2009

INTERNATIONAL MIRROR CLASS MEASUREMENT FORMS

INCLUDING THE MEASUREMENT CERTIFICATE

Authority: International Sailing Federation

Introduction
These measurement forms have been revised to reflect rule changes introduced since the 2006 forms were issued, such as Mk 3 interior for GRP boats and new spinnaker construction.

How to obtain a measurement certificate
1 An **official measurer** shall carry out **fundamental measurement.**

2 The measurement forms, when completed, together with any registration fee that may be required, shall be sent to the owner's **certification authority**. The following forms are required;

i. Hull measurement form (this form)
ii. Daggerboard measurement form
iii. Rudder measurement form
iv. Either;
Bermuda mast measurement form
or
Gunter mast measurement form
Gaff measurement form
v. Boom measurement form
vi. Rigging and Spinnaker / Whisker pole measurement form

3. The owner's **certification authority** will sign and return this and the other forms, or retain them and issue a **certificate**.

Additional or replacement equipment
Owners who purchase or replace equipment (foils, spars, sails) are responsible for ensuring that it meets the class rules. Sails have to undergo **Fundamental Measurement** before they are used for racing. This is good practice for other items as well. The procedure is as follows;

1 An **Official Measurer** shall carry out **Fundamental Measurement** of each item using the appropriate form.

2. The owner should record any measurements for which they are responsible (if any) and sign the owner's declaration on the form. Owners are responsible for ensuring compliance when measurements or rules depend on other equipment or form part of the Racing Rules of Sailing (RRS). For example, the projection of the centreboard below the hull, national letters and sail numbers on sails, advertising rules.

3. The owner should retain the form. If the equipment is subsequently sold, the measurement form should be passed on to the new owner.

MEASURERS
1 Measurements shall be carried out in accordance with the Equipment Rules of Sailing (ERS) except where varied in the **class rules**.
2 If the **official measurer** has any doubt concerning the application of, or compliance of any part of the **boat** with, the **class rules** he shall report it on the measurement form(s) before sending them to the **certification authority** and not sign measurement form(s) or sails.
3 The **boat** shall comply with all the **class rules** even if some of the rules are not mentioned on the measurement form(s).

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
HULL					
1	1.1	Do the **hull** materials comply with rule Part B – Measurement Rules 1.1? (For GRP **hulls** see Measurer's declaration below)		Yes/No	

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)		MAX (MM)
2	1.4.4 1.4.11	Distance around underside of **hull** from the **Hull Datum Point** to: Forward Measurement Point Aft end of **Daggerboard** case	 3078 1410			 3098 1450
3	1.4.1	Distance from baseline to outside of **hull** shell, on centreline including keelband: Section 0		220		
		Section 1	98			118
		Section 2	28			48
		Section 3	34			54
		Section 4	66			86
		Forward Measurement Point		250		
	1.4.11	Is the slope of the aft edge of the **Daggerboard** case less than 1 in 20?		Yes/No		
4	1.4.2	Does the transom comply with rule 1.4.2?		Yes/No		
5	1.4.3	Width of outside of each bottom panel, from **hull** centreline to chine (A) at: Section 0	 472	Port	Star-board	 488
		Section 1	570			586
		Section 2	606			622
		Section 3	587			603
		Section 4	555			571
6	1.4.3	Distance from horizontal line touching the keelband to chine (C) at: Section 0	 52			 68
		Section 1	60			80
		Section 2	110			130
		Section 3	193			213
		Section 4	230			250
7	1.4.3	Distance from horizontal line to **sheerline** (D) at: Section 0	 302			 322
		Section 1	403			433
		Section 2	484			514
		Section 3	510			540
		Section 4	505			535
8	1.4.7	Curvature of bottom panels at: Section 0	 3	Port	Star-board	 9
		Section 1	-3			3

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)		MAX (MM)
		Section 2	3			13
		Section 3	3			13
9	1.4.8	Are the radii of chines between sections 0 and 3 less than 10mm		Yes/No		
10	1.4.5	Depth of bow transom	510			530
11	1.4.6	Beam of bow transom: 275 mm from Forward Measurement Point	405			
		475 mm from Forward Measurement Point	550			
12	1.4.9	**Bilge keels**: Length over which cross section is not less than 9mm high and 13mm wide	915	Port	Star-board	
		Distance from hull centreline to centreline of **bilge keels** at; Forward end	375			435
		Aft end	375			435
		Distance from aft transom to aft end of **bilge keels**	730			790
13	1.1.10	Overall length of **skeg**	635			
14	1.4.10	Depth of **skeg** (including keelband) 76mm from section 0	64			
		305mm from Section 0	51			
		457mm from Section 0	32			
15	1.4.10	Thickness of **skeg** at **hull**	18			
16	1.4.10	A hole in **skeg** is optional, does one exist ?		Yes/No		
		If there is a hole, length of rectangle containing the hole and associated fairing around it.				202
		If there is a hole, height of rectangle containing the hole and associated fairing around it.				73
		Hull surface or keelband to hole in **skeg**	10			
17	1.4.11	Length of **Daggerboard** slot in the underside of **hull**	381			405
18	1.4.11	Width of **Daggerboard** slot				19
19	1.4.11	Depth of **Daggerboard** case	283			
20	1.4.12	Width of outer gunwales	12			18
		Depth of outer gunwales	25			31
		Is the radii of the outer gunwales 15mm or less?		Yes/No		
21	1.4.13	The stem post is optional on GRP boats, is there a stem post ?		Yes/No		
		If one exists, length of stem post	200			

