INTERNATIONAL FINN CLASS MEASUREMENT FORM
2011 Edition
To be used in conjunction with the Class Rules and the Measurement Certificate (Hull and Centreboard)

ISAF Sticker Number 4159

Official Measurer for Section D (hull with centreboard)			
Date	Please Print Name	Signature	Appointed by
25-Feb 2014	Reichen		SWISS SAILING Measurer No 08 Beat Reichen

Official Measurer for the centreboard (Sections E.1 and E.2 except E.2.5 (b))			
Date	Please Print Name	Signature	Appointed by
25-Feb 2014	Reichen		SWISS SAILING Measurer No 08 Beat Reichen

Hull Templates						
Identifier	0	2	4	6	8	Stem
	←	—	Swiss	Sailing	—	→

IDENTIFICATION AND GENERAL			
Item	**Rule**	**Entry**	**Requirement**
ISAF Sticker attached to hull	D.2.4	4159	Enter number, (also at top of form)
Other Identifiers		CH-WILF 4154 B414	Number & Place of numbers moulded in hull etc
Boat complete as for Swing Test	D.9.2 (a)	complies	"Complies"
Hull Materials	D.3.1	complies / GRP	Description/ "Complies"
Hull Construction	D.3.2 & diagrams	complies	"Complies"

HULL BOTTOM UP					
Item	Rule	< (min)	Entry	< (max)	Requirement
Hull length	D.9.1	4480<	4510	<4510	Number, mm
Transom forward of Station 0:	"		0	<5	Number, mm
No hollows, knuckles or chines	D.3.2 (e),(f)		complies		"Complies"
Baseline below hull shell: at station 1	D.9.1 & diagrams	147<	155	<157	Number, mm
at station 2	D.9.1	99<	110	<119	Number, mm
at station 4	"	35<	37	<55	Number, mm
at station 6	"	6<	10	<26	Number, mm
Stem profile (outside stem band) to template:	D.9.1 & diagram		5	<10	Number, mm
Sheer above position marked on stem template:	D.9.1 & diagram	-10<	-9	<+10	+ Number means more freeboard
Keel band and Stem band construction	D.8 & diagram		comply		"Comply"
Keel band Section radius	D.9.1	6, half round<	6		Number, mm
Stem band (for'd of Section 8) radius	"	6<	6		Number, mm
Centreboard case construction	D.3.2 (c)(d)(e)		complies		"Complies"
Centreboard Case slot width	D.9.1	8<	12	<12	Number, mm
Centre of centreboard pivot pin above underside of keel	"	40<	50	<50	Number, mm
Fore and aft adjustment for centreboard pivot pin	"		5	<20	Number, mm

SECTION TEMPLATES							
Item	Rule	Entry					Requirement
		< (min)	Port	< (max)	< (min)	Starboard	< (max)	
Hull shell to hull template: at station 0	D.9.1 & diagram		10	<10		10	<10	Number, mm
at station 2	"		10	<10		10	<10	Number, mm
at station 4	"		10	<10		9	<10	Number, mm
at station 6	"		9	<10		9	<10	Number, mm
at station 8	"		9	<10		9	<10	Number, mm
Sheerline above position marked on template: at station 0	D.9.1 & diagram	-10<	-7	<+10	-10<	-7	<+10	+ Number means more freeboard
at station 2	"	-10<	10	<+10	-10<	10	<+10	Number, mm
at station 4	"	-10<	10	<+10	-10<	10	<+10	Number, mm
at station 6	"	-10<	6	<+10	-10<	6	<+10	Number, mm
at station 8	"	-10<	0	<+10	-10<	0	<+10	Number, mm

