

# 12

## INTERNATIONAL TWELVE METRE CLASS

**Yacht's Name** \_\_\_\_\_ **Defender** \_\_\_\_\_

**National letters and Sail Number** US 33 **Club** New York Yacht Club

**Designer** Pedrick Yacht Design

**Builder** Newport Offshore Ltd. **Building Year** 1983

**Owner** Dennis Williams

**Owner's Address** 153 South Beach Rd. Hobe Sound  
Florida 33455 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 1, 2017

Measurer Kershaw/Williams

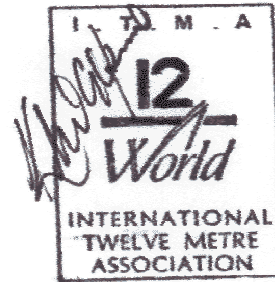
Signature *Ander*

Valid until June 1, 2019

Supersedes \_\_\_\_\_

Signature *K. Kershaw*

ITMA Technical Director



Stamp of Authority of the  
International Twelve Metre Association

**RATING CALCULATION**

<b>OVERALL LENGTH</b>				<b>19.497</b>
Overhang Forward to L1			2.035	
Overhang Aft to L1			2.051	
Total Overhang (Subtract)			4.086	
<b>MEASURED LENGTH (L1 L1)</b>				<b>15.411</b>
Girth at Bow			1.579	
Twice vertical Height at Bow (Subtract)			1.200	
O at Bow			0.379	
Add 1 1/2 O at Bow (min 0.540 m)			<b>0.569</b>	
Girth at Stern			3.551	
Twice vertical Height at Stern (Subtract)			1.866	
O at Stern			1.685	
Add 1/3 O at Stern (min 0.400 m)			<b>0.562</b>	
Add any penalty (Beam)			<b>0.000</b>	
Sum of Length and Girth Corrections				<b>16.541</b>
Age Date and Allowance	1983	Allowance	0.990	
<b>CORRECT LENGTH L</b>				<b>16.376</b>
Skin d to d1 Port			3.330	
Chain d to d1 Port			3.302	
d Port			0.028	
Skin d to d1 Starboard			3.325	
Chain d to d1 Starboard			3.294	
d Starboard			0.031	
Add d			0.059	
<b>Add GIRTH 2 d</b>				<b>0.118</b>
Mean Freeboard Bow O	Actual	1.392	1.392	
Mean Freeboard Midship d	Actual	1.136	1.136	
Mean Freeboard Stern O	Actual	1.113	1.113	
Sum of Freeboards			3.641	
<b>Subtract FREEBOARD, F</b>			See Notes	<b>1.210</b>
<b>Add SAIL AREAS (Square root)</b>				<b>13.155</b>
<b>TOTAL OF MEASUREMENTS</b>				<b>28.439</b>
<i>PENALTY (Draught )</i>			0.000	
<b>RATING</b>				<b>12.000</b>
Date and place of Measurement	1-Jun-17			
Measurer's Name(s)	Kershaw/Williams		Signature <i>Anders</i>	

**PENALTIES**

Overhang Forward to L	2.690
Overhang Aft to L	3.182
Subtract from overall length	5.872
Difference of immersion from salt to fresh water	0.000

**WATERLINE LENGTH**

Minimum Displacement for Zero Penalty [m3]	23.764	<b>13.625</b>
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)	24.358	

**WEIGHT [ton] Additional weight**

Equivalent LWL (for Displ. < min.)		<b>24.400</b>
Difference	0.000	
DISPLACEMENT PENALTY (add to L)	0.000	<b>0.000</b>

**DRAUGHT (actual)**

Max. Draught for Zero Penalty	2.676	
Difference (if positive)	2.680	
DRAUGHT PENALTY (add to Rating)		<b>0.000</b>

**BEAM (Min)**

Max Beam at 1/3 of Midship Freeboard	3.639	
Difference (if positive)	3.639	
BEAM PENALTY (add to L)	0.000	<b>0.000</b>
Tumblehome Max. (2 x 2% of Extr. Beam)	0.000	
Extreme Beam		
Beam at deck		
Difference (if positive)	0.000	
TUMBLEHOME PENALTY (add to Rating)		<b>0.000</b>

Date and place of Measurement

1-Jun-17

Measurer's Name(s)

Kershaw/Williams

Signature



## SAIL PLAN

Max Height of Sail Plan =	25.000	J=	7.467	I =	18.750
Boom Height =	1.550	A=	23.450	B=	9.685
Rated Mainsail Area	113.557	Spi boom=	7.467	√S=	13.155
Rated Foretriangle Area	59.503	Propeller allowance	1.000		
TOTAL RATED SAIL AREA	173.059	Corrected sail area	173.059		

### SAIL LIMITS

Mainsail max girth:	1/2 height (68%)	6.586	3/4 height (41%)	3.971
Genoa:	max. foot length (J + 4.8m)	12.267		
Spinnaker:	1/2 foot max breadth (125% J)	9.334	max. luff length=	18.646

## Spar Measurement

MAST (material)	Aluminium	Mast Weight	454	CG pos.	9.520
Mast dimensions [mm]	Deck	Half-Height	Jib-Halyard	Head	
	250 358	250 358	197 292	128 168	
Sections area [cm <sup>2</sup> ]	703	703	452	169	

## Engine/Propeller Installation

Engine and propeller weight	none	Propeller diameter =	none
Minimum boat speed with engine		Propeller position =	
Engine model and power			

## Flotation

Internal Ballast Lead pigs	Amount	Location from Bow
Nil		

## Measurer's Notes

	Frame
Anchor	15-16
Chain	15-16
Rode	15
Batteries x2	14-15
Boat not weighed	

Date and place of Measurement	1-Jun-17	
Measurer's Name(s)	Kershaw/Williams	Signature