## International 2.4 metre Measurement Form

Sail Number NOR 128

ISAF Plaque Number 770

Owner Bjørn Roar Pettersen	Name of yacht
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Overhang Forward to L1 Overhang Aft to L1 Total overhang Measured length Girth at Bow Twice Vertical Height at Bow O at Bow Girth at Stern Twice Vertical Height at Stern Add 1/3 O at Stern Add any penalty at O2 Sum of Girth difference Correct length, L Skin girth d to d1 Port Chain girth d to d1 Starboard Chain girth d to d1 Starboard Chain girth d to d1 Starboard Add to find sum of L + 2d Mean freeboard Bow O Mean freeboard Bow O Mean freeboard Stern Sum of freeboards F=1/3 sum o						
Overhang Aft to L1	7					4.[8]
Measured length Girth at Bow  Twice Vertical Height at Bow O at Bow Girth at Stem Twice Vertical Height at Stern O at Stern Add 1/3 O at Stern Add 1/3 O at Stern Add any penalty at O2 Sum of Girth difference Correct length, L Skin girth d to dl Port Chain girth d to dl Port Chain girth d to dl Starboard $d = d \text{ Port} + d \text{ Starboard}$ $d = $			+0,420	9		
Girth at Bow  Twice Vertical Height at Bow O at Bow Girth at Stern  Twice Vertical Height at Stern  O at Stern  Add 1/3 O at Stern  Add any penalty at O2 Sum of Girth difference Correct length, L  Skin girth d to d1 Port Chain girth d to d1 Starboard Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Stern  Sum of freeboards F=1/3 s	Overhang Aft to L1 Total ov	erhang	+0.66	0	$\rightarrow$	
Twice Vertical Height at Bow O at Bow Girth at Stern  Twice Vertical Height at Stern O at Stern  Add 1/3 O at Stern  Add any penalty at O2 Sum of Girth difference Correct length, L  Skin girth d to d1 Port  Chain girth d to d1 Port  Chain girth d to d1 Starboard  Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Midships D  Mean freeboard Stern Sum of freeboards  F=1/3 sum of freeboard	Measured length					3.092
1½ O at Bow Girth at Stem Twice Vertical Height at Stern Add 1/3 O at Stern Add any penalty at O2 Sum of Girth difference Correct length, L Skin girth d to d1 Port Chain girth d to d1 Port Chain girth d to d1 Starboard Add to find sum of L + 2d Mean freeboard Bow O Mean freeboard Stern Mean freeboard Stern Sum of freeboards F=1/3 sum of freeboar	Girth at Bow		0.312			227
Girth at Stern  Twice Vertical Height at Stern  Add 1/3 O at Stern  Add any penalty at O2 Sum of Girth difference  Correct length, L  Skin girth d to d1 Port  Chain girth d to d1 Port  Chain girth d to d1 Starboard  Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Stern  Sum of freeboards  F=1/3 sum	Twice Vertical Height at Bow	at Bow	- 0,240	$\rightarrow$	0.072	
Twice Vertical Height at Stern   Add 1/3 O at Stern   Add any penalty at O2   Sum of Girth difference   Correct length, L   Skin girth d to d1 Port   Chain girth d to d1 Port   Chain girth d to d1 Starboard   Add to find sum of L + 2d    Mean freeboard Bow O   Mean freeboard Stern   Sum of freeboards   F=1/3 sum of freeboar	1½ O at Bow				+0.108	
Add any penalty at O2 Sum of Girth difference Correct length, L  Skin girth d to d1 Port Chain girth d to d1 Port Chain girth d to d1 Starboard d = d Port + d Starboard Add to find sum of L + 2d Mean freeboard Bow O Mean freeboard Midships D Mean freeboard Stern F=1/3 sum of freeboards F=1/3	Girth at Stern		0,898			
Add any penalty at O2 Sum of Girth difference Correct length, L  Skin girth d to d1 Port Chain girth d to d1 Port Chain girth d to d1 Starboard d = d Port + d Starboard Add to find sum of L + 2d Mean freeboard Bow O Mean freeboard Midships D Mean freeboard Stern F=1/3 sum of freeboards F=1/3	Twice Vertical Height at Stern	O at Stern	1		0.369	
Correct length, L  Skin girth d to d1 Port  Chain girth d to d1 Port  Chain girth d to d1 Port  Skin girth d to d1 Starboard  Chain girth d to d1 Port  Skin girth d to d1 Port  Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Bow O  Mean freeboard Stern  Sum of freeboards  F=1/3 su	Add 1/3 O at Stern				+0.123	
Correct length, L  Skin girth d to d1 Port  Chain girth d to d1 Port  Chain girth d to d1 Port  Skin girth d to d1 Starboard  Chain girth d to d1 Port  Skin girth d to d1 Port  Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Bow O  Mean freeboard Stern  Sum of freeboards  F=1/3 su	Add any penalty at O2 Sum of Gir	th difference			+ - >	+0.231
Chain girth d to d1 Port  Skin girth d to d1 Starboard  Chain girth d to d1 Starb,  d = d Port + d Starboard  Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Stern  Sum of freeboards  F=1/3 sum of freeboa	Correct length, L					
Chain girth d to d1 Port  Skin girth d to d1 Starboard  Chain girth d to d1 Starb,  d = d Port + d Starboard  Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Stern  Sum of freeboards  F=1/3 sum of freeboa	Skin girth d to d1 Port			A CONTRACTOR OF THE PROPERTY AS		
Chain girth d to d1 Starb, d Starboard $d = d$ Port + d Starboard $d = d$	Chain girth d to d1 Port	d Port	most.	$\rightarrow$	+ 0	
d = d Port + d Starboard 2 x d Add to find sum of L + 2d 3.323    Mean freeboard Bow O	Skin girth d to d1 Starboard					
Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Midships D  Mean freeboard Stern Sum of freeboards  F=1/3 sum of freeboards  F=1/3 sum of freeboards  F=1/3 sum of freeboards  F, max 0.292  = L + 2d - F  Penalty Displacement Rule D.7.2. LWL  Corr LWL Difference 2 x difference  Penalty Beam Rule D.7.3 Beam  Min beam Deficiency 4 x deficiency $\sqrt{S}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1 Draft  Max draft Excess 3 x excess  Penalty Tumble home D.7.4 Tumble home	Chain girth d to d1 Starb,	d Starboard		$\rightarrow$	+ 0	
Mean freeboard Bow O  Mean freeboard Midships D  Mean freeboard Stern Sum of freeboards F=1/3 sum of freeboards F=1/3 sum of freeboards F, max 0.292 = L + 2d - F  Penalty Displacement Rule D.7.2. LWL  Corr LWL Difference 2 x difference Penalty Beam Rule D.7.3 Beam  Min beam Deficiency 4 x deficiency $\sqrt{S}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1 Draft  Max draft Excess 3 x excess Penalty Tumble home D.7.4 Tumble home	d = d Port + d Starboard	$2 \times d$				1
Mean freeboard Midships D  Mean freeboard Stern Sum of freeboards  F=1/3 sum of freeboards  F, max 0.292  = L + 2d - F  Penalty Displacement Rule D.7.2. LWL  Corr LWL Difference 2 x difference  Penalty Beam Rule D.7.3 Beam  Min beam Deficiency 4 x deficiency $\sqrt{S}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1 Draft  Max draft Excess 3 x excess  Penalty Tumble home D.7.4 Tumble home	Add to find sum of $L + 2d$					3,323
Mean freeboard Midships D  Mean freeboard Stern Sum of freeboards F=1/3 sum of freeboards F, max 0.292  = L + 2d - F  Penalty Displacement Rule D.7.2. LWL  Corr LWL Difference 2 x difference Penalty Beam Rule D.7.3 Beam  Min beam Deficiency 4 x deficiency $\sqrt{S}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1 Draft  Max draft Excess 3 x excess Penalty Tumble home  H0.292  +0.298 → 0.917  0.306 -0.292  3.031  + -        -	Mean freeboard Bow O		+0.32	7		
Mean freeboard Stern Sum of freeboards $F=1/3$ sum of freeboards $F$ , max 0.292 $= L+2d-F$	Mean freeboard Midships D					
F=1/3 sum of freeboards F, max 0.292 $= L + 2d - F$ Penalty Displacement Rule D.7.2. LWL $Corr LWL  Difference  2 \text{ x difference}  -  \Rightarrow  +  -$ Penalty Beam Rule D.7.3 Beam $Min \text{ beam }  Deficiency  4 \text{ x deficiency}  -0,720  \Rightarrow  +  -$ $\sqrt{S}$ $Total \text{ of Measurements } L + 2d - F + \sqrt{S}$ $Divide \text{ by } 2.37 = \text{RATING} =$ $Penalty \text{ Draft Rule D.7.1}  Draft$ $Max \text{ draft }  Excess  3 \text{ x excess}  -1,000  \Rightarrow  +  -$ $Penalty \text{ Tumble home}$	Mean freeboard Stern Sum of	freeboards	+0.298	3->	0,917	
Penalty Displacement Rule D.7.2. LWL  Corr LWL Difference $2 \times \text{difference}$ $\rightarrow$ $+$ $-$ Penalty Beam Rule D.7.3 Beam  Min beam Deficiency $4 \times \text{deficiency}$ $-0,720 \rightarrow$ $+$ $ \sqrt{S}$ Total of Measurements L $+2d - F + \sqrt{S}$ Divide by $2.37 = \text{RATING} =$ Penalty Draft Rule D.7.1 Draft  Max draft Excess $3 \times \text{excess}$ $-1,000 \rightarrow$ $+$ $-$ Penalty Tumble home D.7.4 Tumble home	F=1/3 sum of freeboards F	max 0.292			0,306	-0.292
Penalty Displacement Rule D.7.2. LWL  Corr LWL Difference $2 \times difference$ $\rightarrow$ $+$ $-$ Penalty Beam Rule D.7.3 Beam  Min beam Deficiency $4 \times deficiency$ $-0,720 \rightarrow$ $+$ $ \sqrt{S}$ Total of Measurements L $+ 2d - F + \sqrt{S}$ Divide by $2.37 = RATING =$ Penalty Draft Rule D.7.1 Draft  Max draft Excess $3 \times excess$ $-1,000 \rightarrow$ $+$ $-$ Penalty Tumble home D.7.4 Tumble home	=L+2d-F					
Penalty Beam Rule D.7.3 Beam  Min beam Deficiency $4 \times deficiency -0.720 \Rightarrow +$ $\sqrt{S}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1 Draft  Max draft Excess $3 \times excess -1.000 \Rightarrow +$ Penalty Tumble home D.7.4 Tumble home	Penalty Displacement Rule D.7.2.	LWL				
Min beam Deficiency $4 \times deficiency -0.720 \rightarrow + - \frac{1}{\sqrt{S}}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING = 2.399  Penalty Draft Rule D.7.1 Draft  Max draft Excess $3 \times excess -1.000 \rightarrow + - \frac{1}{\sqrt{S}}$ Penalty Tumble home D.7.4 Tumble home	Corr LWL Difference 2 x	difference	-	->		+ -
Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1  Max draft Excess 3 x excess  Penalty Tumble home D.7.4  Tumble home $ \begin{array}{cccccccccccccccccccccccccccccccccc$	Penalty Beam Rule D.7.3	Beam				
Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1  Max draft Excess 3 x excess -1,000 $\Rightarrow$ + -  Penalty Tumble home D.7.4 Tumble home	Min beam Deficiency 4	x deficiency	- 0,720	$\rightarrow$		+ -
Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1  Max draft Excess 3 x excess -1,000 $\Rightarrow$ + $\rightarrow$ Penalty Tumble home D.7.4 Tumble home	$\sqrt{S}$					+2,654
Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1  Max draft Excess 3 x excess  Penalty Tumble home D.7.4  Tumble home  2,399  + —	Total of Measurements $L + 2d - F + \frac{1}{2}$	$\sqrt{S}$				
Penalty Draft Rule D.7.1 Draft  Max draft Excess 3 x excess -1,000 → + -  Penalty Tumble home D.7.4 Tumble home	Divide by 2.37 = RATING =					
Penalty Tumble home D.7.4 Tumble home	Penalty Draft Rule D.7.1	Draft	And the second s			
	Max draft Excess	3 x excess	- 1,000	$\rightarrow$		+ -
	Penalty Tumble home D.7.4 Tu	mble home				
Max Tumble home Excess $3 \times excess = 0.015 \rightarrow + -$	Max Tumble home Excess	3 x excess	- 0,015	$\rightarrow$		+
FINAL RATING 2,399	FINAL RATING			F		2,399