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DECK AND COCKPIT					
Item	**Rule**	**< (min)**	**Entry**	**< (max)**	**Requirement**
Deck General Arrangement	D.4.1		complies		"Complies"
Length of foredeck	D.9.1 & diagram	1350<	1350	<1450	Number, mm
Length of aft deck		550<	650	<650	Number, mm
Distance between side decks or built in tanks and the centreplane: at station 2	D.4, diagram & D.9.1	410<	430		**Minimum Half-width** Number, mm
at station 3	"	500<	500		Number, mm
at station 4	"	490<	490		Number, mm
at station 5	"	440<	440		Number, mm
Distance between side decks or built in tanks and the centreplane, at some point between the **sheerline** and 100 mm below the **sheerline:** At Station 2	D.4, diagram & D.9.1		435	<520	**Maximum Half-width** Number, mm
at station 3	"		505	<560	Number, mm
at station 4	"		495	<550	Number, mm
at station 5	"		495	<500	Number, mm
Top of the deck at centreplane above the **sheer** at station 0	"	45<	45	<55	Number, mm
Top of the deck at centreplane above a straight line between the stemhead and station 0	D.4, diagram & D.9.1	-10<	complies	<+10	"Complies"
Pads or recesses to mount or locate fittings	D.4.1 (d), D.9.1	-10<	complies	<+10	"Complies"

DECK AND COCKPIT DETAILS					
Item	**Rule**	**< (min)**	**Entry**	**< (max)**	**Requirement**
Number of buoyancy units	D.5.2	4<	4		Number, "Complies"
Construction of buoyancy units	D.5.2		complies		"Complies"
Buoyancy Inspection and Testing	D.5.3 D.9.1		satisfied		Details of any tests carried out. "Satisfied".
Gunwale Rubbing Strakes	D.6 & diagram, D.9.1		complies		"Complies"
G.R.S. depth (down from the sheerline around the hull)		20<	20	<35	Number, mm
" width (at a right angle to the shell)		20<	25	<25	Number, mm

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DECK AND COCKPIT DETAILS			
Item	**Rule**	**(min) < Entry < (max)**	**Requirement**
Floorboard/Double Bottom construction	D.7	complies	"Complies"
Width of floorboards at station 2	D.7, D.9.1	800< 860	Number, mm
at station 3	"	880< 1000	Number, mm
at station 4	"	720< 980	Number, mm
Floorboards or double bottom below sheer at station 2	D.7, D.9.1	285< 290	Number, mm
at station 3	"	325< 345	Number, mm
at station 4	"	375< 400	Number, mm
(if fitted) at station 5	"	375< 413	Number, mm
(if fitted) at station 6	"	390< 426	Number, mm
Thwart depth	D.9.1	16< 26 <50	Number, mm
" width	"	70< 80 <80	Number, mm
" aft side forward of station 0	"	1950< 2050 <2050	Number, mm
Top of thwart below sheer	"	56 <130	Number, mm
Overall width of centreboard case	"	100 <100	Number, mm
Mainsheet traveller block: Travel from centreplane of boat	"	540 <550	Number, mm
Travel forward of station 4	"	100 <150	Number, mm
Distance from mast heel to underside of keel band	"	33 <56	Number, mm
Mast bearing surface above deck	"	0 <10	Number, mm
Horizontal play in mast bearings (not play between mast and bearing)	"	Upper 5 <5 Lower 0 <5	Number, mm
Fittings to have a reasonable weight	C.7.3 (e) (4)	complies	"Complies"
Fittings information recorded on certificate if necessary	C.7.3 (e) (5)	entered	"Entered" or "N/A"

TRANSOM DETAILS			
Item	**Rule**	**(min) < Entry < (max)**	**Requirement**
Holes, Number & Diameter	D.9.1	complies	"Complies"
Bearing at Pintle above **hull datum point**	"	52< 54 <57	Number, mm
Bearing at Gudgeon above **hull datum point**	"	262< 267 <267	Number, mm
Axis of Pintle aft of Station 0 (α)	"	10< 20 <30	Number, mm
Axis of Gudgeon aft of Stn. 0 (β)	"	10< 22 <30	Number, mm
Difference between (α) and (β)	"	0< 2 <2	Number, mm
Dia. of Pintle & Gudgeon Hole	"	7.9< 8 <8.1	Number, mm

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CENTREBOARD					
Item	Rule	< (min)	Entry	< (max)	Requirement
Centreboard identifying number	E.2.2 (a)		C4159		Number
Centreboard materials	E.2.3		complies		"Complies"
Centreboard arm complies with diagram requirements	E.2.5 (a) & diagram		complies		"Complies"
Centreboard large radius	"	885<	895	<895	Number, mm
" small radius	"	30<	30	<40	Number, mm
" chord length	"	815<	825	<825	Number, mm
" nominal thickness	"	8<	8	<8	Number, mm
" edge shaping distance	"		25	<25	"Complies"
Centreboard Mass including buffer stop	E.2.4 (a)(1) E.2.6	11·0<	12,700	<13·0	Number, kg
Certification mark fixed, signed & dated	E.2.2		complies		"Complies"

HULL WITH CENTREBOARD					
Item	Rule	< (min)	Entry	< (max)	Requirement
Centreboard hole diameter larger than pivot pin diameter	E.2.5 (b)		0	<2	Number, mm
Centreboard theoretical reference point below hull shell	"		700	<700	
Hull datum point to centreboard (pivot pin at maximum aft position)	"	2050<	2050		
Centreboard projection below hull shell when fully raised	"		none		"None"
Centreboard Certification Mark details and number entered on Measurement Certificate (Hull and Centreboard)	D.2.1		entered		"Entered"
Correct condition for weighing	D.9.2 (a)		complies		"Complies"
Mass of hull and centreboard	D.9.2 (b)	116·0<	116.0		Number, kg
Mass of correctors	D.9.4 (b)		3 pr / 5,000	<5·00	Number, kg
Period of oscillations	D.9.3(b)(iii)	T_1 3,1787	T_2 3,5454		sec, 3 decimals
Distance λ from Stn 0 to C of G	D.9.3 (c)	2100<	2100	<2290	Number, mm
C of G above underneath of hull	"	210<	219		Number, mm
Radius of gyration ρ	"	1100<	complies		"Complies"
Corrector weights securely fastened	D.9.4 (a)		complies		"Complies"
Corrector and other weight details entered on certificate	D.9.4 (b)		entered		"Entered"

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MEASUREMENT CERTIFICATE

This is page 2 of the certificate required under ISAF RRS 78

INTERNATIONAL FINN CLASS

Identification and Certification (Hull and Centreboard)

SAIL N°
(Rule A.10.2)

ISAF Sticker No	4159	Builder	Wilke
Other Hull Identifying Numbers	CH-WILF-4134 B 414	Date completed	25-Feb 14
Date of this measurement	25-Feb 14	Date of first measurement	25-Feb 14
Corrector weights Position 230 Amount 2,500 kg	(Include dist from Stn.0) 3250 Amount 2,500 kg	Position — Amount kg	Position — Amount kg
Fittings etc. such as Compass (not Digital), Hiking pads. Item weight not required. Hikking pads, main sheet-shield			
Centreboard Certification Mark and Unique Number	C4159	Weight of hull plus centreboard	116,000 kg
Weight of Centreboard	12,700 kg	**λ** from Stn 0 to C of G	2100 mm
T_1	3,1787 sec	**d** (App.H.3)	875 mm
T_2	3.5454 sec	**a** (App.H.3)	656 mm
Radius of gyration **ρ**	1102,7 mm	**h** CG above underneath of hull	214 mm
Official Measurer (Please print)	Reichen	Appointed by	SWISS SAILING Measurer No 08 Beat Reichen
Hull and Centreboard comply with **fundamental measurement** requirements.		Official Measurer (Please sign)	

Registered by Certifying Authority:

Stamp and date of registration

OWNER

Name Cirillo Lanfranko
Address Fantastica Sailing Team
City Guancharna nag 3
Code Moscow
Nation RUSSIA
Club

