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1 – INTRODUCTION

On behalf of the IM24CA, thank you for your willingness to act as an **Equipment Inspector** or as an **Official Measurer** for the Class.

The role of the **Equipment Inspector** is getting more and more important from year to year: in the events **Official Measurers** have a role of **Equipment Inspector** too.

The spirit of this handbook is to help You, as **Equipment Inspector**, to understand how control the equipment of the Melges24 and to understand the **Fundamental Measurement** adopted by an **Official Measurer** throughout a Certification Measurement; it can be obviously a good memo for **Official Measurers** that don't often move within the Class as well.

This manual by itself it is not enough to explain all the procedures concerning the Certification process: it is to be used in conjunction with the **Class Rules**, the RRS (Racing Rules of Sailing) and the IMM (International Measurer Manual).

Equipment Inspectors can approach this subject (the Certification Measurement) cooperating initially with a Measurer, the first step of the course for those who wish become **Official Measurers** of the Melges24 Class themselves.

At an event, the work of Inspectors is fundamental during controls; In a class with well over 800 **boats** worldwide, produced for nearly 20 years, the number of circumstances where significant variations may have arisen are innumerable and the Inspector is the first and often the only filter in the inspection process during an event.

Keep in mind that you are not being asked to **certify** nor render an interpretation of the **Class Rules**. Your role is to inspect if equipment are in the rules, not to record something on the International Melges24 Class Measurement Form, or issue any Certification: this is responsibility of the **Official Measurer**.

As **Equipment Inspector** You will be asked to:

- help and cooperate with **Official Measurer** to **Certificate hulls, rig, sails, appendages**; The Class does not have complete records of the initial measurement of many **boats** produced before hull number 350. Many of these **boats** are actively sailed and remain competitive at the National, Continental, and World Championship levels and they must be certified by the Class in order to compete
- inspect equipment during events (refer to equipment-inspection in www.melges24.com)
- report if equipment is in compliance with the **Class rules** when directed to check any critical dimension by a protest committee or jury as evidence in a valid protest
- help **crews** to maintain their **boat** legal; re-measurement following repair or replacement of measurement of critical parts. The **Class Rules** state that a Certification is invalid upon changing of any items recorded on the hull **certificate** and that certain repairs must be conducted under the supervision of a measurer. This would include re-weighing prior to the removal of any manufacturer-installed corrector weights.

Take every measurement twice. If the two don't match, take a third to validate one of the first two.

Engage the owner in the measurement process. The more involved they are, the more they understand how measurements are determined.

Finally, if you are unsure, DO NOT DO, ask. The District Governor or the Technical Committee Chairman should be able to help. If your question requires an interpretation of the rules, the answer will take a bit longer, but be confident that it will be accurate.

Thank You once again for helping to keep one-design racing of the Melges24 just that; we couldn't do it without You!

2 – DEFINITIONS

- Melges24 Class Rules: **Class rules** published in the ISAF website
- IMM: International Measurer Manual, published in the ISAF website.
- ERS: Equipment Rules of Sailing, the book of the equipment definitions
- RRS: the Racing Rules of Sailing
- **Equipment Inspector**: a person that inspect equipment
- Official Class Measurer: a Measurer that can **certify** equipment, he has an official stamp.
- IMCA: International Melges24 Class Association
- MNA: Mean National Authority
- the word "shall/should" is mandatory, "may" is permissive
- words written in bold refer to ERS and words written in Italic refer to RRS.

3 – FORMS

These original forms are Class Controlled and are downloadable from the ISAF web site or the Class web site.:

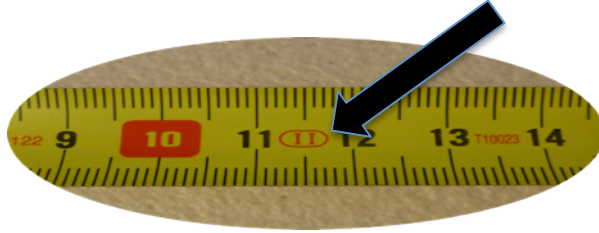
- Measurement Form (see appendages)
- Measurement **Certificate** (see appendages)

Other forms used to assist controls during an event or certifications, available in the Class web site are:

- Mainsail Check list
- Jib check list
- Spinnaker check list
- **hull** and SAFETY INSPECTION
- SAIL INSPECTION
- WEIGHING and APPENDAGE INSPECTION

4 – TOOLS

- 20 meter and 5 meter tape measure: made in metal, minimum Class II, not Class III.



- some tape are intentionally manufactured with slack in the end to compensate for the tab thickness when making either inside/outside measurements. A good 20 meter tape has an offset zero.



- calibrated scale with a capacity of 1000kg and a minimum resolution of 0.5kg for **hull** and **keel**. The scale should be certified at least every year, optimum every 6 months.



- calibrated scale with a capacity of 50kg, minimum precision 1/2000 for **mast** and **sails**. The scale should be certified at least every year, optimum every 6 months.



- String; should be light enough to accurately provide a straight line under tension (for the rear gate).
- Saw horses for **mast** and **boom**



- To Mark the **mast** and the **keel** you can use an electric marker or an anti-vandal sticker



5 - ADMINISTRATIVE FLOW

When a new **boat** is produced, the **Official Measurer** inspects the **boat**, fills and signs the Measurement Form, the builder as well. Then the owner fills and signs it, sends the Measurement Form to his National Class or to his MNA that issue the Measurement **Certificate**. When the **boat** is sold, the old Measurement **Certificate** is invalid and the new owner should ask the National Class or the MNA a new Measurement **Certificate**, always based on the last valid Measurement Form.

If a **boat** is re-measured, the new Measurement Form is sent to the National Class or MNA and the a new Measurement **Certificate** is issued.

Without a valid Measurement **Certificate** it is not possible participate at an event. To be valid, the owner should put his signature on certifications.

Class rules permit the "In House Certification" ; with the IHC, the manufacturer **certify** himself the equipment ; to do this it should be authorized by ISAF. Actually ISAF has licensed only some sail-makers; here the link to ISAF <http://www.sailing.org/classesandequipment/ihc/ihc-who-is-involved.php> for an updated list.



example of IHC certification sail stamp

6 - FEES

Every **boat** from sail number 350 onward should have the ISAF plaque on the transom



The blue ISAF plaque

Each sail constructed after 1st January 1997 shall have permanently fixed, (with stitching), near to its tack, an official ICA label



The IMCA white label, rightly positioned and sewn

7 - EQUIPMENT CONTROLS

Class rules may be revised during the year; before every measurement, check it on the ISAF web site: <http://www.sailing.org/classesandequipment/M24.php> .

In advance of the measurement appointment, you will find it helpful to contact the owner with Instructions on how to prepare the boat for the process. Inform the owner that the mast must be removed to complete the measurement. This may be done in advance, or after the **boat** has been weighed. They should have sufficient assistance available to ensure that this can be done in a timely way.