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
		If one exists, thickness of stem post	15		
22	1.4.14	Do the holes in the transom comply with rule 1.4.14?		Yes/No	
23	1.4.15	Does the **hull** shell comply with rule 1.4.15?		Yes/No	
24	1.5.1	Does the keelband comply with rule 1.5.1?		Yes/No	
25	1.5.2	Do the **rudder** fittings comply with rule 1.5.2?		Yes/No	
26	1.5.9	Does the **hull** comply with rule 1.5.9?		Yes/No	
INTERNAL MEASUREMENTS – ALL INTERIORS					
27	1.2	Does the construction comply with rule 1.2?		Yes/No	
28	1.4.3	Beam at **sheerline** (B) at: Section 0	1053		1073
		Section 1	1264		1304
		Section 2	1362		1402
		Section 3	1276		1316
		Section 4	1152		1192
29	1.6.1.1	Length overall, excluding **rudder** fittings	3285		3325
30	1.6.1.2	Distance from forward face of the aft transom to forward face of aft bulkhead	395		455
31	1.6.1.3	Distance from forward face of aft transom to aft face of stowage compartment bulkhead	2085		2115
32	1.6.1.4	Distance between side tank panels at aft bulkhead	735		765
33	1.6.1.5	Distance between side tank panels at stowage compartment bulkhead	735		775
34	1.6.1.6	Width of thwart	142		
		Thickness of thwart (for GRP boats mark as n/a)	13		17
		Width of **Daggerboard** slot in thwart			19
		Transverse length of thwart	805		835
		Distance from aft edge of thwart to forward face of aft transom	1315		1365
35	1.6.1.7	Do the inspection hatches comply with rule 1.6.1.7?		Yes/No	
36	1.6.1.8	Do the drain holes comply with rule 1.6.1.8?		Yes/No	
37	1.6.1.9	Do the floor battens comply with rule 1.6.1.9?		Yes/No	
38	1.6.1.10	Gunter rigged boats - Forward face of aft transom to centre of aft mast step. Bermuda rigged boats – this measurement is not applicable (record N/A).	2145		2175
		Thickness of aft mast step			12
39	1.6.1.11	Shortest distance from the aft face of the aft	22		28

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)		MAX (MM)
		transom to the forward face of the aft transom above deck level (i.e. transom thickness)				
40	1.6.1.12	Does the interior comply with rule 1.6.1.12?		Yes/No		
41	1.6	Is the interior design Mark 1 (rule 1.6.0.1), Mark 2 (rule 1.6.0.2) or Mark 3 (rule 1.6.0.3)? Complete the corresponding section below.		Mark1 Mark2 Mark3		
INTERNAL MEASUREMENTS – MARK 1 INTERIOR ONLY						
42	1.6.2.1	Depth of side tanks at: Aft bulkhead	200	Port	Star	230
		Stowage compartment bulkhead	260			290
43	1.6.2.2	Does the decking comply with rule 1.6.2.2		Yes/No		
44	1.6.2.3	Inner gunwales are <u>optional</u>, are any fitted ?		Yes/No		
		If fitted, width of inner gunwales	17			23
		If fitted, depth of inner gunwales aft of 500mm from the bow	25			31
		If fitted, depth of inner gunwales forward of 500mm from the bow	20			31
		If fitted, is the radii of the inner gunwales 15mm or less?		Yes/No		
INTERNAL MEASUREMENTS – MK 2 INTERIOR ONLY						
42	1.6.3.1	Distance from forward bulkhead to stowage compartment bulkhead	300			340
43	1.6.3.2	Depth of side tanks at: Aft bulkhead	200	Port	Star	230
		Stowage compartment bulkhead	260			290
44	1.6.3.3	Does the decking comply with rule 1.6.2.2		Yes/No		
45	1.6.3.4	Width of inner gunwales	17			23
		Depth of inner gunwales aft of 500mm from the bow	25			31
		Depth of inner gunwales forward of 500mm from the bow	20			31
		Is the radii of the inner gunwales 15mm or less?		Yes/No		
INTERNAL MEASUREMENTS – MK 3 INTERIOR ONLY						
42	1.6.4.1	Does the decking comply with rule 1.6.4.1?		Yes/No		
INTERNAL FITTINGS						
46	1.7.1	Aft face of aft transom to shroud attachment fittings.	1798			1848
47	1.7.2	Does the forestay attachment fitting comply with rule 1.7.2?		Yes/No		

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
48	1.7.3	Do the headsail sheet fairleads and mounting blocks comply with rule 1.7.3?		Yes/No	
49	1.7.4	Does the headsail tack attachment comply with rule 1.7.4?		Yes/No	
50	1.7.5	Distance between centres of mainsheet attachment points on transom	450		500

OFFICIAL MEASURER'S DECLARATION – HULL

For Wood Hulls: Plaque No: .....

