

12

INTERNATIONAL TWELVE METRE CLASS

Yacht's Name Columbia

National letters and Sail Number US16 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 02840 USA

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: 20-Jun-19

Measurer A Williams Signature Ander

Valid until 20-Jun-21

Supersedes 21-Jun-17

Is this an **Appendix E** Certificate? Y / N Yes

Was **Appendix F** used for Measurement? Y / N no

Signature [Signature]
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 (L_{BG})

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)

1.636

Girth Difference at AGS

1.344

Add 1/3 Girth Difference at AGS (min 0.400 m)

0.448

Add any penalty (Beam or Displacement)

Sum of Length and Girth Corrections

17.217

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

Mean Freeboard Bow

Mean Freeboard Midship

Mean Freeboard Stern

Sum of Freeboards

Datum Sta.	Actual Sta.	Rating FB
	1.307	1.307
	1.044	1.044
	0.998	0.998
		3.349

Subtract FREEBOARD, F

1.116

Add SAIL AREAS (Square root)

12.806

TOTAL OF MEASUREMENTS

28.438

PENALTY (Draft or Tumblehome)

0.000

0

RATING

11.999

Date and Place of Measurement

20-Jun-19

Measurer's Name(s)

A Williams

Signature



Yacht's name : Columbia		Date	20-Jun-19
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	20-Jun-19		
Measurer's Name(s)	A Williams	Signature	

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			

Yacht's name : Columbia

Date

20-Jun-19

SAIL PLAN

Max Height of Sail Plan =	<input type="text" value="25.000"/>	J=	<input type="text" value="7.468"/>	I =	<input type="text" value="18.750"/>
Boom above Mast Datum =	<input type="text" value="1.410"/>	P=	<input type="text" value="23.590"/>	E=	<input type="text" value="9.180"/>
Rated Mainsail Area	<input type="text" value="108.278"/>	Spi boom=	<input type="text" value="7.520"/>	√S=	<input type="text" value="12.806"/>
J used for Rating			<input type="text" value="7.520"/>		
Rated Foretriangle Area	<input type="text" value="59.925"/>	Propeller allowance			<input type="text" value="0.975"/>
TOTAL RATED SAIL AREA (S)	<input type="text" value="168.203"/>	Corrected sail area			<input type="text" value="163.998"/>

SAIL LIMITS

Mainsail max girth:	1/2 height (68% of E)	<input type="text" value="6.242"/>	3/4 height (41% of E)	<input type="text" value="3.764"/>
Genoa:	max. foot length (J + 4.8m)	<input type="text" value="12.268"/>		
Spinnaker:	1/2 foot max breadth (125% J)	<input type="text" value="9.400"/>	max. luff length=	<input type="text" value="18.661"/>

Spar Measurement

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

Engine/Propeller Installation

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

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
- 5
- 6

Date and Place of Measurement

20-Jun-19

Measurer's Name(s)

A Williams

Signature