The owner should have the original Measurement **Certificate** or, if the **boat** comes from a country of a different Nation, the original Measurement Form: if not, ask your National Class Association.

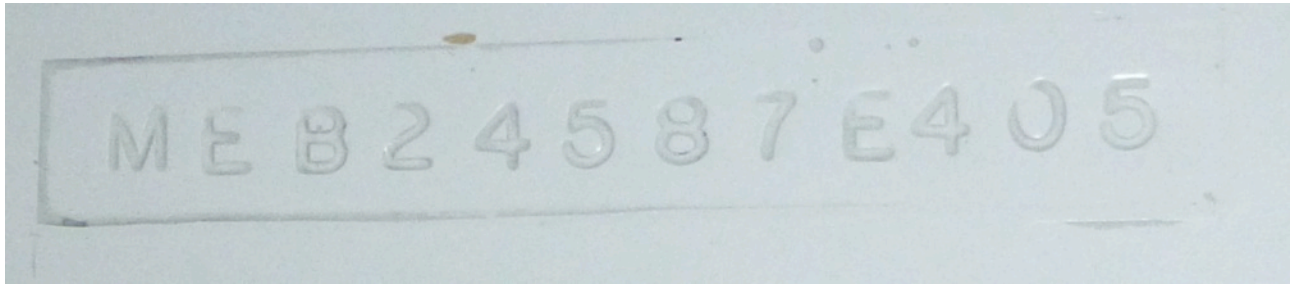
We use a blank official Measurement Form during the control of **hull** , appendages and **mast**.

The first step is identify the **hull** (HIN) and the sail number, keel number, **mast** number;

you can find the HIN on the transom, right side close to the ISAF plaque



The HIN can be engraved directly on the transom or on a plaque glued on the transom.



XXX24???XXXX (??? = SAIL NUMBER), in the photo the sail number is 587.



Mast number close to mast step.

7.1 - BOAT WEIGHING

Tools required:

- Crane
- 1 ton Scale
- 50kg scale
- lifting straps

Preparation:

- The **boat** must be dry throughout
- All sails shall be removed
- The engine, bracket and fuel can shall be removed
- Remove the companionway hatch covers
- Remove the anchor, chain and line
- Remove the manual bilge pump, bucket and lanyard
- Remove all optional **portable equipment** including mooring lines, fenders, cushions, coolers, lights, **PFDs**, etc.
- Remove all timing or navigational/tactical equipment, and relative battery; It is not necessary to remove any permanently solar panel or instruments permanently fixed to the boat.
- Be sure that there are no unusual shackles or halyards in/on the mast
- The 2 companionway hatches should stay in the boat
- Main, jib and spinnaker sheets should stay in the boat

The weighing should be done in a closed area, to exclude a wind component, positive or negative, on the **boat**.

The **Boat** cannot be weighed properly in rain and it should be well dry - do not accept a **boat** that come out from water just few minutes before the weight or a **boat** kept with covers and moisture inside.

Keel crane recess must be dry. The **boat** should be clean - no sand or salt.

Look in all compartments below to ensure that there is no water or remaining items on the **boat**, like tools in storage-bags nor the fuel tank or a gear box behind the aft bulkhead or in the settees.

Using a torch look inside the bowsprit, the mast and the boom looking for hidden weights.

Make note of any **corrector weights** present matched on either side of the mast step compression post and on the front side of the bulkhead at the back of the engine storage compartment.

Corrector weights should be permanently secured with Sikaflex or similar.

Leave the **mast, boom, rudder** and all the permitted equipment on the **boat**; in this way you will get the most accurate weight from your scale (if you weight separately **hull, mast, rudder, boom** and tare, with a scale that has 0,5kg of resolution, you can reach an error of $\pm 1,25$ kg due to the scale resolution. With a scale of resolution = 1kg, the error can be $\pm 2,5$ kg; with the possibility to have 5kg of difference between 2 **boats**!)

Do not forget to set properly the scale, pressing the button "tare" with the lift-straps attached to the scale.

Use a line from the transom to the lower hook of the scale, to control the pitch of the **hull**.

Craning up the **boat** lowering on the same time the **keel**, be careful that nothing remain in the keel-case, changing so the **keel** position with the **keel** fully lowered. Suggest to soap both side of keel fin, to reduce the possibility of scratches.

Hung the **rudder** on the transom and don't forget that the tiller and the tiller extension should stay on board.

Ensure that you can clearly see the readout for the load cell. Have the hoist operator lift the **boat** until the **keel** is completely extended and the **bulb** is 10cm or so above the trailer. The **bulb** should not touch the trailer at all. Let it hang for ten seconds. Note the weight. The total weight shall be 809kg or greater.

If the boat is heavier.

With the total weight equal or over the minimum the **boat** is legal; compare your observation with data recorded on the Measurement Form page 1. Normally **boats** became heavier, not lighter. Small differences can come from various reasons (scale not certified in the same area, change of **mast** or **rudder**, **hull** repaired or repainted, **boat** left afloat for a long period, etc.). If you find an important difference in the weight try to investigate and understand the reasons of this difference; be sure that unauthorized items are not on board; if you have doubts, weigh the **keel** too, even if not scheduled. If numbers are different, record them on the Measurement Form page 1.

If **corrector weights** are present on board, probably the owner wish reduce them; remember Class Rule C.6.2(d) "**corrector weights** shall not be reduced more than once every 12 months"; for this reason you need the last **Certificate** issued: if this is fine, proceed as follow:

1. remove completely the **corrector weights** and weigh them with the small scale (50kgmax at 1/2000 = 25g of precision): record the value on each block of lead.
2. Reduce the dimension of the blocks (or provide adequate new blocks) till the proper weight for each block (Class rule C.6.2)
3. Before to position them (see diagram below and Class rule C.6.2) check again the total weight and record it on the Measurement Form page 1
4. Mark them with your punch or signature
5. Secure blocks with Sikaflex or similar.

If the boat is lighter.

A **boat** lighter then 809kg is not legal.

It is unusual find an old **boat** lighter than before. If the **boat** you are checking is lighter than the numbers recorded on the certificate, as first check if all the equipment to be weighted is on board (with the **mast** not hoisted, it's easy forget in the trailer box the vang or the lower **shrouds** or the tiller extension).

Small differences can come from various reasons (scale not certified in the same area, change of **mast** or **rudder** or **keel**, etc). In each case be sure that the **keel** is always the same recorded in the Measurement **Certificate**. If you find an important difference in the weight try to investigate and understand the reasons of this difference; if you have doubts, weigh the **keel** too, even if not scheduled.