I certify that I have taken the measurements recorded on this form and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments below:

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

For GRP Hulls: Plaque No: .....

I certify that I have taken the measurements recorded on this form and that, to the best of my knowledge, they conform to the **Class rules** of the International Mirror Class at present in force, subject to any comments on this form.

*Note: The **Official Measurer** need only take as many measurements as he feels necessary to satisfy himself that to the best of his knowledge the boat has been built in the approved moulds stated in the builders declaration. Item numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 28 and 38 must be measured for all boats.*

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

BUOYANCY ENDORSEMENT

This **Hull** complied with the buoyancy test conducted in accordance with rule 4.2

Official Measurer's Signature: ..... Date: .....

ANNUAL BUOYANCY TESTS OR INSPECTIONS

Date	Inspection /Test	Measurer's Name	Signature	Date	Inspection /Test	Measurer's Name	Signature

WEIGHT ENDORSEMENT

Hull Weight at **Fundamental Measurement** (Exc. Correctors)	**Corrector Weight** (3kg max)	**Total Weight**
kg	kg	kg

Official Measurer's Signature: ..... Date: .....

RE-WEIGHING ENDORSEMENT

Date	**Hull Weight** (Kg) (Inc. correctors)	Total **Corrector Weight** (3kg max)	Number of **Corrector Weights**	Signature of **Official Measurer**	**Certification Authority** Stamp and Date

On re-weighing this **Certificate** must be returned to the **Certification Authority** for re-validation by stamping.

LICENSED KIT MANUFACTURER'S DECLARATION

Note: Licensed Kit Manufacturer's must sign either Declaration A for kits, Declaration B for complete wooden boats, or Declaration C for GRP boats.

A. Wooden Kit

I declare that this kit has been produced by our company in accordance with the ISAF Kit Specifications and Plans and that ISAF Plaque Number ..... was supplied with the kit:

Company: .....

Signature: ..... Date: .....

B. Complete Boat (complete wooden boats, not kits)

I declare that this boat has been built by our company in accordance with ISAF Specifications and Plans for Wooden Mirrors and is in compliance with the International Mirror **Class Rules** and that ISAF Plaque Number ..... has been affixed to the transom:

Company: .....

Signature: ..... Date: .....

C. GRP Boat (complete GRP, not kits)

I declare that this boat has been built by our company in accordance with ISAF Specifications for GRP Mirrors, in a mould approved by the ISAF and to the laminate schedule approved by the ISAF, and is in compliance with the International Mirror **Class Rules** and that ISAF Plaque Number ..... has been affixed to the transom:

Company: .....

Signature: ..... Date .....

PROFESSIONAL OR AMATEUR BUILDER'S DECLARATION

To be completed by the Professional or Amateur Builder of a wooden kit supplied by a Licensed Kit Manufacturer on completion of the kit.

I declare that this boat has been completed using only parts and materials supplied with the kit (except where otherwise permitted by the **Class Rules**) and in accordance with the **Class Rules**:

Builder: .....

Signature: ..... Date: .....

CHANGE OF OWNERSHIP

Note: Change of Ownership invalidates this **Certificate**. The new owner should sign the declaration below and send the **Certificate** to their **Certification Authority** for re-validation.

SECOND OWNER'S DECLARATION

Second Owner's Name: …….....

Second Owner's Address: .....

…….....

To be signed by the Second Owner:
I undertake to race this International Mirror only so long as I maintain it in conformity with the **Class Rules**. I also undertake that the **Corrrector Weights** (if any) will not be altered or removed except when done in conjunction with an official re-weighing and that only sails, spars etc., which have undergone **Fundamental Measurement** and found to be in accordance with the *rules*, will be used.

Signature: ..... Date: .....

This certificate is dated ..... and its validity is confirmed by .....

for ..... (Name of **Certification Authority**)

Signature: ..... Stamp of **Certification Authority**

THIRD OWNER'S DECLARATION

Third Owner's Name: .....

Third Owner's Address: .....

…….....

To be signed by the Third Owner:
I undertake to race this International Mirror only so long as I maintain it in conformity with the **Class Rules**. I also undertake that the **Corrector Weights** (if any) will not be altered or removed except when done in conjunction with an official re-weighing and that only sails, spars etc., which have undergone **Fundamental Measurement** and found to be in accordance with the *rules*, will be used.

Signature: ..... Date: .....

This certificate is dated ..... and its validity is confirmed by .....
for ..... (Name of **Certification Authority**)

Signature: ..... Stamp of **Certification Authority**

OWNER'S DECLARATION

To be signed by the First Owner:
I undertake to race this International Mirror only so long as I maintain it in conformity with the **Class Rules**. I also undertake that the **Corrrector Weights** (if any) will not be altered or removed except when done in conjunction with an official re-weighing and that only sails, spars etc., which have undergone **Fundamental Measurement** and found to be in accordance with the *rules*, will be used.

