

**RULES of the  
INTERNATIONAL FINN CLASS  
2002 Edition**

President of Honour - Gerardo Seeliger

Life Honorary Member - Nikos Kouklelis (1921-1995)

**HALL OF FAME**

Rickard Sarby

Jorg Bruder

Paul Elvström

Gilbert Lambole

Willy Kuhweide

Hubert Raudaschl

John Bertrand

Lasse Hjortnaes

Jose Luis Doreste

Fredrik Lööf

Jose-Maria van der Ploeg

August Miller

## INTERNATIONAL FINN CLASS

### OLYMPIC MEDAL WINNERS

#### **1952, Helsinki, Finland**

Paul Elvström, Denmark  
Charles Currey, Great Britain  
Rickard Sarby, Sweden

#### **1956, Melbourne, Australia**

Paul Elvström, Denmark  
Andre Nelis, Belgium  
John Marvin, United States

#### **1960, Naples, Italy**

Paul Elvström, Denmark  
A. Chuchelov, USSR  
Andre Nelis, Belgium

#### **1964, Enoshima, Japan**

Willy Kuhweide, Germany  
Peter Barrett, United States  
Henning Wind, Denmark

#### **1968, Acapulco, Mexico**

Valentin Mankin, USSR  
Hubert Raudaschl, Austria  
Fabio Albarelli, Italy

#### **1972, Kiel, West Germany**

Serge Maury, France  
Elias Hatzipavlis, Greece  
Victor Potapov, USSR

#### **1976, Kingston, Canada**

Jochen Schumann, DDR  
Andrei Balashov, USSR  
John Bertrand, Australia

#### **1980, Tallinn, USSR**

Esko Rechardt, Finland  
Wolfgang Mayrhofer, Austria  
Andrei Balashov, USSR

#### **1984, Long Beach, USA**

Russell Coutts, New Zealand  
John Bertrand, United States  
Terry Neilson, Canada

#### **1988, Pusan, Korea**

Jose Luis Doreste, Spain  
Peter Holmberg, US Virgin Islands  
John Cutler, New Zealand

#### **1992, Barcelona, Spain**

Jose Maria van der Ploeg, Spain  
Brian Ledbetter, USA  
Craig Monk, New Zealand

#### **1996, Savannah, USA**

Mateusz Kusznierewicz, Poland  
Sebastien Godefroid, Belgium  
Roy Heiner, The Netherlands

#### **2000, Sydney, Australia**

Iain Percy, Great Britain  
Luca Devoti, Italy  
Fredrik Lööf, Sweden

## PREFACE

The International Finn dinghy is a 4.5 m long single-handed dinghy that has been sailed in over 80 countries by thousands of sailors for over 50 years.

Originally designed for the 1952 Olympic Games in Helsinki, Finland, the Finn remains the Olympic men's singlehanded dinghy.

The Finn's simple, unstayed mast and single sail offer a challenge to sailors all over the world, testing their skills, stamina and mental strength.

The Finn has a long history of development of rules and administration and has a heritage of people who have enjoyed the competition and friendship of the Class.

Many have successfully moved on into other Olympic Classes, the America's Cup Class, etc.

The essence of the Class is its rules and practices and these are outlined in this book.

## INTERNATIONAL FINN HISTORY

**JANUARY 1949** - The Finnish Yachting Association organizes a design competition for the single-handed dinghy to be used in the Olympic Games at Helsinki in 1952. Rickard SARBY not only produces the full-size drawings of what will become the FINN, but also builds the first prototype.

**MAY 1949** - First FINN is launched.

**JUNE 1949** - The result of the design competition is that the FINN is not selected. Examples of the best designs are built.

**SEPTEMBER 1949** - Trial races are held in FINLAND in light winds. The FINN is also invited. The FINN and Pricken are the fastest.

**OCTOBER 1949** - Further trials are announced for MAY 1950. The FINN becomes popular in Sweden; twenty-five boats are built. The two-wave emblem is chosen and the leech of the sail is shortened by 150 mm to lift the boom.

**MAY 1950** - New trials in heavy weather. The FINN wins five races and comes in second in the sixth.

**1952** - Helsinki, Finland - the FINN Class is first used in the Olympic Games.

**1956** - The FINN GOLD CUP is presented to the Class by the late F. G. MITCHELL, esq., of England. The INTERNATIONAL FINN ASSOCIATION is founded.

**1959** - