

# 12



## INTERNATIONAL TWELVE METRE CLASS

Yacht's Name Courageous

National letters and Sail Number USA 26 Club New York Yacht Club

Designer Sparkman & Stephens

Builder Minneford Yacht Yard Inc. Building Year 1974

Owner Courageous 12 US26, LLC.

Owner's Address 227 W, Monroe, Suite  
Chicago, IL 60606

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: June 5, 2022


Measurer A Williams Signature Ander

Valid until June 5, 2024

Supersedes June 25, 2019

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

Was **Appendix F** used for Measurement? Y / N  Yes  
 Yes

Signature   
ITMA Technical Director



Stamp of Authority of the  
International Twelve Metre Association

**RATING CALCULATION****OVERALL LENGTH**

Overhang Forward to FGS

2.117

Overhang Aft to AGS

2.235

Total Overhang (Subtract)

4.352

**19.980****MEASURED LENGTH (L<sub>BG</sub>)**

Girth at Bow

1.620

Twice vertical Height at Bow (Subtract)

1.200

Girth Difference at FGS

0.420

Add 1.5 x Girth Difference at FGS (min 0.540 m)

**0.630**

Girth at Stern

3.578

Twice vertical Height at Stern (Subtract)

2.030

Girth Difference at AGS

1.548

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

**0.516**

Add any penalty (Beam or Displacement)

Sum of Length and Girth Corrections

**16.774**

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

0.9870

**LENGTH (L)****16.556**

Skin IM to d1 Port

3.423

Chain IM to d1 Port

3.400

d Port

0.023

Skin IM to d1 Starboard

3.420

Chain IM to d1 Starboard

3.397

d Starboard

0.023

Add d

0.046

**Add GIRTH 2 d****0.092**

Mean Freeboard Bow

Datum Sta.	Actual Sta.	Rating FB
	1.249	1.249
	1.217	1.217
	1.195	1.187
		3.653

Mean Freeboard Midship

1.217

1.217

Mean Freeboard Stern

1.195

1.187

Sum of Freeboards

3.653

**Subtract FREEBOARD, F**

Limit used

**1.210****Add SAIL AREAS (Square root)****12.999****TOTAL OF MEASUREMENTS****28.437**

PENALTY (Draft or Tumblehome)

0.000

0

**RATING****11.999**

Date and Place of Measurement

5-Jun-22

Measurer's Name(s)

A Williams

Signature

*Ander*

<b>Yacht's name : Courageous</b>		<b>Date</b>	<b>5-Jun-22</b>
Range Measurement (Yes or No)	Yes	Date:	6-Jun-19

## PENALTIES

Overhang Forward to <b>MWL</b>	2.735	
Overhang Aft to <b>MWL</b>	3.420	
Subtract from overall length	6.155	
Difference of immersion from salt to fresh water	Meas. Density	0.000
<b>WATERLINE LENGTH (LWL)</b>		<b>13.825</b>
Minimum Displacement for Zero Penalty [m3]	24.769	
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)	25.389	
<b>WEIGHT [tonne]</b> Actual weight		<b>25.500</b>
Equivalent LWL (for Displ. < min.)	13.846	
Difference	0.000	
<b>DISPLACEMENT PENALTY (add to L)</b>		<b>0.000</b>
Displacement Determination Method		
<b>DRAFT (actual)</b>	2.704	
Max. Draft for Zero Penalty	2.712	
Difference (if positive)		
<b>DRAFT PENALTY (add to Rating)</b>	Appendix E	<b>0.000</b>
<b>BEAM (Min)</b>	3.600	
Max Beam at 1/3 of Midship Freeboard	0.000	
Difference (if positive)	0.000	
<b>BEAM PENALTY (add to L)</b>		<b>0.000</b>
Tumblehome Max. (2 x 2% of Extr. Beam)	0.000	
Extreme Beam	3.725	
Beam at deck	3.725	
Difference (if positive)	0.000	
<b>TUMBLEHOME PENALTY (add to Rating)</b>		<b>0.000</b>

Date and Place of Measurement	5-Jun-22	
Measurer's Name(s)	A Williams	Signature <i>Ander</i>

Design/Age Correction Factor Calculation			
Age Date	1974		
ADCF ( Table E-2)	0.9870		
Hull Alteration Scope and Date	1974		
Appendage Change Scope and Date	1974		
Change/Alteration Correction ADCF			
Accommodation Deficiency Ballast			

Yacht's name : *Courageous*

Date

5-Jun-22

**SAIL PLAN**

Max Height of Sail Plan =	<input type="text" value="25.000"/>	J=	<input type="text" value="7.395"/>	I =	<input type="text" value="18.750"/>
Boom above Mast Datum =	<input type="text" value="1.499"/>	P=	<input type="text" value="23.501"/>	E=	<input type="text" value="9.365"/>
Rated Mainsail Area	<input type="text" value="110.043"/>	Spi boom=	<input type="text" value="7.395"/>	√S=	<input type="text" value="12.999"/>
J used for Rating			<input type="text" value="7.395"/>		
Rated Foretriangle Area	<input type="text" value="58.929"/>	Propeller allowance		<input type="text" value="1.000"/>	
TOTAL RATED SAIL AREA (S)	<input type="text" value="168.972"/>	Corrected sail area		<input type="text" value="168.972"/>	

**SAIL LIMITS**

Mainsail max girth:	1/2 height (68% of E)	<input type="text" value="6.368"/>	3/4 height (41% of E)	<input type="text" value="3.840"/>
Genoa:	max. foot length (J + 4.8m)	<input type="text" value="12.195"/>		
Spinnaker:	1/2 foot max breadth (125% J)	<input type="text" value="9.244"/>	max. luff length=	<input type="text" value="18.624"/>

**Spar Measurement**

MAST (material)	<input type="text" value="Aluminium"/>	Mast Weight	<input type="text" value="546"/>	CG pos.	<input type="text" value="9.503"/>
	Deck	Half-Height	Jib-Halyard	Head	
Mast dimensions [mm]	<input type="text" value="352 x 248"/>	<input type="text" value="351 x 247"/>	<input type="text" value="282 x 205"/>	<input type="text" value="169 x 126"/>	
Sections area [cm <sup>2</sup> ]	<input type="text" value="680"/>	<input type="text" value="681"/>	<input type="text" value="454"/>	<input type="text" value="166"/>	
Mast CG Correction (if applicable) Wt & CG	<input type="text" value="@"/>		Mk <sup>2</sup>	<input type="text"/>	

**Engine/Propeller Installation**

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

**Flotation**

Internal Ballast	Amount	Location aft of bow
Lead blocks	127	9.52

**Measurer's Notes**

- 1 Freeboards 1971 rule
- 2 Keel pockets filled
- 3 New rudder 2008
- 4 Certificate only valid for World Sailing and ITMA events when both (2) aft hatches are closed and secured
- 5 While racing
- 6 New trim tab 2019
- 7
- 8

Date and Place of Measurement

5-Jun-22

Measurer's Name(s)

A Williams

Signature