Please use Black Ink

19 June 2009

SWISS SAILING
Measurer No 08
Beat Reichen

MEASUREMENT CERTIFICATE

This forms Page 1 of the certificate required under ISAF RRS 78

INTERNATIONAL FINN CLASS

Regatta Identification
(to be completed by the Helmsman)

SAIL NUMBER IN USE *Print*	
SAIL NUMBER (Rule A.10.2) *Print*	
ISAF STICKER NUMBER *Print*	4159
HELMSMAN *Print*	Cirillo Lampranko
HELMSMAN'S DECLARATION I am satisfied that the Certificate for this boat is valid and that the boat complies with the Class Rules. In particular, all equipment to be used complies with the requirements of Section C of the Class Rules. *Sign and date*	

This page shall be completed by the Helmsman, who shall alter or replace it as necessary.
Replacement pages and "Reweighing" Attachment Sheets can be downloaded from the ISAF website at Finn Class Documents.
Please use a laser printer or photocopier (the ink is more resistant to damp).

ATTACHMENT SHEETS

Changes to the information on page 2 shall be recorded. If there is insufficient space, use additional copies of these pages or the "Reweighing" Form as Attachment Sheets. Retain the original sheets, with obsolete information crossed through.

Please use Black Ink

MEASUREMENT CERTIFICATE

This is an attachment to the Measurement Form and the Certificate required under ISAF RRS 78

INTERNATIONAL FINN CLASS

Reweighing

SAIL N°
(Rule A.10.2)

ATTACHMENT SHEETS

Changes to the information on page 2 of the Certificate shall be recorded. If there is insufficient space, use additional copies of page 2 or the "Reweighing" Form as Attachment Sheets. Retain the original sheets, with obsolete information crossed through.