## 128, ISAF nr. 770

Other Measurements recorded by measurer

Overall Length

Overhang Forward to L

Overhang Aft to L

Total Overhang (Sum overhang forward and aft)

Waterline Length (Overall Length - Total Overhang)

Minimum measured cockpit frame over water level when ballasted and swamped in accordance with rule C.5.2

Boat weight recorded by weighing according to rule C.5.1

Boat weight including 35 kg ballast

Minimum weight by Rule D.7.2 (0.2xLWL+0.06)<sup>3</sup> x 1025

	4,181
+0.547	
+0.660	
>	-1.207
	2,974
	254 Kg
	289 Kg
	288 Kg

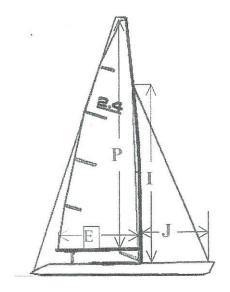
## Sail Dimensions

P = 4,650

Outer point distance E = 1,960

Forestay height I = 3,750Foretriangle base J = 1,560

Mast measurements checked	
Height of mast datum point	
Rule C.8.2 (b) (2)	
Boom measurements checked	
Rudder thickness, Rule E.4.3	****



Areas of Sail

Mainsail  $0.5 \times P \times E =$ 

Foretriangle Total  $0.5 \times I \times J =$ 

Foretriangle Total x 0.85

Sail Area For Rating = S =

VS

	4.557 m <sup>2</sup>
2,925 m <sup>2</sup>	
	2.486 m <sup>2</sup>
	7.043 m <sup>2</sup>
	2.654

Builder Charger Composites Designer Peter Norlin. When Built 2011.

Measured by Tom Biorndahl Date of Measurement 10/3-2011.

Complementary measured by...... Date of compl measurement.....

CA Norsk 2.4m R Klybb

authority

Certificate issued by H. Rolfsnes. Date of issue 2/11-2017.