

# 12

## INTERNATIONAL TWELVE METRE CLASS

Yacht's Name Enterprise

National letters and Sail Number US 27 Club New York Yacht Club

Designer Sparkman & Stephens

Builder Minnefords Boat Yard Building Year 1977

Owner USMMA Chartered to Clay & Nancy Deutsch


Owner's Address 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: July 1, 2019

Measurer Ken McAlpine Signature 

Valid until July 1, 2021

Supersedes June 13, 2021

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

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

Signature   
ITMA Technical Director



Stamp of Authority of the  
International Twelve Metre Association

Yacht's name : Enterprise

Date

1-Jul-19

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

20.072

Overhang Forward to FGS

1.896

Overhang Aft to AGS

2.580

Total Overhang (Subtract)

4.476

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

15.596

Girth at Bow

1.586

Twice vertical Height at Bow (Subtract)

1.200

Girth Difference at FGS

0.386

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

0.579

Girth at Stern

3.492

Twice vertical Height at Stern (Subtract)

1.952

Girth Difference at AGS

1.540

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

0.513

Add any penalty (Beam or Displacement)

0.000

Sum of Length and Girth Corrections

16.688

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

0.9880

**LENGTH (L)**

16.488

Skin IM to d1 Port

2.185

Chain IM to d1 Port

2.175

d Port

0.010

Skin IM to d1 Starboard

2.188

Chain IM to d1 Starboard

2.177

d Starboard

0.011

Add d

0.021

**Add GIRTH 2 d**

0.042

Mean Freeboard Bow

Datum Sta.	Actual Sta.	Rating FB
	1.383	1.383
	1.163	1.153
	1.156	1.141
		3.677

Mean Freeboard Midship

Mean Freeboard Stern

Sum of Freeboards

Limit used

1.210

**Subtract FREEBOARD, F****Add SAIL AREAS (Square root)**

13.120

**TOTAL OF MEASUREMENTS**

28.441

PENALTY (Draft or Tumblehome)

0.000

0

**RATING**

12.000

Date and Place of Measurement

1-Jul-19

Measurer's Name(s)

Ken McAlpine


Signature



<b>Yacht's name : Enterprise</b>		<b>Date</b>	<b>1-Jul-19</b>
Range Measurement (Yes or No)	no	Date:	

## PENALTIES

Overhang Forward to <b>MWL</b>		2.506	
Overhang Aft to <b>MWL</b>		3.687	
Subtract from overall length		6.193	
Difference of immersion from salt to fresh water	Meas. Density		0.000
<b>WATERLINE LENGTH (LWL)</b>			<b>13.879</b>
Minimum Displacement for Zero Penalty [m3]		25.046	
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)		25.672	
<b>WEIGHT [tonne]</b> Actual weight			<b>25.735</b>
Equivalent LWL (for Displ. < min.)		13.891	
Difference			
DISPLACEMENT PENALTY (add to L)	Appendix E		<b>0.000</b>
Displacement Determination Method		Hull Scan	
<b>DRAFT (actual)</b>		2.706	
Max. Draft for Zero Penalty		2.721	
Difference (if positive)			
DRAFT PENALTY (add to Rating)	Appendix E		<b>0.000</b>
<b>BEAM (Min)</b>		3.712	
Max Beam at 1/3 of Midship Freeboard		0.000	
Difference (if positive)		0.000	
BEAM PENALTY (add to L)			<b>0.000</b>
Tumblehome Max. (2 x 2% of Extr. Beam)		0.000	
Extreme Beam		3.712	
Beam at deck		3.712	
Difference (if positive)		0.000	
TUMBLEHOME PENALTY (add to Rating)			<b>0.000</b>

Date and Place of Measurement	1-Jul-19		
Measurer's Name(s)	Ken McAlpine	Signature	

Design/Age Correction Factor Calculation			
Age Date	1977		
ADCF ( Table E-2)	0.9860		
Hull Alteration Scope and Date			
Appendage Change Scope and Date	External Ballast		0.002
Change/Alteration Correction ADCF	0.9880		
Accommodation Deficiency Ballast			

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**SAIL PLAN**

Max Height of Sail Plan =	<input type="text" value="25.000"/>	J=	<input type="text" value="7.622"/>	I =	<input type="text" value="18.750"/>
Boom above Mast Datum =	<input type="text" value="1.220"/>	P=	<input type="text" value="23.780"/>	E=	<input type="text" value="9.370"/>
Rated Mainsail Area	<input type="text" value="111.409"/>	Spi boom=	<input type="text" value="7.575"/>	$\sqrt{S}$ =	<input type="text" value="13.120"/>
J used for Rating			<input type="text" value="7.622"/>		
Rated Foretriangle Area	<input type="text" value="60.738"/>	Propeller allowance		<input type="text" value="1.000"/>	
TOTAL RATED SAIL AREA (S)	<input type="text" value="172.147"/>	Corrected sail area		<input type="text" value="172.147"/>	

**SAIL LIMITS**

Mainsail max girth:	1/2 height (68% of E)	<input type="text" value="6.372"/>	3/4 height (41% of E)	<input type="text" value="3.842"/>
Genoa:	max. foot length (J + 4.8m)	<input type="text" value="12.422"/>		
Spinnaker:	1/2 foot max breadth (125% J)	<input type="text" value="9.528"/>	max. luff length=	<input type="text" value="18.692"/>

**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 246"/>	<input type="text" value="350 x 246"/>	<input type="text" value="282 x 204"/>	<input type="text" value="166 x 126"/>	
Sections area [cm <sup>2</sup> ]	<input type="text" value="608"/>	<input type="text" value="676"/>	<input type="text" value="452"/>	<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"/>
Propeller Skew			<input type="text"/>

**Flotation**

Internal Ballast	Amount	Location aft of bow
None		

**Measurer's Notes**

- 1 New Cockpit 2019
- 2 New keel 2019
- 3 New mast 2019
- 4 Boat owned by USMMA and chartered to Clay & Nancy Deutsch
- 5 Centerline of rudder stock used for aft WL

Date and Place of Measurement

1-Jul-19

Measurer's Name(s)

Ken McAlpine

Signature

