



12

INTERNATIONAL TWELVE METRE CLASS

Yacht's Name Columbia

National letters and Sail Number US 16 Club New York Yacht Club

Designer Sparkman & Stephens

Builder Nevins Boat Yard Inc Building Year 1958

Owner Kevin Hegarty

Owner's Address 421 Bellevue Ave, Newport RI. USA

Lloyds R class certificate (Number or Date) _____

APPENDIX E 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 June 21, 2017

Measurer A Williams

Valid until June 21, 2019

Supersedes 15-June-2015

Signature Ander

Signature [Handwritten Signature]
ITMA Technical Director



Stamp of Authority of the International Twelve Metre Association

RATING CALCULATION

OVERALL LENGTH				21.074
Overhang Forward to L1			2.247	
Overhang Aft to L1			2.600	
Total Overhang (Subtract)			4.847	
MEASURED LENGTH (L1 L1)				16.227
Girth at Bow			1.491	
Twice vertical Height at Bow (Subtract)			1.200	
O at Bow			0.291	
Add 1 1/2 O at Bow (min 0.540 m)			0.540	
Girth at Stern			2.990	
Twice vertical Height at Stern (Subtract)			1.636	
O at Stern			1.354	
Add 1/3 O at Stern (min 0.400 m)			0.451	
Add any penalty (Beam)			0.000	
Sum of Length and Girth Corrections				17.218
Age Date and Allowance	1967	Allowance	0.9700	
CORRECT LENGTH L				16.702
Skin d to d1 Port			2.225	
Chain d to d1 Port			2.212	
d Port			0.013	
Skin d to d1 Starboard			2.230	
Chain d to d1 Starboard			2.214	
d Starboard			0.016	
Add d			0.029	
Add GIRTH 2 d				0.058
Mean Freeboard Bow O	Actual	1.307	1.307	
Mean Freeboard Midship d	Actual	1.044	1.044	
Mean Freeboard Stern O	Actual	0.998	0.998	
Sum of Freeboards			3.349	
Subtract FREEBOARD, F				1.116
Add SAIL AREAS (Square root)				12.796
TOTAL OF MEASUREMENTS				28.439
PENALTY (Draught)			0.000	
RATING				12.000

Date and place of Measurement **June 21, 2017**Measurer's Name(s) **A Williams**

Signature



PENALTIES

Overhang Forward to L	2.874	
Overhang Aft to L	3.597	
Subtract from overall length	6.471	
Difference of immersion from salt to fresh water	0.000	
WATERLINE LENGTH		14.603
Minimum Displacement for Zero Penalty [m3]	28.951	
Minimum Weight for Zero Penalty [tonnes] (Water of sg 1.025)	29.675	
ACTUAL WEIGHT [tonnes]		Append E
Equivalent LWL (for Displ. < min.)		
Difference		
DISPLACEMENT PENALTY (add to L)		Append E
DRAUGHT (actual)	2.890	
Max. Draught for Zero Penalty	2.837	
Difference (if positive)	0.053	
DRAUGHT PENALTY (add to Rating)		Append E
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 **June 21, 2017**

Measurer's Name(s)

A Williams

Signature



SAIL PLAN

Max Height of Sail Plan =	25.000	J=	7.468	I =	18.750
Boom Height =	1.410	A=	23.590	B=	9.150
Rated Mainsail Area	107.924	Spi boom=	7.530	\sqrt{S} =	12.796
Rated Foretriangle Area	60.005	Propeller allowance	0.975		
TOTAL RATED SAIL AREA	167.929	Corrected sail area	163.731		

SAIL LIMITS

Mainsail max girth:	1/2 height (68%)	6.222		3/4 height (41%)	3.752
Genoa:	max. foot length (J + 4.8m)	12.268			
Spinnaker:	1/2 foot max breadth (125% J)	9.413		max. luff length=	18.664

Spar Measurement

MAST (material)	Aluminium	Mast Weight	505	CG pos.	10.120
	Deck	Half-Height	Jib-Halyard	Head	
Mast dimensions [mm]	340x248	340x247	270x205	169x125	
Sections area [cm ²]	662	659	434	166	

Engine/Propeller Installation

Engine and propeller weight	Yes	Propeller diameter =	0.559
Minimum boat speed with engine	Yes	Propeller position =	Skewed
Engine model and power	Yes		

Flotation

Internal Ballast Nil

Measurer's Notes

- | | |
|---|---|
| 1 | Built 1958 |
| | Hull changed 1967 |
| | Keel changed 2001 ACF = 0.97 |
| 2 | Boat not weighed |
| 3 | 2007 - Yacht re-configured to lighter flotation waterline |

Date and place of Measurement	June 21, 2017	Portsmouth RI USA
Measurer's Name(s)	A Williams	Signature