At the end of the controls, with the **boat weight** confirmed lighter than the minimum, you should

add **corrector weights** as follow:

A) **Corrector weights** are not already on board:

The **corrector weight** should be positioned as for Class rule C.6.2

Example: if the **boat** is 804,5kg, it needs 4,5kg of **corrector weights**.

1. Split it in 4 blocks of 1,125kg
2. Before to position them (see diagram below and Class rule C.6.2) check again the total weight and record it on the Measurement Form page 1
3. Mark them with your punch or signature
4. Secure blocks with Sikaflex or similar.
5. record the weight of the **boat** including any correctors on the Measurement Form page 1

B) **Corrector weights** are already on board:

You need to remove completely the existing blocks and replace them with new adequate weight, as above mentioned. Only in this way You can **certify** that **corrector weights** present on board are less than 20kg.

Corrector weight blocks should be positioned as for Class rule C.6.2

Example 1): the **boat** is 806kg, with 11kg of **corrector weights** recorded on the Measurement **Certificate**: the **boat** needs 3kg of extra **corrector weights**.

1. Remove the existing **corrector weights** (compare them with the numbers recorded on the **Certificate** FYI)
2. Add the 3 kg of extra weight
3. Split the weight it in 4 equal blocks and
4. Before to position them (see diagram below and Class rule C.6.2) check again the total weight and record it on the Measurement Form page 1
5. Mark them with your punch or signature
6. Secure blocks with Sikaflex or similar.
7. record the weight of the **boat** including any correctors on the Measurement Form page 1

Example 2): the **boat** is 807kg, with 19kg of **corrector weights** recorded on the Measurement **Certificate**: the **boat** needs 2kg of extra **corrector weights**: be careful, $19+2=21$ = **boat** not legal!

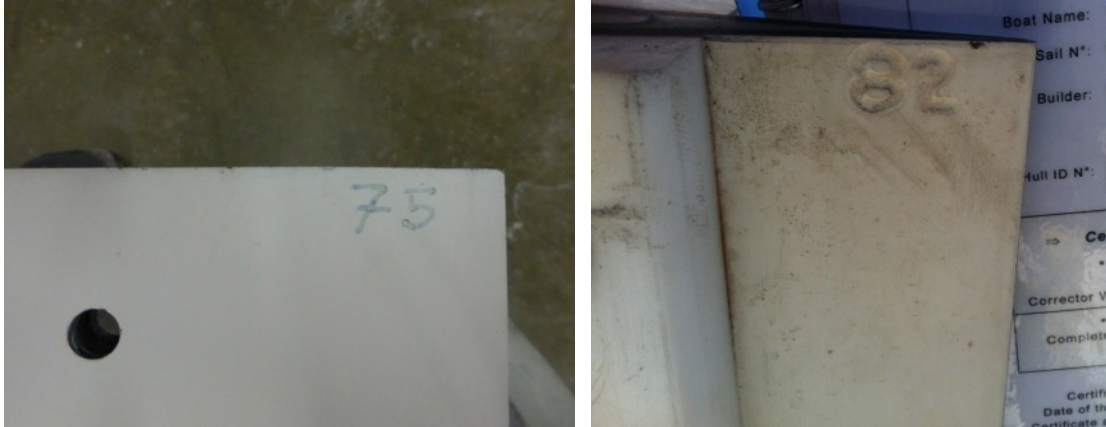
1. remove the existing **corrector weights** and check if these are effectively as recorded on the **Certificate** or Measurement Form
2. If the **boat** needs more than 20kg of correctors, the **boat** can not be certified as it is: stop the procedure and ask to your Technical Committee or to your Chief Measurer.

7.2 - KEEL WEIGHING

Tools required:

- Crane
- 1ton Scale
- keel lifting eye

Record the keel serial number on page one of the measurement form. This number is normally on the top of the fin; it may begin with the letters DY.



Do not forget to set properly the scale, pressing the button "tare" with the keel lifting eye attached to the scale.

Insert the keel lifting eye, hang the load cell from the hoist hook and attach to the keel lifting eye. Do not attach the lifting straps. Position the **boat** or the crane so that the keel lifting eye is directly below the hoist.

While sitting in the cockpit to observe that the weight of the **keel** and **bulb** are accurate, have the hoist operator lift the **keel** approximately 10cm so that the keel **bulb** is lifted off the trailer, but is not in contact with the bottom of the **boat** and the **bulb** shield of the trailer: it should hang loosely in the trunk and should not be in contact with the Delrin bearings. Let it hang in position for approximately 10 seconds. Record the total weight on item 1, page 2 of the measurement form. This weight must be between 300kg and 313kg inclusive.

Lower the **keel**. Remove the keel lifting eye.

7.3 - APPENDAGES MEASUREMENT POSITION

This operation could be dangerous for your life. Don't transit or stay under the **boat** if it is not properly craned; in every case you do this under your own risk!

Tools required:

- Tape measure in millimeters
- Sharpie marker
- A 90° square

Complete while the **boat** hangs from the hoist with **keel** extended and rudder hung from the transom.

Move the **boat** completely over solid ground and lower it slightly if necessary so that the underside is easily reached. Identify the **hull Datum Point** (HDP on Illustration 3) along the centre-plane as described in the **Class Rules**. Mark this point for consistency of measurements.

Measure and record on item 4, page 2 of the Measurement Form the distance from the HDP along the underside of the **hull** to the intersection between the trailing edge of the keel fin and the **hull**. (Measurement B on Illustration 1) This number must be between 3482mm and 3494mm inclusive.

Measure and record on item 5, page 2 of the measurement form the distance between the HDP and the intersection of the trailing edge of the keel fin and the top of the **bulb**. (Measurement C on Illustration 1) This measurement must be between 3784mm and 3823mm inclusive.

Measure and record on item 6, page 2 of the Measurement Form the distance from the underside of the **hull** to the top of the **bulb** along the trailing edge of the keel fin. (Measurement D on Illustration 1) This measurement shall be between 1195mm and 1215mm inclusive.

Measure and record on item 7, page 2 of the Measurement Form the distance from the HDP to the trailing edge tip of the **rudder**. (Measurement E on Illustration 1) This measurement shall not exceed 1220mm.

The next two measurements are intended to ensure that the rudder head is parallel to the transom. One is taken at the location of the upper gudgeon and one is taken at the lower gudgeon. Measure the perpendicular distance from the transom at the bottom edge of the upper gudgeon to the leading edge of the rudder head. Measure the perpendicular distance from the transom at the top edge of the lower gudgeon to the leading edge of the rudder head. These two distances must be within 2mm of each other. Record your observations on item 8, page 2 of the measurement form.

The templates for **rudder**, **fin** and **bulb** are not currently available for use for field measurements. Leave item 9 blank.

You have completed all **hull** measurements at this time and the **boat** may be lowered to the trailer and the **portable equipment** replaced.