Name: .....

Address: .....

.....

.....

Signature: ..... Date: .....

Certification Authority checklist

Please ensure all required equipment forms have been submitted when you **certify** the boat.

Daggerboard measurement form ☐ , Rudder measurement form ☐ , Boom measurement form ☐ ,

Rigging and Spinnaker pole measurement form ☐ ,

Either Bermuda mast measurement form ☐

or Gunter mast measurement form ☐ , Gaff measurement form ☐ .

Subsequently, when equipment is replaced or added, these forms can be substituted by equipment measurement forms signed by an **Official Measurer**.

MEASUREMENT CERTIFICATE

To be completed by the **Certification Authority**:

National Letters: ..... Sail Number: ..... ISAF Plaque Number: .....

Builder: .....

Number of **Hull Corrector Weights**: ..... Total of **Corrector Weights**: .....kg
(See Re-weighing Endorsement)

This **Certificate** is dated ..... and its validity is confirmed

by ..... for.....
(Block Capitals) (Name of **Certification Authority**)

Signature: ..... Stamp of **Certification Authority**

Effective: 25th March 2009

Previous Issue: 1st August 2006

INTERNATIONAL MIRROR DAGGERBOARD MEASUREMENT FORM

In order to link this measurement form to the physical **Daggerboard**, it is necessary for the **Daggerboard** to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or the **Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer's** ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the **Daggerboard** underwent **Fundamental Measurement**.

n is a serial number used where more than one **Daggerboard** undergoes **Fundamental Measurement** in a day.

Daggerboard Manufacturer ……

Daggerboard serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the **Daggerboard** complies with the current **Class Rules**, should sign and date the **Daggerboard** at the top.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	2.1	Does the **Daggerboard** comply with rule 2.1?		Yes/No	
2	2.2	Width of **Daggerboard**: At top	260		320
		Below cut off corner	356		380
3	2.2	Are the radii of bottom corners between 30 and 50		Yes/No	
4	2.2	Thickness of **Daggerboard**			14
5	2.2	Width of fairing from any edge			50
6	2.2	Depth of cut off			165

OFFICIAL MEASURER'S DECLARATION – Daggerboard

To be signed by the **Official Measurer(s)**:

I certify that I have taken the measurements on this form for the **Daggerboard** and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

This section covers **Daggerboard** measurements which depend on the **Hull**. As such it is the responsibility of the owner to ensure compliance with the **Class Rules** for the identified **Hull**.

Hull ISAF Plaque No: .....

ITEM	RULE NO	DAGGERBOARD MEASUREMENTS	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	1.4.11	Projection of **Daggerboard** when fully down			610

OWNER'S DECLARATION

To be signed by the Owner:
I acknowledge that I am responsible for ensuring that this **Daggerboard** complies with the requirements of the **Class Rules**. I have checked the items identified above as my responsibility and I undertake to maintain it in conformity with the **Class Rules**.

Name: .....

Address: .....

.....

.....

Signature: ..... Date: .....

INTERNATIONAL MIRROR RUDDER MEASUREMENT FORM

In order to link this measurement form to the physical **Rudder**, it is necessary for the **Rudder** to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or the **Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the **Rudder** underwent **Fundamental Measurement**.

n is a serial number used where more than one **Rudder** undergoes **Fundamental Measurement** in a day.

Rudder Manufacturer ……

Rudder serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the **Daggerboard** complies with the current **Class Rules**, should sign and date the **Rudder** on the blade.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	3.1	Does the **rudder** comply with rule 3.1?		Yes/No	
2	3.2	Distance from centre of pivot to: Aft corner of **rudder** blade	545		575
		Lower edge of **rudder** blade measured parallel to leading edge	495		525
		Underside of tiller measured at, and parallel to, the leading edge of **rudder** stock	204		228
3	3.2	Width of **rudder** blade	265		295
4	3.2	Thickness of **rudder** blade			14
5	3.2	Width of fairing from any edge			25
6	3.2	Are the radii of bottom corners less than 50mm		Yes/No	

OFFICIAL MEASURER'S DECLARATION – Rudder

To be signed by the **Official Measurer**:

I certify that I have taken the measurements on this form for the **Rudder** and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

INTERNATIONAL MIRROR GUNTER MAST MEASUREMENT FORM

In order to link this measurement form to the physical Gunter **Mast**, it is necessary for the Gunter **Mast** to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or the **Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the Gunter **Mast** underwent **Fundamental Measurement**.

n is a serial number used where more than one Gunter **Mast** undergoes **Fundamental Measurement** in a day.

Gunter **Mast** Manufacturer ……

Gunter **Mast** serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official measurer**, if satisfied that the Gunter **Mast** complies with the current **Class Rules**, should sign and date the Gunter **Mast** near the **Heel Point**.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	5.1.1	Overall length of **mast**			3296
2	5.1.5	Base of **mast** to main halyard sheave bearing surface			3200
		Does the main halyard sheave comply with rule 5.1.5?		Yes/No	
3	5.1.7	Weight of **mast**	2.7kg		
4	5.1.8	Does the **mast** comply with rule 5.1.8?		Yes/No	
5	5.1.9	Does the position of the peg on the **mast** comply with rule 5.1.9?		Yes/No	
6	5.1.10	Does the **mast** comply with rule 5.1.10?			
7	5.1.2	Does the **mast** comply with rule 5.1.2?		Yes/No	
8	5.1.3	Does the **mast** comply with rule 5.1.3?		Yes/No	
9	5.1.4	Diameter of wood **mast**	44		56
		Diameter of aluminium **mast**	47		53

MEASURER'S DECLARATION – Gunter Mast

To be signed by the **Official Measurer**:
I certify that I have taken the measurements on this form for the Gunter **Mast** and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

This section covers Gunter **Mast** measurements which depend on the **Hull** and the **Boom**. As such it is the responsibility of the owner to ensure compliance with the **Class Rules** for the identified **Hull** and **Boom**.

Hull ISAF Plaque No: .....

Boom serial number or identification string ……..

ITEM	RULE NO	GUNTER MAST MEASUREMENTS	MIN (MM)	ACTUAL (MM)	MAX (MM)
2	5.1.6	Base of **mast** to top of **boom**	659		679
3	5.1.9	Does the movement of the mast peg in the mast step comply with rule 5.1.9?		Yes/No	

OWNER'S DECLARATION

To be signed by the Owner:

I acknowledge that I am responsible for ensuring that this Gunter **Mast** complies with the requirements of the **Class Rules**. I have checked the items identified above as my responsibility and I undertake to maintain it in conformity with the **Class Rules**.

Name: .....

Address: .....

.....

.....

Signature: ..... Date: .....

INTERNATIONAL MIRROR GAFF MEASUREMENT FORM

In order to link this measurement form to the physical Gaff, it is necessary for the Gaff to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or **the Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the Gaff underwent **Fundamental Measurement**.

n is a serial number used where more than one Gaff undergoes **Fundamental Measurement** in a day.

Gaff Manufacturer …….

Gaff serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the Gaff complies with the current **Class Rules**, should sign and date the Gaff on one side just above the jaws.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	5.3.1	Length of gaff measured along the slot			2809
2	5.3.2	Does the gaff comply with rule 5.3.2?		Yes/No	
3	5.3.3	Periphery of gaff: At peak	102		
		At gaff band	146		
		204mm from lower end	127		
		Fore and aft dimension			45
4	5.3.4	Does the gaff comply with rule 5.3.4?		Yes/No	
5	5.3.5	Does the painted band comply with rule 5.3.5?		Yes/No	
6	5.3.6	Top of gaff to lower edge of either the gaff band or pin			1733

MEASURER'S DECLARATION – Gaff

To be signed by the **Official Measurer**:

I certify that I have taken the measurements on this form for the Gaff and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

INTERNATIONAL MIRROR BOOM MEASUREMENT FORM

In order to link this measurement form to the physical **Boom**, it is necessary for the **Boom** to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or **the Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the **Boom** underwent **Fundamental Measurement**.

n is a serial number used where more than one **Boom** undergoes **Fundamental Measurement** in a day.

Boom Manufacturer ……

Boom serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the **Boom** complies with the current **Class Rules**, should sign and date the **Boom** at the inner end.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	5.2.1	Overall length of the **boom** excluding fittings	2235		2285
2	5.2.2	Does the **boom** comply with rule 5.2.2?		Yes/No	
3	5.2.3	Width of wooden **boom**	37		43
		Depth of wooden **boom**	37		43
		Alloy **boom spar cross section vertical**			51
		Alloy **boom spar cross section transverse**			51
4	5.2.5	Does the **boom** comply with rule 5.2.5 and 5.2.6?		Yes/No	

MEASURER'S DECLARATION – Boom

To be signed by the **Official Measurer**:

I certify that I have taken the measurements on this form for the **Boom** and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

INTERNATIONAL MIRROR BERMUDA MAST MEASUREMENT FORM

In order to link this measurement form to the physical Bermuda **Mast**, it is necessary for the Bermuda **Mast** to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or the **Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the Bermuda **Mast** underwent **Fundamental Measurement**.

n is a serial number used where more than one Bermuda **Mast** undergoes **Fundamental Measurement** in a day.

Bermuda **Mast** Manufacturer ……..

