

12

INTERNATIONAL TWELVE METRE CLASS

Yacht's Name	<i>Columbia</i>		
National letters and Sail Number	<i>US16</i>	Club	<i>New York Yacht Club</i>
Designer	<i>Sparkman & Stephens</i>		
Builder	<i>Nevins Boat Yard Inc.</i>	Building Year	1958
Owner	<i>Kevin Hegarty</i>		
Owner's Address	<i>P.O. Box 305 Newport, RI 02840 USA</i>		
Lloyds R class certificate (Number or Date)			

RATING CERTIFICATE

This yacht has been measured by measurer(s) appointed by the International Twelve Metre Association and has been found to rate not more than 12.000 metres.

This certificate is dated:	<u>31-May-23</u>	
Measurer	<u>A Williams</u>	Signature <u><i>Ander</i></u>
Valid until	<u>31-May-25</u>	
Supersedes	<u>20-Jun-19</u>	
Is this an Appendix E Certificate?	Y / N	<input checked="" type="checkbox"/> Yes
Was Appendix F used for Measurement?	Y / N	<input type="checkbox"/> No
Signature <u><i>K. Alpino</i></u>		
ITMA Technical Director		
		Stamp of Authority of the International Twelve Metre Association



RATING CALCULATION

OVERALL LENGTH **21.074**

Overhang Forward to FGS	2.277	
Overhang Aft to AGS	2.568	
Total Overhang (Subtract)	4.845	

MEASURED LENGTH (LBG) **16.229**

Girth at Bow	1.494	
Twice vertical Height at Bow (Subtract)	1.200	
Girth Difference at FGS	0.294	
Add 1.5 x Girth Difference at FGS (min 0.540 m)	0.540	
Girth at Stern	2.980	
Twice vertical Height at Stern (Subtract)	1.638	
Girth Difference at AGS	1.342	
Add 1/3 Girth Difference at AGS (min 0.400 m)	0.447	
Add any penalty (Beam or Displacement)		

Sum of Length and Girth Corrections **17.216**

Age/Design Correction Factor (ADCF)(see page 3) 0.9700

LENGTH (L) **16.700**

Skin IM to d1 Port	2.225	
Chain IM to d1 Port	2.215	
d Port	0.010	
Skin IM to d1 Starboard	2.230	
Chain IM to d1 Starboard	2.216	
d Starboard	0.014	
Add d	0.024	

Add GIRTH 2 d **0.048**

	Datum Sta.	Actual Sta.	Rating FB	
Mean Freeboard Bow		1.307	1.307	
Mean Freeboard Midship		1.044	1.044	
Mean Freeboard Stern		0.998	0.998	
Sum of Freeboards			3.349	

Subtract FREEBOARD, F **1.116**

Add SAIL AREAS (Square root) **12.807**

TOTAL OF MEASUREMENTS **28.438**

PENALTY (Draft or Tumblehome) 0.000 0

RATING **11.999**

Date and Place of Measurement	31-May-23	
Measurer's Name(s)	A Williams	Signature

Yacht's name : Columbia		Date	31-May-23
Range Measurement (Yes or No)	No	Date:	

PENALTIES

Overhang Forward to MWL	2.893	
Overhang Aft to MWL	3.374	
Subtract from overall length	6.267	
Difference of immersion from salt to fresh water	Meas. Density	0.000
WATERLINE LENGTH (LWL)		14.807
Minimum Displacement for Zero Penalty [m3]	30.121	
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)	30.874	
WEIGHT [tonne] Actual weight	Append E	30.900
Equivalent LWL (for Displ. < min.)	14.811	
Difference		
DISPLACEMENT PENALTY (add to L)		0.000
Displacement Determination Method	Append E	
DRAFT (actual)	2.890	
Max. Draft for Zero Penalty	2.869	
Difference (if positive)	0.021	
DRAFT PENALTY (add to Rating)	Appendix E	0.000
BEAM (Min)	3.600	
Max Beam at 1/3 of Midship Freeboard	3.602	
Difference (if positive)	0.000	
BEAM PENALTY (add to L)		0.000
Tumblehome Max. (2 x 2% of Extr. Beam)	0.146	
Extreme Beam	3.644	
Beam at deck	3.534	
Difference (if positive)	0.110	
TUMBLEHOME PENALTY (add to Rating)		0.000

Date and Place of Measurement	31-May-23	
Measurer's Name(s)	A Williams	Signature <i>Ander</i>

Design/Age Correction Factor Calculation			
Age Date	1967		
ADCF (Table E-2)	0.9700		
Hull Alteration Scope and Date			
Appendage Change Scope and Date			
Change/Alteration Correction ADCF			
Accommodation Deficiency Ballast			

SAIL PLAN

Max Height of Sail Plan =	25.000	J=	7.535	I =	18.750
Boom above Mast Datum =	1.510	P=	23.490	E=	9.210
Rated Mainsail Area	108.171	Spi boom=	7.530	√S=	12.807
J used for Rating			7.535		
Rated Foretriangle Area	60.045	Propeller allowance			0.975
TOTAL RATED SAIL AREA (S)	168.216	Corrected sail area			164.011

SAIL LIMITS

Mainsail max girth:	1/2 height (68% of E)	6.263	3/4 height (41% of E)	3.776
Genoa:	max. foot length (J + 4.8m)	12.335		
Spinnaker:	1/2 foot max breadth (125% J)	9.419	max. luff length=	18.666

Spar Measurement

MAST (material)	Aluminium	Mast Weight	505	CG pos.	10.120
Mast dimensions [mm]	Deck	Half-Height	Jib-Halyard	Head	
	340 x 248	340 x 247	270 x 205	169 x 125	
Sections area [cm ²]	662	676	434	166	
Mast CG Correction (if applicable) Wt & CG	@		Mk ²		

Engine/Propeller Installation

Engine and propeller weight	yes	Propeller diameter =	0.600
Minimum boat speed with engine	yes	Propeller position =	Skewed
Propeller Type (folding feathering fixed pitch etc.), no of blades		3	Feather
Propeller Skew			

Flotation

Internal Ballast	Amount	Location aft of bow

Measurer's Notes

- 1 Hull changed 1967
 - 2 Keel replaced Pedrick 2001
 - 3 Lighter floatation 2007
 - 4 Rudder replaced 2019
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Date and Place of Measurement	31-May-23	Signature
Measurer's Name(s)	A Williams	