## International 2.4 metre Measurement Form

Sail Number NOR 112. ISAF Plaque Number 0.017...

Overlang Forward to L1 Overhang Aft to L0 Overhang Averhand Overhang Overhang Averhand Overhang	Owner Rafal Rabiega	Name of yacl	nt	• • • • • •
Overhang Aft to L1 Total overhang  Measured length  Girth at Bow  Twice Vertical Height at Bow  O at Bow  Tivice 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 Midships D  Mean freeboard Stern  Sum of freeboards  F=1/3 sum of freeboards	Overall length			4.180
Measured length Girth at Bow  Twice Vertical Height at Bow O at Bow It's O at Bow Girth at Stern Twice Vertical Height 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 Starboard Add to find sum of L + 2d Mean freeboard Midships D Mean freeboard Midships D Mean freeboard Midships D Mean freeboard Stern Sum of freeboards F=1/3 sum of fre	Overhang Forward to L1	+0.430		
Girth at Bow Twice Vertical Height at Bow O at Bow  1½ O at Bow Girth at Stern 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 Starboard Add to find sum of L + 2d Mean freeboard Bow O Mean freeboard Stern Sum of freeboards F=1/3 sum of freeboards F=	Overhang Aft to L1 Total overhang	+0.655	->	-1.085
Twice Vertical Height at Bow 1½ O at Bow 1½ 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 Chain girth d to d1 Starboard d = d Port + d Starboard 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 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 $\sqrt{8}$ Divide by 2.37 = RATING = Penalty Tumble home D.7.4 Tumble home Max Tumble home Excess 3 x excess Penalty Tumble home Excess 3 x excess -0,015 $\Rightarrow$ + 0.032 $\Rightarrow$ + 0.292 $\Rightarrow$ -0.292 $\Rightarrow$ -0.293 $\Rightarrow$ -0.292 $\Rightarrow$ -0.293 $\Rightarrow$ -0.292 $\Rightarrow$ -0.293 $\Rightarrow$ -0.293 $\Rightarrow$ -0.293 $\Rightarrow$ -0.294 $\Rightarrow$ -0.294 $\Rightarrow$ -0.295 $\Rightarrow$ -0.295 $\Rightarrow$ -0.296 $\Rightarrow$ -0.297 $\Rightarrow$ -0.297 $\Rightarrow$ -0.297 $\Rightarrow$ -0.297 $\Rightarrow$ -0.292 $\Rightarrow$ -0.298 $\Rightarrow$ -0.298 $\Rightarrow$ -0.298 $\Rightarrow$ -0.298 $\Rightarrow$ -0.298 $\Rightarrow$ -0.299 $\Rightarrow$ -0.290 $\Rightarrow$	Measured length			3.095
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  Chain girth d to d1 Starb, d Starboard  Chain girth d to d1 Starb, d Starboard  d = d Port + d Starboard  Add to find sum of L + 2d  Mean freeboard Bow O  Mean freeboard Stern  F=1/3 sum of freeboards  F=	Girth at Bow	0.312		
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 Midships D  Mean freeboard Stern  Sum of freeboards  F=1/3 sum of freeboards  F	Twice Vertical Height at Bow O at Bow	- 0,240 ->	0.072	
Twice Vertical Height 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 d1 Port	1½ O at Bow			
Add any penalty at O2 Sum of Girth difference Correct length, L Skin girth d to d1 Port Chain girth d to d1 Port Skin girth d to d1 Starboard Chain girth d to d1 Starboard 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 Sum of freeboards F=1/3 sum of freeboards F=	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 Skin girth d to d1 Starboard Chain girth d to d1 Starboard 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 Sum of freeboards F=1/3 sum of freeboards F=	Twice Vertical Height at Stern O at Stern	-0.529	0.369	
Correct length, L Skin girth d to d1 Port Chain girth d to d1 Port Skin girth d to d1 Starboard Chain girth d to d1 Starboard 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 Sum of freeboards F=1/3 sum of freeboards	Add 1/3 O at Stern			Add Market
Correct length, L Skin girth d to d1 Port Chain girth d to d1 Port Skin girth d to d1 Starboard Chain girth d to d1 Starboard 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 Sum of freeboards F=1/3 sum of freeboards	Add any penalty at O2 Sum of Girth difference		+ 0 >	+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	Correct length, L			
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 F=1/3 sum of freeboards	Skin girth d to d1 Port	2		
Chain girth d to d1 Starb, d Starboard d = d Port + d Starboard 2 x d Add to find sum of L + 2d	Chain girth d to d1 Port d Port		+ 0	
d = d Port + d Starboard	Skin 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 freeboards  F=0.2978  O=2.978  O	Chain girth d to d1 Starb, d Starboard	>	+ 0	