Bermuda **Mast** serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the **Mast** complies with the current **Class Rules**, should sign and date the **Mast** near the **Heel Point**.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	5.5.16	Does the mast comply with rule 5.5.16?		Yes/No	
2	5.5.17	Does the mast comply with rule 5.5.17?		Yes/No	
3	5.5.20(a)	Does the mast have the following fittings;			
	(1)	Shroud and forestay tangs, eyes, or hook terminal backing plates.		Yes/No	
	(2)	Mainsail halyard sheave box, eye or a mast head fitting incorporating a sheave.		Yes/No	
	(3)	Gooseneck.		Yes/No	
	(4)	Heel fitting, which may incorporate sheaves for halyards and control lines.		Yes/No	
	(5)	Main halyard cleat, hook or tooth rack.		Yes/No	
	(6)	Jib halyard cleat, hook or tooth rack.		Yes/No	
4	5.5.20 (b)	Does the mast comply with rule 5.5.20 (b)? (i.e. fittings in addition to 5.5.20 (a) must be in 5.5.20 (b))		Yes/No	
5	5.5.22	Mast heel tenon shoulder height	8		12
		Lower limit mark width	10		
		Lower point height	659		
		Spinnaker pole fitting projection			35
		Mast spar cross section 1700mm above the **mast datum point**			
		fore-and-aft	47		70
		transverse	47		70

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
		Forestay height	3173		3193
		Shroud height	3173		3193
		Mast taper point height	3193		
		Spinnaker hoist height			3283
		Spinnaker hoist fitting projection			90
		Upper limit mark width	10		
		Upper point height			4857
		Mast spar cross section 4857mm above the **mast datum point**			
		fore-and-aft	25		70
		transverse	25		70
		Mast spar curvature			30
6	5.5.22	**Spar weight**	3.7kg		
7	5.5.18	Is the **mast** capable of being disassembled ? (disassembly is optional)		Yes/No	

If the mast can be disassembled, record the following;

8	5.5.18	Does the **spar** comply with rule 5.5.18?		Yes/No	
9	5.5.22	Mast join lower point height	2893		
		Mast join upper point height			3493
		Mast join reinforcement length			650

MEASURER'S DECLARATION – Bermuda Mast

To be signed by the **Official Measurer**:

I certify that I have taken the measurements on this form for the Bermuda **Mast** and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

This section covers Bermuda **Mast** measurements which depend on the **Hull** and the **Boom**. As such it is the responsibility of the owner to ensure compliance with the **Class Rules** for the identified **Hull** and **Boom**.

Hull ISAF Plaque No: .....

Boom serial number or identification string ……..

ITEM	RULE NO	BERMUDA MAST MEASUREMENTS	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	ERS B.7.1	Does the **Boom** comply with ERS B.7.1? (top edge of boom above top edge of lower limit mark)		Yes/No	
2	5.5.21	Does the **spar** comply with rule 5.5.21?		Yes/No	
3	1.6.1.10	Forward face of aft transom to intersection of fore face of **spar** mast and surface of foredeck butt strap or mast step mounting surface.	2145		2175

OWNER'S DECLARATION

To be signed by the Owner:

I acknowledge that I am responsible for ensuring that this Bermuda **Mast** complies with the requirements of the **Class Rules**. I have checked the items identified above as my responsibility and I undertake to maintain it in conformity with the **Class Rules**.

Name: .....

Address: .....

.....

.....

Signature: ..... Date: .....

INTERNATIONAL MIRROR RIGGING AND SPINNAKER / WHISKER POLE MEASUREMENT FORM

In order to link this measurement form to the physical **Spinnaker / Whisker Pole**, it is necessary for the **Spinnaker / Whisker Pole** to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or the **Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority.

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the **Spinnaker / Whisker Pole** underwent **Fundamental Measurement**.

n is a serial number used where more than one **Spinnaker / Whisker Pole** undergoes **Fundamental Measurement** in a day.

Spinnaker / Whisker Pole Manufacturer ……..

Spinnaker / Whisker Pole serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the spinnaker / whisker pole complies with the current **Class Rules**, should sign and date the pole near the centre.

ITEM	RULE NO	RIGGING MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	6.1.1	Does the **rigging** comply with rule 6.1.1?		Yes/No	
2	6.1.2	If using a Gunter **mast**, does the **rigging** comply with rule 6.1.2?		Yes/No/NA	
3	6.1.3	Does the forestay comply with rule 6.1.3?		Yes/No	
4	6.1.4	Do the shrouds comply with rule 6.1.4?		Yes/No	
5	6.2.1	Does the running rigging comply with rule 6.2.1?		Yes/No	
PROHIBITIONS					
6	9.1	Does the boat comply with rule 9.1?		Yes/No	
7	9.2	Does the boat comply with rule 9.2?		Yes/No	
8		Does the boat have a **Spinnaker/Whisker Pole**? (**Spinnaker/Whisker Poles** are optional)		Yes/No	
ITEM	**RULE NO**	**SPINNAKER/WHISKER POLE MEASUREMENT (Spinnaker/Whisker poles are optional)**	**MIN (MM)**	**ACTUAL (MM)**	**MAX (MM)**
9	5.4.1	Overall length of spinnaker pole or jib stick			1524
10	5.4.2	Do the spinnaker pole and jib stick comply with rule 5.4.2?		Yes/No	

MEASURER'S DECLARATION – Rigging and Spinnaker / Whisker Pole

To be signed by the **Official Measurer**:
I certify that I have taken the measurements on this form for the **Rigging** and **Spinnaker / Whisker Pole** and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.
Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

INTERNATIONAL MIRROR MAINSAIL MEASUREMENT FORM

In order to link this measurement form to the physical Mainsail, it is necessary for the Mainsail to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or the **Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the Mainsail underwent fundamental measurement.

n is a serial number used where more than one Mainsail undergoes **Fundamental Measurement** in a day.