7.4 - DECK FITTINGS, BOWSPRIT.

Tools required:

- Tape measure in millimeters
- Measurement beam
- A 90° square
- Sharpie marker

7.4.1 - Deck Fittings

Measure and record on item 2, page 2 of the Measurement Form the distance from aft face of furler drum recess to forward edge of mast step measured in a straight line. This measurement must fall between 2405mm and 2415mm inclusive.

Observe that the layout of the deck fittings is consistent with the descriptions in the **Class Rules- Appendices-H2** and Illustration 4. It is not necessary to measure the location of each, however if the fitting is positioned in a non standard way or appears over/undersized, then you may measure to ensure compliance. Record your observation on item 3, page 2 of the Measurement Form.

7.4.2 - Bowsprit

With the **bowsprit** retracted note that it does not extend beyond the stem.

Fully extend the **bowsprit** and cleat the pole output line. Measure and record on item 10, page 2 of the Measurement Form the shortest distance from the stem to the center of the “U” bolt that secures the tack line block at the end of the pole. This measurement cannot exceed 1400mm. Record your observation on item 10, page 2 of the Measurement Form.

7.5. Mast and Boom Measurement

Tools required:

- 50kg Load cell
- Tape measure in millimetres
- Sharpie markers in contrasting colours
- 2 saw horses
- a blade
- 1 meter string

Complete with the **mast** and **boom** removed from the **boat**, all **rigging** attached and **halyards** pulled to their top positions.

The definition of **mast** (from ERS 2013-2018) is “ Includes its **standing rigging, running rigging, spreaders, fittings** and any **corrector weights**, but not **running rigging** and fittings that are not essential to the function of the **mast** as part of the **rig**.” ; remove the instrument bracket and any instrument, the backstay batten, the **backstay** (not the backstay crane), the masthead wind indicator. The **boom** and vang shall be removed. Remove any padding from the mast base. Place the **mast** forward side up on the saw horses.

A note about **mast** and **boom** limit bands: **Class Rules** require for the main track stops at the maximum hoist and maximum outhaul; require a limit band minimum 15mm wide, in a contrasting

colour, marking the **mast** at the highest and lowest mainsail position (**Upper Point Height** and Lower Point Height) and the **boom** at maximum mainsail outhaul limit (**boom** point distance) . These may not be present. Instruct the owner that they must be restored and mark the **spars** with the proper location as you will measure.

7.5.1 – Mast Measurement points

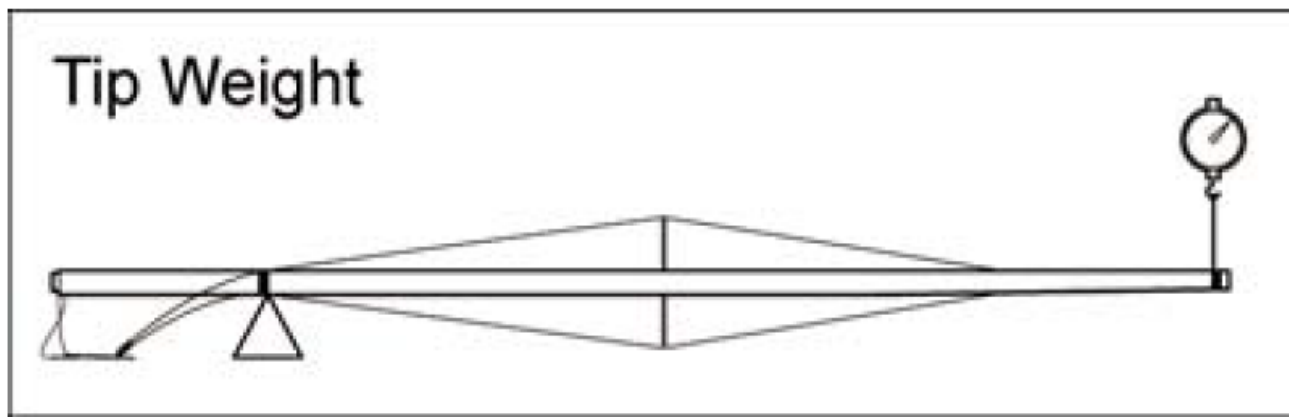
Identify the **Mast Datum Point** (MDP on Illustration 3) as described in the **Class Rules**.

Identify and mark the Lower Point Height at minimum 710mm from the MDP (record on page 2 item 13).

Identify and mark measuring along the **mast** the **Upper Point Height** at max 9528 (record on page2 item 14)

Observe that the **mast** is consistent with **Class Rules-Appendices-H2** and record your observation on item 15, page 2 of the measurement form.

7.5.2 – Mast Tip weight



Be sure that there are not unusual shackles or halyards in/on the mast while weighing the mast; with the help of a torch look into the mast, looking for lead or other weights that can be hidden.

In this test the rigged **mast** is supported at the lower point and the weight at its top point taken; halyards are fully hoisted and their tails rest on the ground; **shrouds** and forestay are tied to the **mast** at the lower point with the ends allowed to rest on the ground.

Position the lower mast point centered on one saw horse, on a shaped tool. Attach the load cell to the top of the **mast** and center the strap (normally we use a string) over the **Upper Point Height**. With the **mast** horizontal, lift only the top of the **mast** with the strap, holding the lower mast point foot in place to determine the mast tip weight. Subtract the weight of the strap and record the result on item 12, page 2 of the measurement form. This weight shall not be less than 10kg.

If the tip weight is lower than minimum, you should add a **corrector weight** and record it in the Measurement Form page 2 item Comments.

7.5.3 - Mast weight

For this measurement we do not allow the **shrouds** or the halyards to rest on the ground. Find the centre of balance using a webbing strap. Mark this point. Attach the strap to the load cell, press the “tare” button, center the strap on the mark and lift the **rig** to find the weight of the **mast**. Record the result on item 11, page 2 of the measurement form. This weight shall not be less than 28kg; if lower than minimum, you should add a **corrector weight** and record it in the Measurement Form page 2 item Comments.

If the **boat** was weighed without the **mast**, its weight (including correctors) is added to the weight of **hull**, **boom**, vang and appendages, with the total recorded on page one of the measurement form.

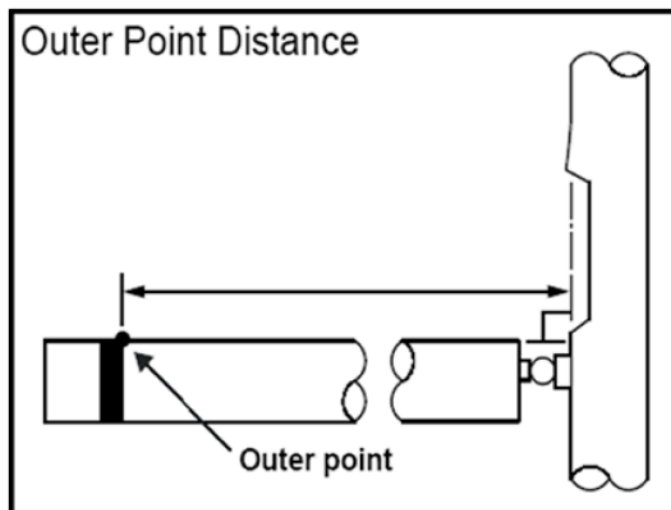
7.5.4 - Boom measurement

Measurement 16 is the inboard edge of the boom band (**Outer limit Mark**).

