

# 12



## INTERNATIONAL TWELVE METRE CLASS

Yacht's Name KZ 3

National letters and Sail Number KZ 3 Club New York Yacht Club

Designer Farr/Davidson/Holland

Builder McMullin and Wing Building Year 1985

Owner Gunther Buerman

Owner's Address 145 Harrison 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: June 9, 2021

Measurer A Williams Signature Ander


Valid until June 9, 2023

Supersedes June 5 2019

Is this an **Appendix E** Certificate? Y / N  No

Was **Appendix F** used for Measurement? Y / N  No  
Hull Scanned Y / N  Yes

Signature [Signature]  
ITMA Technical Director

  
Stamp of Authority of the International Twelve Metre Association

# RATING CALCULATION

<b>OVERALL LENGTH</b>			<b>19.131</b>
Overhang Forward to FGS		1.719	
Overhang Aft to AGS		1.957	
Total Overhang (Subtract)		3.676	
<b>MEASURED LENGTH (L<sub>BG</sub>)</b>			<b>15.455</b>
Girth at Bow		1.547	
Twice vertical Height at Bow (Subtract)		1.200	
Girth Difference at FGS		0.347	
Add 1.5 x Girth Difference at FGS (min 0.540 m)		<b>0.540</b>	
Girth at Stern		3.341	
Twice vertical Height at Stern (Subtract)		1.836	
Girth Difference at AGS		1.505	
Add 1/3 Girth Difference at AGS (min 0.400 m)		<b>0.502</b>	
Add any penalty (Beam or Displacement)		<b>0.006</b>	
Sum of Length and Girth Corrections			<b>16.503</b>
Age/Design Correction Factor (ADCF)(see page 3)	1.0000		
<b>LENGTH (L)</b>			<b>16.503</b>
Skin IM to d1 Port		3.385	
Chain IM to d1 Port		3.380	
d Port		0.005	
Skin IM to d1 Starboard		3.388	
Chain IM to d1 Starboard		3.384	
d Starboard		0.004	
Add d		0.009	
<b>Add GIRTH 2 d</b>			<b>0.018</b>
	Datum Sta.	Actual Sta.	Rating FB
Mean Freeboard Bow		1.376	1.376
Mean Freeboard Midship		1.125	1.125
Mean Freeboard Stern		1.098	1.098
Sum of Freeboards			3.599
<b>Subtract FREEBOARD, F</b>			<b>1.200</b>
<b>Add SAIL AREAS (Square root)</b>			<b>13.116</b>
<b>TOTAL OF MEASUREMENTS</b>			<b>28.437</b>
PENALTY (Draft or Tumblehome)		0.000	0
<b>RATING</b>			<b>11.999</b>

Date and Place of Measurement	9-Jun-21
Measurer's Name(s)	A Williams <span style="float: right;">Signature <i>Ander</i></span>

<b>Yacht's name : KZ 3</b>		<b>Date</b>	<b>9-Jun-21</b>
Range Measurement (Yes or No)	no	Date:	

## PENALTIES

Overhang Forward to <b>MWL</b>	2.546	
Overhang Aft to <b>MWL</b>	2.692	
Subtract from overall length	5.238	
Difference of immersion from salt to fresh water	Meas. Density	0.000
<b>WATERLINE LENGTH (LWL)</b>		<b>13.893</b>
Minimum Displacement for Zero Penalty [m3]	25.118	
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)	25.746	
<b>WEIGHT [tonne]</b> Actual weight		<b>25.730</b>
Equivalent LWL (for Displ. < min.)	13.890	
Difference	-0.003	
<b>DISPLACEMENT PENALTY (add to L)</b>		<b>0.006</b>
Displacement Determination Method	Hull Scan	
<b>DRAFT (actual)</b>	2.722	
Max. Draft for Zero Penalty	2.723	
Difference (if positive)		
<b>DRAFT PENALTY (add to Rating)</b>		<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	3.600	
Beam at deck	3.600	
Difference (if positive)	0.000	
<b>TUMBLEHOME PENALTY (add to Rating)</b>		<b>0.000</b>

Date and Place of Measurement	9-Jun-21	
Measurer's Name(s)	A Williams	Signature <i>Ander</i>

Design/Age Correction Factor Calculation		
Age Date	1986	
ADCF ( Table E-2)	1.0000	
Hull Alteration Scope and Date		
Appendage Change Scope and Date		
Change/Alteration Correction ADCF		
Accommodation Deficiency Ballast		

Yacht's name : KZ 3

Date

9-Jun-21

**SAIL PLAN**

Max Height of Sail Plan =	<input type="text" value="25.000"/>	J=	<input type="text" value="7.609"/>	I =	<input type="text" value="18.750"/>
Boom above Mast Datum =	<input type="text" value="1.550"/>	P=	<input type="text" value="23.450"/>	E=	<input type="text" value="9.500"/>
Rated Mainsail Area	<input type="text" value="111.388"/>	Spi boom=	<input type="text" value="7.609"/>	√S=	<input type="text" value="13.116"/>
J used for Rating			<input type="text" value="7.609"/>		
Rated Foretriangle Area	<input type="text" value="60.634"/>	Propeller allowance		<input type="text" value="1.000"/>	
TOTAL RATED SAIL AREA (S)	<input type="text" value="172.022"/>	Corrected sail area		<input type="text" value="172.022"/>	

**SAIL LIMITS**

Mainsail max girth:	1/2 height (68% of E)	<input type="text" value="6.460"/>	3/4 height (41% of E)	<input type="text" value="3.895"/>
Genoa:	max. foot length (J + 4.8m)	<input type="text" value="12.409"/>		
Spinnaker:	1/2 foot max breadth (125% J)	<input type="text" value="9.511"/>	max. luff length=	<input type="text" value="18.688"/>

**Spar Measurement**

MAST (material)	<input type="text" value="Aluminium"/>	Mast Weight	<input type="text" value="455"/>	CG pos.	<input type="text" value="9.503"/>
	Deck	Half-Height	Jib-Halyard	Head	
Mast dimensions [mm]	<input type="text" value="352 x 249"/>	<input type="text" value="352 x 250"/>	<input type="text" value="283 x 205"/>	<input type="text" value="170 x 125"/>	
Sections area [cm <sup>2</sup> ]	<input type="text" value="688"/>	<input type="text" value="688"/>	<input type="text" value="441"/>	<input type="text" value="167"/>	
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="None"/>	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 pigs	220kg	10.3m
Lead pigs	280kg	10.1m

**Measurer's Notes**

- 1 Ground tackle @ 8.0m aft of stem
- 2 Batteries @ 6.1m aft of stem
- 3 Displacment from 3D model (laser scan)

Date and Place of Measurement

9-Jun-21

Measurer's Name(s)

A Williams

Signature