Mean freeboard Bow O Mean freeboard Midships D  Mean freeboard Stern Sum of freeboards F=1/3 sum of f	d = d Port + d Starboard 2 x d			+ 0
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 Tumble home D.7.4 Tumble home Max Tumble home Excess 3 x excess Penalty Tumble home Excess 3 x excess $-0.292$ $0.305$	Add to find sum of $L + 2d$			3.326
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 Tumble home D.7.4 Tumble home Max Tumble home Excess 3 x excess $-0.292$ $2.978$ $-2.978 \rightarrow 0 + 0$ $0.750$ $-0.720 \rightarrow 0 + 0$ $-0.720 \rightarrow 0 + 0$ $+2.654$ $5.688$ $2.400$ Penalty Tumble home D.7.4 Tumble home Max Tumble home Excess 3 x excess $-1,000 \rightarrow + 0$	Mean freeboard Bow O	1		
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 \times 4 $	Mean freeboard Midships D	+0.291		
= 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 Max Tumble home Excess 3 x excess  Min beam Deficiency 4 x deficiency - 0,720 → 0 + 0  + 2.654  5.688  2.400  + 0  + 0  + 2.654  5.688	Mean freeboard Stern Sum of freeboards	+0.298->	0.916	
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 Max Tumble home Excess 3 x excess  Multiple D.7.2. LWL  2.978  -2.978  0 + 0  + 0  + 2.654  5.638  2.400  + 0  + 0  + 0  + 0  + 0  + 0  + 0	F=1/3 sum of freeboards $F$ , max 0.292		0.305	-0.292
Corr LWL Difference 2 x difference Penalty Beam Rule D.7.3 Beam $0.750$ Min beam Deficiency $4 \times \text{deficiency} -0.720 \Rightarrow 0 + 0$ $\sqrt{S}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING = 2.400  Penalty Draft Rule D.7.1 Draft  Max draft Excess $3 \times \text{excess} -1,000 \Rightarrow + 0$ Penalty Tumble home D.7.4 Tumble home Max Tumble home Excess $3 \times \text{excess} -0,015 \Rightarrow + 0$	= L + 2d - F			
Penalty Beam Rule D.7.3 Beam  Min beam Deficiency $4 \times 4 \times 6 \times $	Penalty Displacement Rule D.7.2. LWL	2.978		
Min beam Deficiency $4 \times deficiency$ $-0,720 \Rightarrow 0 + 0$ $\sqrt{S}$ Total of Measurements L + 2d - F + $\sqrt{S}$ Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1  Max draft Excess $3 \times excess$ $-1,000 \Rightarrow + 0$ Penalty Tumble home D.7.4 Tumble home  Max Tumble home Excess $3 \times excess$ $-0,015 \Rightarrow + 0$	Corr LWL Difference 2 x difference	-2.978>	0	+ 0
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  + 0  Penalty Tumble home  Max Tumble home  Excess  3 x excess  -0,015  + 0	Penalty Beam Rule D.7.3 Beam	0.750		
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  + 0  Penalty Tumble home  Max Tumble home  Excess  3 x excess  -0,015  + 0	Min beam Deficiency 4 x deficiency	- 0,720 →	0	
Divide by 2.37 = RATING =  Penalty Draft Rule D.7.1  Max draft  Excess  3 x excess  -1,000  + 0  Penalty Tumble home  Max Tumble home  Excess  3 x excess  -0,015  + 0				+2.654
Penalty Draft Rule D.7.1 Draft  Max draft Excess 3 x excess -1,000 → + 0  Penalty Tumble home D.7.4 Tumble home  Max Tumble home Excess 3 x excess -0,015 → + 0	Total of Measurements L + 2d - F + $\sqrt{S}$			5.688
Penalty Draft Rule D.7.1 Draft  Max draft Excess 3 x excess -1,000 → + 0  Penalty Tumble home D.7.4 Tumble home  Max Tumble home Excess 3 x excess -0,015 → + 0	Divide by 2.37 = RATING =			2.400
Penalty Tumble home D.7.4 Tumble home  Max Tumble home Excess 3 x excess -0,015 → + 0	Penalty Draft Rule D.7.1 Draft			
Max Tumble home Excess 3 x excess -0,015 → + 0	Max draft Excess 3 x excess	- 1,000 →		+ 0
	Penalty Tumble home D.7.4 Tumble home			
FINAL RATING 2.400	Max Tumble home Excess 3 x excess	-0,015 →		
	FINAL RATING		Control of the second of the s	2.400

## NOR 112 15AF 0017

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

	4.180
+0.547	
+0.655	
>	-1.202
	2.978
	256 Kg
	291 Kg
	289 Kg

Sail Dimensions .

P= 4.650

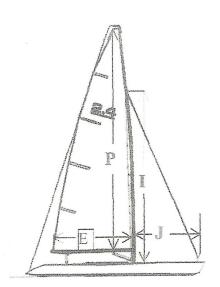
Outer point distance E = 1.960

Forestay height

Foretriangle base

I = 3.750 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>
2.925m2	
	2.468 m <sup>2</sup>
	7.043 m <sup>2</sup>
	2.654

Builder Vene Björndahl Designer Peter Norlin

When Built 1994

Measured by Harald Rolfsnes Date of Measurement 6/9-2010

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

Certificate issued by Havald. Rolfsnes Date of issue 12/ CANorsk 2.4mR Klubb

authority

isk 2.4mR kulib