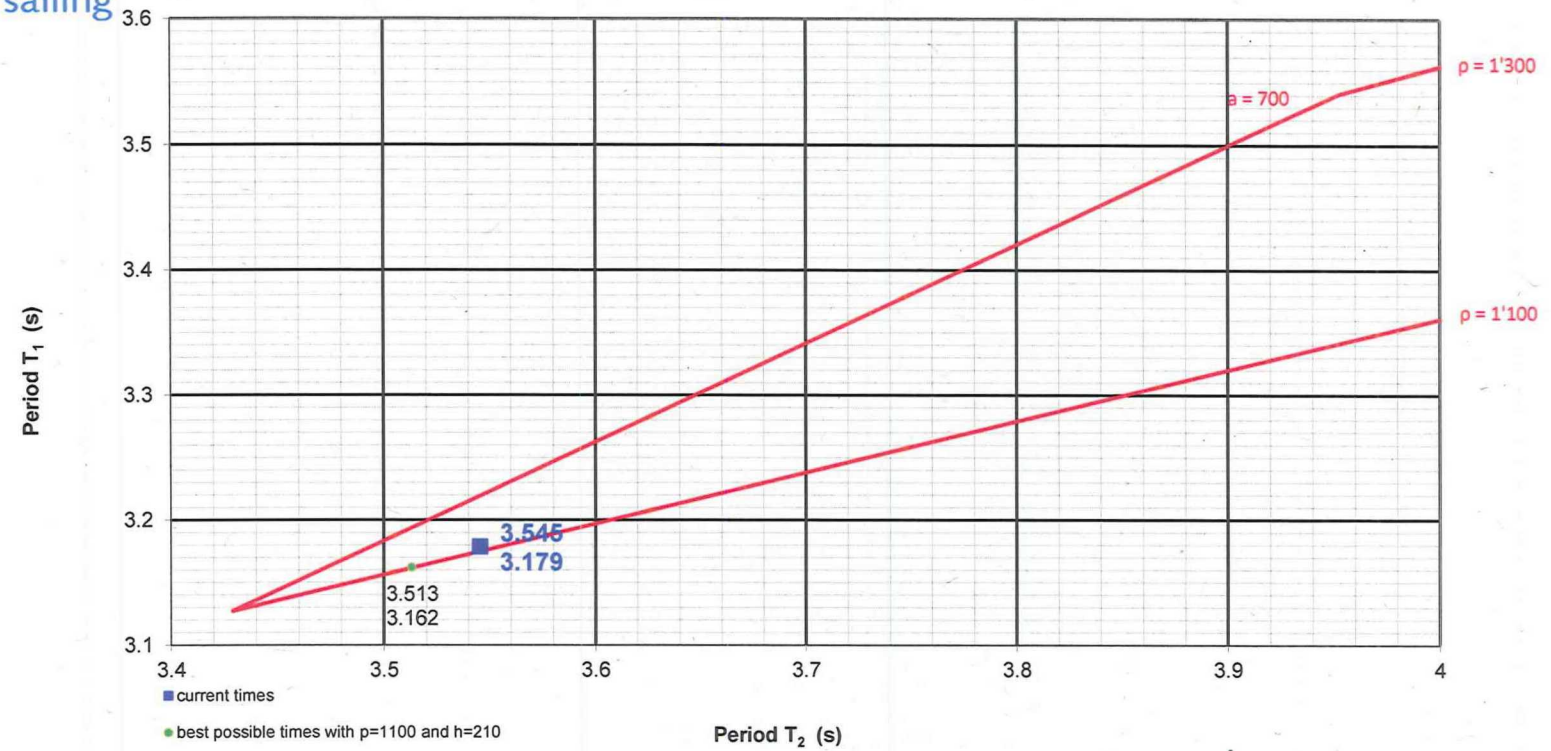
ISAF Sticker No		Other Hull Identifying Numbers	
Date of this measurement		Date of first measurement	
Corrector weights Amount kg	(Include dist from Stn.0) Amount kg	Position Amount kg	Position Amount kg
Fittings etc. such as Compass (not Digital), Hiking pads. Item weight not required.			
Centreboard Certification Mark and Unique Number		Weight of hull plus centreboard	kg
Weight of Centreboard	kg	**λ** from Stn 0 to C of G	mm
T_1	sec	**d** (App.H.3)	mm
T_2	sec	**a** (App.H.3)	mm
Radius of gyration **ρ**	mm	**h** CG above underneath of hull	mm
Official Measurer (Please print)		Appointed by	
Items remeasured comply with **fundamental measurement** requirements.		Official Measurer (Please sign)	

Please use Black Ink

19 June 2009

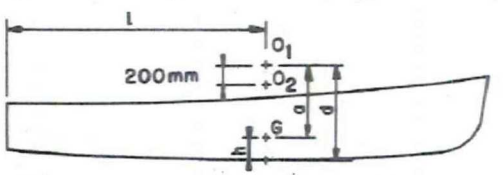
SUI sailing

Period T_1 vs. Period T_2



		T_1	T_2			
ISAF:	**4159**	3.179	3.545			
		ρ	h	a	d	λ St0 to CG
Weight:	116.000	1'102.738	219	656	875	2'100
	>116	>1100	>210			2100-2290

Correctors:		
Amount kg	2.500	2.500
Position (St0) mm	230	3350



calculted with g
9.8042

Temperature	Pressure (QFE)	Humidity	Height above sealevel	Density (place)	Density (QFF)
20	945.5	32%	563	1.122	1.197
°C	hPa		m	kg/m³	kg/m³
QFF	1'009.1				

Density (normal conditions, laboratory conditions; T_{20}, 1013hPa)

1.204 kg/m³	Dry Air	1.200 kg/m³	Humidity 32%
QFF	1'013.2		

difference drag to Southampton (ISA dry air) 4.49%

Time measuring device: TAG Heuer Minitimer HL440, Photocell Hesotec AG "Budget"

TAG Heuer PROFESSIONAL TIMING

EVOLA SOFT CONTROL

This document is not a part of the measurement certificate/form!