Rotate the **mast** 90 degrees (side up) and attach the **boom** to the gooseneck. If there is no lower mast band, identify and mark the Lower Point Height at minimum 710mm from the MDP (Measurement 13)

The intersection of the aft edge of the mast spar and the top of the boom spar, each extended as necessary, shall not be below the upper edge of the **lower limit mark** when the boom spar is at 90° to the mast spar.

With the **boom** still at 90° with the **mast**, measure and record on item 16, page 2 of the measurement form the distance from the aft surface of the **mast** at this point, along the top of the **boom** to the front edge of the boom band. This measurement cannot exceed 3800mm.



7.6 - SAILS

For the measurement of sails, please refer to "SailMeasurementGuide.pdf" on Melges24 web site.

8 - FINAL INSTRUCTIONS

Double check that all measurements have been recorded and that are in the limit of the rule. Record any comments on the comment section of the measurer's declaration at page 2. Complete name, contact information, date, and sign. Ask the owner to sign Measurement Form. Make a copy for your self. Give the original to the owner and inform them that they need to email a scanned copy of the Measurement Form to the Technical Committee Chairman with a request for the Measurement Certification: tech@usmelges24.com.

In the event that some aspect of the measurement is not in compliance with the **Class Rules** you may use your discretion to permit the owner an opportunity to correct it if the change is minor, does not impact your own timetable, and the plan of correction as described to you is reasonable. If not, this means that the **boat** is illegal: please notify the Technical Committee Chair that the measurement was incomplete and keep the unsigned, original measurement form yourself; stay in touch with the owner and the Technical Committee to be sure that the all corrections needed will be made and the **boat** finally Certified by You or by another Class Measurer. You may provide the owner with an unsigned copy in the event that they wish to have the measurement completed by another measurer after the correction without re---measuring all of the dimensions that you found to be in compliance. Please note on the comments section if a specific dimension was corrected and re-measured.

A note about **corrector weights**:

all **boats** are certified from factory; many **boats** have **corrector weights** installed from the manufacturer. Their positioning is specifically prescribed by the **Class Rules**. It is difficult if not impossible to establish the weight of correctors without removing them, so please note their location and approximate weight. If weights are in non standard positions or appear to be recently or temporarily attached this should be noted as well.

Photo of correctors weight properly positioned:



Aft corrector weights



Fore corrector weights

In the unlikely event that a **boat** is underweight, **corrector weights** will need to be added. Do not undertake to do this yourself. If you have doubts contact your Chief Measurer for the weights and instructions on their installation. Owner may contact you to complete the measurement when that job is done. Remember that no **boat** left the manufacturer underweight. If a **boat** measures under then it has been modified in some way.

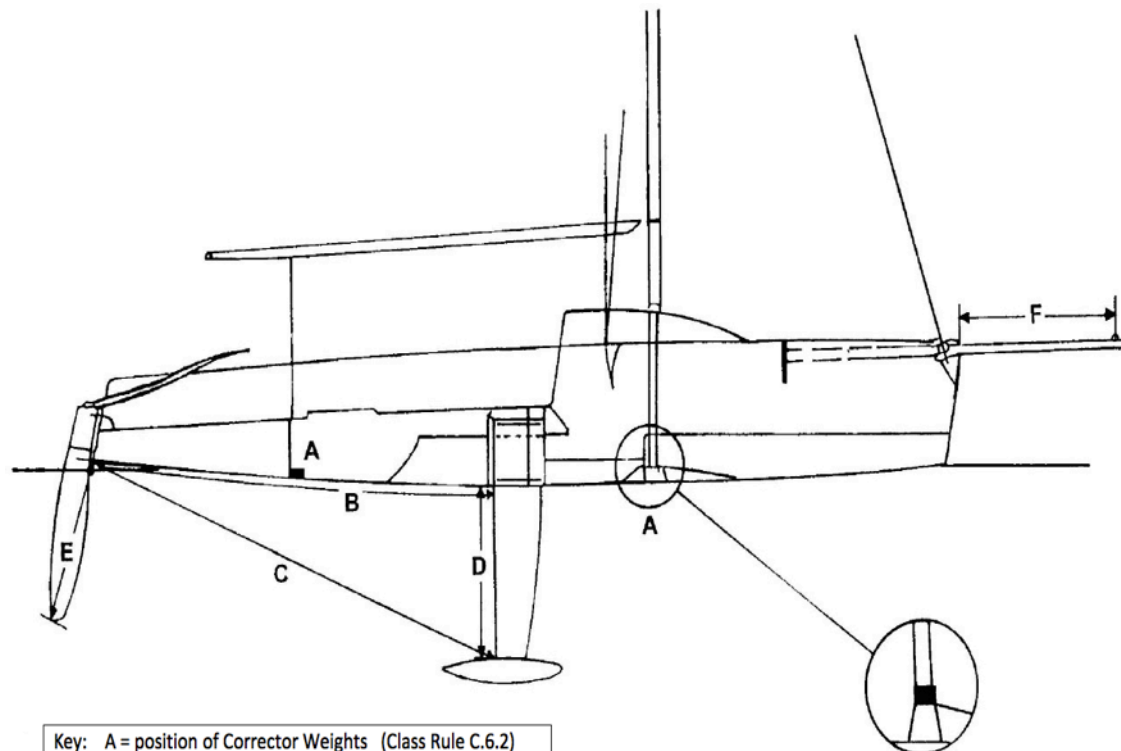
Some owners may contact you requesting that you re-weigh the **boat** so that they may remove **corrector weights** that are no longer necessary. While this is possible, exercise special caution. Require that they describe in some detail the reasons they believe the **boat** may now be overweight. Remember that **corrector weights** shall not be reduced more than once every 12 months. Carefully inspect all parts of the **boat** for added weights or water. Ensure that no extra equipment is on board and if it is really close, err on the side of requiring the weights to remain in place.

Numbers and illustrations of this manual may change in the course of the years, please be sure to get the most recent **Class rules** and infos on the IMCA and ISAF website when you start to control a **boat**.

