.8312
Triple Number	Low Medium High	Low Medium High
Time on Distance	864.2 672.6 596.7	1105.3 816.6 710.7
Time on Time	0.7811 1.0035 1.1312	0.6107 0.8266 0.9498

2020

ORC Club Certificate Appendix

BOAT	
Name Tornado	Certificate Number 028/20
Sail Nr BUL-1977	Issued On 20/05/2020

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1267.4	1066.2	947.5	876.8	840.9	830.2	838.1
52°	835.8	709.2	652.9	625.3	606.7	595.7	592.3
60°	793.4	680.1	636.2	611.2	590.8	575.4	567.2
75°	764.1	663.3	623.8	597.6	573.9	554.0	532.8
90°	772.1	657.9	609.0	576.8	556.9	546.2	513.4
110°	764.9	647.0	600.5	563.5	533.2	509.4	483.2
120°	789.9	657.2	607.1	569.6	537.5	509.9	465.2
135°	866.1	708.3	629.7	591.8	557.7	528.9	477.2
150°	1004.8	804.0	684.7	623.7	590.0	558.8	507.7
Run VMG	1160.2	927.6	784.5	687.5	632.0	598.5	541.5
Selected Courses							
Windward / Leeward	1213.8	996.9	866.0	782.2	736.4	714.3	689.8
Circular Random	1038.3	841.1	735.1	672.9	634.2	608.8	577.6
Coastal / Long Distance	1208.4	937.5	785.8	694.5	644.8	608.7	549.5
Non Spinnaker	1093.9	881.3	766.1	698.0	655.4	627.5	594.4

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	42.0°	41.3°	40.7°	39.0°	37.9°	37.5°	38.6°
Beat VMG	2.84	3.38	3.80	4.11	4.28	4.34	4.30
52°	4.31	5.08	5.51	5.76	5.93	6.04	6.08
60°	4.54	5.29	5.66	5.89	6.09	6.26	6.35
75°	4.71	5.43	5.77	6.02	6.27	6.50	6.76
90°	4.66	5.47	5.91	6.24	6.46	6.59	7.01
110°	4.71	5.56	6.00	6.39	6.75	7.07	7.45
120°	4.56	5.48	5.93	6.32	6.70	7.06	7.74
135°	4.16	5.08	5.72	6.08	6.46	6.81	7.54
150°	3.58	4.48	5.26	5.77	6.10	6.44	7.09
Run VMG	3.10	3.88	4.59	5.24	5.70	6.02	6.65
Gybe Angles	149.0°	152.0°	154.0°	172.0°	180.0°	180.0°	180.0°