Mainsail Sailmaker ……..

Mainsail serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the sail complies with the current **Class Rules**, should sign and date the sail at the **Tack**. Note that national letters, sail numbers and advertising do not form part of **Fundamental Measurement**. It is the responsibility of the owner to ensure compliance with these sections of the RRS.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	7.3.1(a)	Does the insignia comply with rule 7.3.1?		Yes/No	
2	7.3.1(c)	Is the insignia black?		Yes/No	
3	7.3.2(c)	Is the colour of the **ply** red?		Yes/No	
4	7.3.3(a)	Is the construction **soft sail**, **single ply sail**?		Yes/No	
5	7.3.3(b)	Is the same **woven ply** used throughout the **body of the sail**?		Yes/No	
6	7.3.3(c)	Do the panel **plies** run from **leech** to **luff/foot**?		Yes/No	
7	7.3.3(f)	Does the construction comply with 7.3.3(f)?		Yes/No	
8	7.3.3(e)	Are the centrelines of the **batten pockets** within 50mm of the **quarter**, **half** and **three quarter leech** points?		Yes/No	
9	7.3.3(d)	Is there a **seam** intersection the **leech** within 1000mm of the **half leech point**?		Yes/No	
10	7.3.3(g)	Does the leech comply with rule 7.3.3(g)?		Yes/No	
11	7.3.3(h)	Is the **foot** convex?		Yes/No	
12	7.3.3(k)	Number of lacing eyes below the LMP	0		6
13	7.3.3(l)	Not more than one corner eye at **head**, **tack** and **clew**?		Yes/No	
14	7.3.4	**Leech length**			4520
		Foot median			4340
		Luff length			4052

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
		Length of bolt rope from the **head** along the **luff**	2810		
		Top Width			55
		Upper width at 1067mm down **leech** from **head point**			725
		Half leech point to LMP			1650
		The diagonal taken from LMP to the **clew point**			2530
		Foot length			2135
		Primary reinforcement from **corner measurement points**			271
		Secondary reinforcement from **corner measurement points**			813
		Flutter patches			100
		Chafing patches			750
		Batten pocket patches			150
		Uppermost **Batten Pocket Length - Inside**			560
		Uppermost **Batten Pocket Width - Inside**	32		60
		Middle **Batten Pocket Length - Inside**			660
		Middle **Batten Pocket Width - Inside**	32		60
		Lowermost **Batten Pocket Length - Inside**			660
		Lowermost **Batten Pocket Width - Inside**	32		60

MEASURER'S DECLARATION – Mainsail

To be signed by the **Official Measurer**:

I certify that I have taken the measurements on this form above this box for the Mainsail identified and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: …..... Officially recognised by: …..

Signature: …..... Date: …..

It is the responsibility of the <u>owner</u> under the Racing Rules of Sailing (RRS) to ensure the sail complies with the items in the checklist on the next page.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	RRS G1.2(a)	Do the sail numbers and national letters comply with RRS G1.2 (a) (legible capitals and Arabic numerals)?		Yes/No	
2	RRS G1.2(b)	Does the size of the sail numbers and national letters comply with RRS G1.2 (b)?	230	Yes/No	
3	RRS G1.2(b)	Does the spacing between the sail numbers, national letters and the edge of the sail comply with RRS G1.2 (b)?	45	Yes/No	
4	RRS G1.3(a)	Do the position of the Insignia, national letters and sail numbers comply with RRS G1.3 (a) (where possible within 2712mm of **head point**, if at different heights, starboard side uppermost)?		Yes/No	2712
5	RRS G1.3(b)	Do the position of the Insignia and national letters comply with RRS G1.3 (b) (Insignia above national letters)?		Yes/No	
6	RRS G1.3(c)	Do the position of the national letters and sail numbers comply with RRS G1.3 (c) (national letters above sail number)?		Yes/No	
7	RRS G1.1(c), 7.3.1(b)	Does the sail number comply with rule RRS G1.1(c) and Class rule 7.3.1(b) (full boat/plaque number) ?		Yes/No	
8	7.3.1(c)	Are the sail numbers and national letters black?		Yes/No	
9	ISAF Reg 20.3 (b) (i)	Does the size of the sailmaker's marks comply with ISAF Regulation 20.3 (b) (i) (one mark on each side each fitting within a 150mm X 150mm square)?		Yes/No	150 X 150
10	ISAF Reg 20.3 (b) (i)	Does the position of the sailmaker's marks comply with ISAF Regulation 20.3 (b) (I) (no part of the mark more than 320mm from the **tack point**)?			320

OWNER'S DECLARATION

To be signed by the Owner:
I acknowledge that I am responsible for ensuring that this sail complies with the requirements of the RRS. I have checked the items identified above as my responsibility and I undertake to maintain it in conformity with the RRS.