9 - APPENDICES

9.1 - LAYOUT

Illustration 1



Key:	A = position of Corrector Weights	(Class Rule C.6.2)
	B = 3482 ÷ 3494mm	(Class Rule C.8.2.a)
	C = 3784 ÷ 3823mm	(Class Rule C.8.2.a)
	D = 1195 ÷ 1215mm	(Class Rule C.8.2.a)
	E = 1120mm max	(Class Rule C.8.3.a)
	F = 1400mm max	(Class Rule C.9.5.b)

Equal weights secured on either side of mast compression post

Illustration regarding dimension C corrected 5th February 1998

Illustration 2

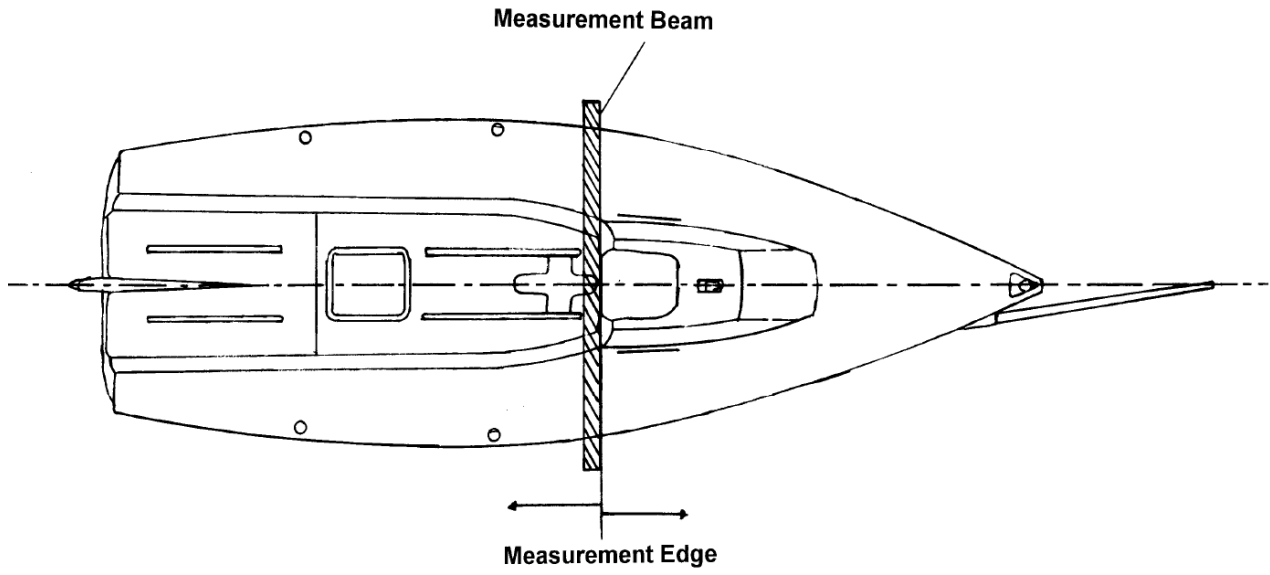


Illustration 3

Mast datum point

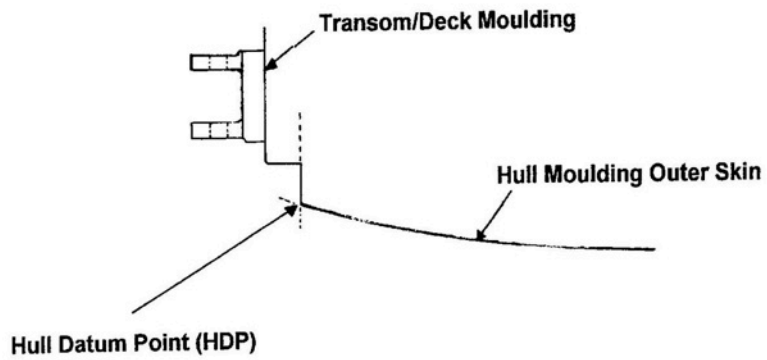
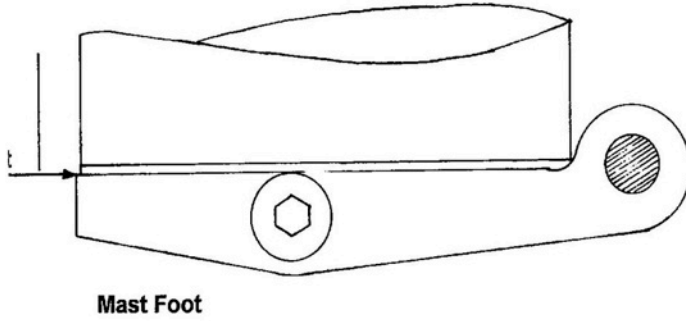
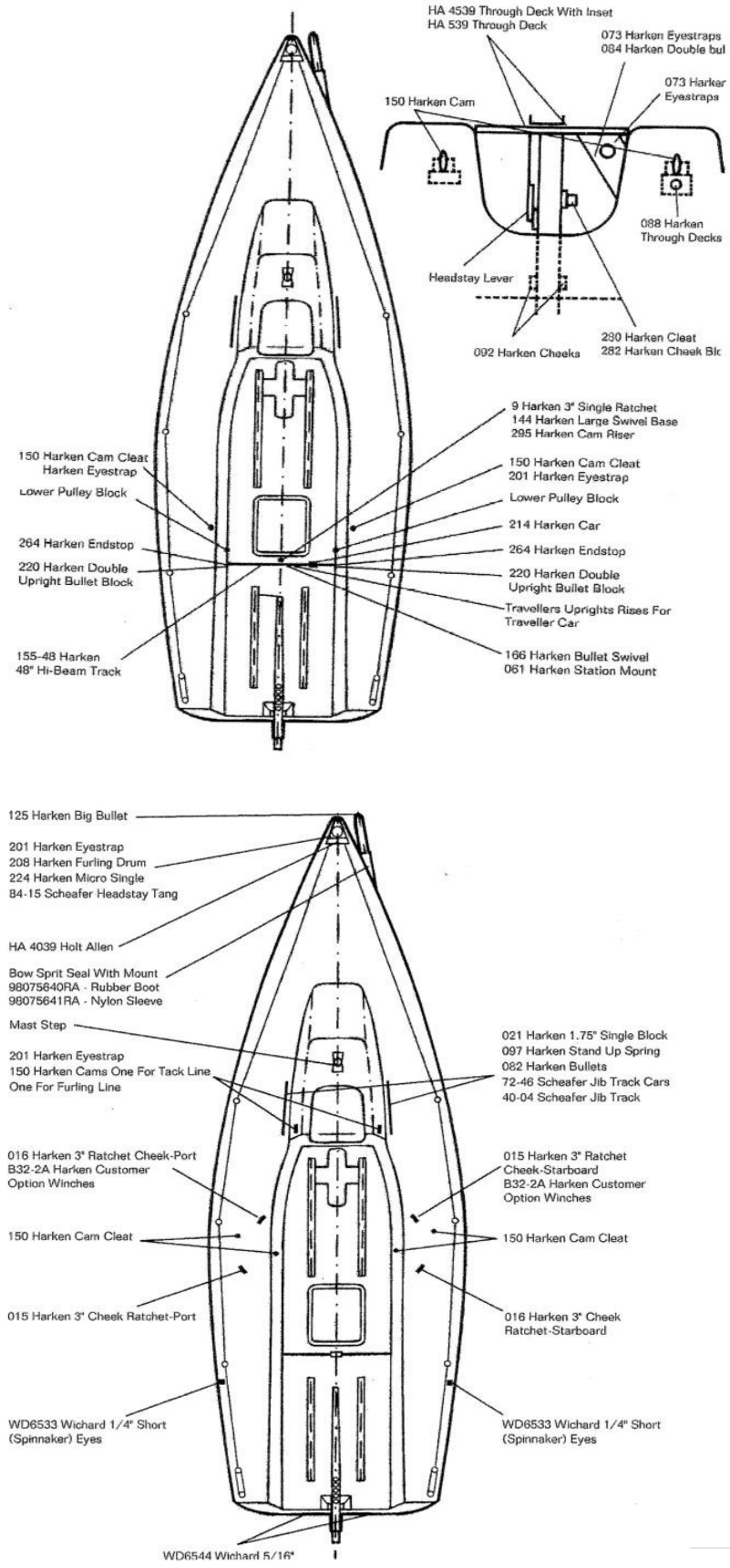


Illustration 4



2009
International Melges 24 Class
Measurement Form



Authority*: International Sailing Federation.
c/o Sailing International Limited, ISAF Secretariat, Ariadne House, Town Quay,
Southampton, Hants, SO14 2AQ, United Kingdom.
*The International Sailing Federation (ISAF) is not a Member National Authority (MNA).

Boat Details

National Letters

Sail Number/ICA Plaque Number

Name of Boat

EU Craft Identification Number (CIN)

Serial Number of Keel Fin

Owners Name

Owners Address

.....

Weight of boat including any correctors kg

Weight of Correctors kg

The original of this form must be submitted to the boat's National Authority or National Class Association if they have been appointed by the MNA, for a full measurement certificate to be issued.

OWNERS DECLARATION

I undertake to race this International Melges 24 only so long as I maintain it in conformity with the Class Rules.

I also undertake that corrector weights (if any) will not be altered or removed except when carried out in conjunction with an official re-weighing by an approved International Melges 24 Class measurer, and that only spars, sails etc., which have been measured and found in accordance with the rules, will be used.

Signature..... Date.....



International Authority

Insert logo

Member National Authority

Insert logo

National Class Association

- INTERNATIONAL MEASUREMENT CERTIFICATE -
(As required per RRS 78)



Boat Name:

Sail N°:

Owner:

Builder:

Address:

Hull ID N°:

⇒ Certificate based on Measurement Form dated :	
• First Measurement completed:	by:
Keel Weight:	kg. Keel serial number:
Corrector Weights at first measurement:	kg
• Last Measurement completed: by:	
Complete Boat Weight inc Correctors:	kg
Corrector Weights:	kg

Certificate Number:

Date of this Certificate:

Certificate authorised by:

Email :

acting for the .

[IMCA Official Stamp](#)

Owner's Declaration

I undertake to race this Melges 24 only so far as I maintain it to conform with the International Melges Class Rules. I also undertake that corrector weights (if any) will not be altered or removed except when carried out in conjunction with an official re-weighing undertaken by an approved Melges Class Measurer. At such time or upon a change of to any of the details shown on this certificate I will return it to my Revalidation Authority.

Owners Signature : Date:

- To be valid this certificate needs to be signed by the owner. -

--

SAIL NUMBER

MAINSAIL MEASUREMENT CHECK LIST

RULE	ITEM	<input type="checkbox"/> Check or <input type="checkbox"/> 1st certification	APPROVED				
G.2.2(a)	Certification Mark with date and signature near the tack		N/A <input type="checkbox"/>				
G.2.2(c)	IHC serial number / date	<input type="text"/>	N/A <input type="checkbox"/>				
G.2.2(c)	Measurer ID/Name / date	<input type="text"/>	N/A <input type="checkbox"/>				
G.2.2(d)	Official ICA label sewed near the tack		<input type="checkbox"/>				
G.3.1	Class insignia on place		<input type="checkbox"/>				
RRS App.G	Sail letters and numbers (...those on the starboard side being uppermost.)		<input type="checkbox"/>				
G.3.1(e)	Sail letters and numbers (...between the second and third battens.)		<input type="checkbox"/>				
G.3.2(a)	The ply fibres shall consist of polyester, aramids or HMPE		<input type="checkbox"/>				
G.3.2(b)	Cornerboards: plastic or aluminium		<input type="checkbox"/>				
G.3.2(c)	Sail reinforcement shall consist of polyester, aramids, HMPE or GRP.		<input type="checkbox"/>				
G.3.3(c)	4 battens, leech in 5 equal parts ± 100mm		<input type="checkbox"/>				
G.3.3(e)	Windows are permitted below half width.		<input type="checkbox"/>				
C.4.1	SailMaker Mark dist. from tack point Max 570mm		<input type="checkbox"/>				
G.3.4	Leech length	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 50px;">Actual</td> <td style="width: 50px;">Maximum</td> </tr> <tr> <td><input type="text"/></td> <td>9590 mm</td> </tr> </table>	Actual	Maximum	<input type="text"/>	9590 mm	<input type="checkbox"/>
	Actual	Maximum					
<input type="text"/>	9590 mm						
Foot Median	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 50px;">Actual</td> <td style="width: 50px;">Maximum</td> </tr> <tr> <td><input type="text"/></td> <td>9200 mm</td> </tr> </table>	Actual	Maximum	<input type="text"/>	9200 mm	<input type="checkbox"/>	
Actual	Maximum						
<input type="text"/>	9200 mm						
	Half width	<input type="text"/>	+				
	Hollows to be considered, flaking the sail	<input type="text"/>	=				
	Total	<input type="text"/>	2700 mm				
	Three-quarter width	<input type="text"/>	+				
	Hollows to be considered, flaking the sail	<input type="text"/>	=				
	Total	<input type="text"/>	1680 mm				
	Top width	<input type="text"/>	175 mm				
	Reef point above tack and clew points	<input type="text"/>	1000 mm				
	Window area	<input type="text"/>	1.0 m2				
	2 lower batten pocket inside length:	<input type="text"/>	1780mm				
	Weight of complete sail	<input type="text"/>	6.0kg				
G.2.2(d)	Official ICA label signed		<input type="checkbox"/>				