Name: .....

Address: .....

.....

.....

Signature: ..... Date: .....

INTERNATIONAL MIRROR JIB MEASUREMENT FORM

In order to link this measurement form to the physical jib, it is necessary for the jib to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or **the Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the Jib underwent **Fundamental Measurement**.

n is a serial number used where more than one Jib undergoes **Fundamental Measurement** in a day.

Jib Sailmaker ……..

Jib serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the **sail** complies with the current **Class Rules**, should sign and date the **sail** at the **Tack**.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
1	7.4.1(c)	Is the colour of the **ply** red?		Yes/No	
2	7.4.2(a)	Is the construction **soft sail**, **single ply sail**?		Yes/No	
3	7.4.2(b)	Is the same **woven ply** used throughout the **body of the sail**?		Yes/No	
4	7.4.2(c)	Do the panel **plies** comply with rule 7.4.2(c)?		Yes/No	
5	7.4.2(d)	Is there a **seam** intersection the **leech** within 1000mm of the **half leech point**?		Yes/No	
6	7.4.2(f)	Does the **leech** comply with rule 7.4.2(f)?		Yes/No	
7	7.4.2(h)	Does the construction comply with 7.4.2(h)?		Yes/No	
8	7.4.2(i)	Not more than one attachment point at **head**, **tack** and **clew**?		Yes/No	
9	7.4.3	**Luff length**			2782
		Foot median			2545
		Leech length			2442
		Foot length			1540
		Top width			35
		Primary reinforcement from **corner measurement point**			234
		Secondary reinforcement from **corner measurement point**			702
		Flutter patches			100
		Chafing patches			750

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
		Tabling width			30
		Size of **window** in any direction			460
		Shortest distance from edge of **window** to edge of sail	125		

MEASURER'S DECLARATION – Jib

To be signed by the **Official Measurer**:

I certify that I have taken the measurements on this form for the Jib identified and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....

It is the responsibility of the <u>owner</u> under the Racing Rules of Sailing (RRS) to ensure the sail complies with the items in the checklist below.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)	MAX (MM)
	ISAF Reg 20.3 (b) (i)	Does the size of the sailmaker's marks comply with ISAF Regulation 20.3 (b) (i) (one mark on each side each fitting within a 150mm X 150mm square)?		Yes/No	150 X 150
	ISAF Reg 20.3 (b) (i)	Does the position of the sailmaker's marks comply with ISAF Regulation 20.3 (b) (i) (no part of the mark more than 300mm from the **tack point**)?			300

OWNER'S DECLARATION

To be signed by the Owner:
I acknowledge that I am responsible for ensuring that this sail complies with the requirements of the RRS. I have checked the items identified above as my responsibility and I undertake to maintain it in conformity with the RRS.

Name: .....

Address: .....

.....

.....

Signature: ..... Date: .....

INTERNATIONAL MIRROR SPINNAKER MEASUREMENT FORM

In order to link this measurement form to the physical Spinnaker, it is necessary for the Spinnaker to carry a unique identification string or serial number. This can be one assigned by the manufacturer, or the **Official Measurer**. It is suggested that **Official Measurers** adopt the following format for identification strings.

CCC/NNN/DD/MM/YYYY-n where;

CCC are the national letters denoting the **Official Measurer**'s ISAF Member National Authority (e.g. AUS, RSA, SWE,…)

NNN are the **Official Measurer**'s initials.

DD/MM/YYYY is the date when the Spinnaker underwent **Fundamental Measurement**.

n is a serial number used where more than one Spinnaker undergoes **Fundamental Measurement** in a day.

Spinnaker Sailmaker ……

Spinnaker serial number or identification string ……..

On completion of **Fundamental Measurement** the **Official Measurer**, if satisfied that the **sail** complies with the current **Class Rules**, should sign and date the **sail** at the head.

ITEM	RULE NO	MEASUREMENT	MIN (MM)	ACTUAL (MM)		MAX (MM)
1	7.5.2(a)	Is the construction **soft sail**, **single ply sail**?		Yes/No		
2	7.5.2(b)	Is the same **woven ply** used throughout the **body of the sail**?		Yes/No		
3	7.5.2(c)	Does the construction comply with 7.5.2(c)?		Yes/No		
4	7.5.2(e)	Number of panels				8
5	7.5.2(f)	Do the panel **plies** extend from **luff** to **leech**?		Yes/No		
6	7.5.3	**Leech lengths**		Port	Star-board	
			2700			2820
		Foot median				3490
		Foot length				2286
		Half width				2220

MEASURER'S DECLARATION – Spinnaker

To be signed by the **Official Measurer**:

I certify that I have taken the Measurements on this form for the Spinnaker identified and that, to the best of my knowledge, they conform to the **Class Rules** of the International Mirror Class at present in force, subject to any comments on this form.

Comments:

Name: ..... Officially recognised by: .....

Signature: ..... Date: .....