Name/# _____

Signature _____

Date ____/____/____

SAIL NUMBER

JIB MEASUREMENT CHECK LIST

RULE	ITEM			APPROVED	
	Check <input type="checkbox"/> or 1st certification <input type="checkbox"/>				
G.2.2.(a)	Certification Mark with date and signature near the tack			N/A <input type="checkbox"/>	
G.2.2(c)	IHC serial number / date	<input style="width: 200px;" type="text"/>		N/A <input type="checkbox"/>	
G.2.2(c)	Measurer ID/Name / date	<input style="width: 200px;" type="text"/>		N/A <input type="checkbox"/>	
G.2.2(d)	Official ICA label sewed near the tack			<input type="checkbox"/>	
G.4.1(a)	The ply fibres shall consist of polyester, aramids or HMPE			<input type="checkbox"/>	
G.4.1(b)	Cornerboards: plastic or aluminium			<input type="checkbox"/>	
G.4.1(c)	Sail reinforcement shall consist of polyester, aramids, HMPE or GRP.			<input type="checkbox"/>	
G.4.2(c)	max 3 battens max length 1500mm			<input type="checkbox"/>	
G.4.3	batten width minimum 10mm maximum 35mm			<input type="checkbox"/>	
G.4.2(d)	leech negative, flaking the sail			<input type="checkbox"/>	
G.4.2(e)	Windows are permitted below half width.			<input type="checkbox"/>	
C.4.1	SailMaker Mark dist. from tack point Max 460mm			<input type="checkbox"/>	
G.4.3		Minimum	Actual	Maximum	
	Luff length	8460mm	<input style="width: 50px;" type="text"/>	8560mm	<input type="checkbox"/>
	Leech length	7775mm	<input style="width: 50px;" type="text"/>	7903mm	<input type="checkbox"/>
	Foot length	2926mm	<input style="width: 50px;" type="text"/>	3026mm	<input type="checkbox"/>
	Top width	N/A	<input style="width: 50px;" type="text"/>	175mm	<input type="checkbox"/>
	Window area	N/A	<input style="width: 50px;" type="text"/>	0,75 m2	<input type="checkbox"/>
	Clew point to intersection of leech	750mm	<input style="width: 50px;" type="text"/>	6000mm	<input type="checkbox"/>
	Forward most point of batten from	N/A	<input style="width: 50px;" type="text"/>	800mm	<input type="checkbox"/>
	Weight of complete sail	4,0kg	<input style="width: 50px;" type="text"/>	N/A	<input type="checkbox"/>
G.2.2(d)	Official ICA label signed			<input type="checkbox"/>	

Name/# _____

SAIL NUMBER

SPINNAKER MEASUREMENT CHECK LIST

RULE	ITEM	APPROVED																											
	Check <input type="checkbox"/> or 1st certification <input type="checkbox"/>																												
G.2.2.(a)	Certification Mark with date and signature near the tack	N/A <input type="checkbox"/>																											
G.2.2.(c)	IHC serial number / date <input style="width: 200px;" type="text"/>	N/A <input type="checkbox"/>																											
G.2.2.(c)	Measurer ID/Name / date <input style="width: 200px;" type="text"/>	N/A <input type="checkbox"/>																											
G.2.2.(d)	Official ICA label sewed near the tack	<input type="checkbox"/>																											
G.5.1.(a)	The ply fibres shall consist of non polyester	<input type="checkbox"/>																											
G.5.1.(b)	Secondary Sail reinforcement shall consist of non polyester	<input type="checkbox"/>																											
G.5.2.(b)	The body of the sail shall consist of woven ply throughout	<input type="checkbox"/>																											
G.5.2.(c)	Windows are permitted below half width.	<input type="checkbox"/>																											
G.5.2.(f)	weight in g/m ² of the body of the sail with sailmaker date and signature on head	<input type="checkbox"/>																											
G.5.3	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Minimum</th> <th style="width: 33%;">Actual</th> <th style="width: 33%;">Maximum</th> </tr> </thead> <tbody> <tr> <td>11285mm</td> <td></td> <td>11585mm</td> </tr> <tr> <td>10000mm</td> <td></td> <td>11078mm</td> </tr> <tr> <td>6000mm</td> <td></td> <td>6300mm</td> </tr> <tr> <td>N/A</td> <td></td> <td>12000mm</td> </tr> <tr> <td>N/A</td> <td></td> <td>5860mm</td> </tr> <tr> <td>N/A</td> <td></td> <td>3700mm</td> </tr> <tr> <td>40g/m²</td> <td></td> <td>N/A</td> </tr> <tr> <td>N/A</td> <td></td> <td>0,75 m²</td> </tr> </tbody> </table>	Minimum	Actual	Maximum	11285mm		11585mm	10000mm		11078mm	6000mm		6300mm	N/A		12000mm	N/A		5860mm	N/A		3700mm	40g/m ²		N/A	N/A		0,75 m ²	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Minimum	Actual	Maximum																										
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	6000mm		6300mm																										
	N/A		12000mm																										
	N/A		5860mm																										
	N/A		3700mm																										
40g/m ²		N/A																											
N/A		0,75 m ²																											
G.2.2.(a)	Certification Mark with date and signature near the tack	<input type="checkbox"/>																											
G.2.2.(d)	Official ICA label signed	<input type="checkbox"/>																											

Name/# _____

Signature _____

Date ____/____/____

READY TO MEASURER?

Sail Number:

Boat location

Owner Mr:

Phone #

Email:

Measurement scheduled on _____

Dear sailor,

In order to be ready for the measurement of your Melges24, please prepare her taking care of next items:

- 1) Keep with you the original of the Measurement **Certificate** or Measurement form
- 2) Provide a closed area for the weigh (NO WIND AT ALL)
- 3) The boat will lie on the trailer, not floating
- 4) The boat will be ready to be inspected (no covers)
- 5) For a careful control we expect to find the boat clean & dry: no sand or salt
- 6) If not up, leave mast & boom on the deck
- 7) Disembark all personal equipment from board
- 8) Disembark all sails from board
- 9) For a safety and quick session 2 helpers are enough (for the use of the crane, to disembark the mast, to move the boat on the ground if necessary)
- 10) Check that your boat straps are in good conditions;
- 11) Provide liquid soap for the keel fin, to use when we crane up the boat leaving the keel fin sliding in the Delrins.
- 12) Be ready with a handsaw if we need to reduce the corrector weights, if these are present on board.
- 13) To avoid to leave the mast on the ground during the measurement, provide two saw horses; for the boom it is not essential.

For questions, do not hesitate to contact me:

* * * * *

This guide has been generated by Egidio Babbi, IM24CA Chief Measurer, on the initiative of USMCA Technical Committee tech@usmelges24.com

For questions, suggestions or comments don't hesitate to contact me at info@egidiobabbi.it

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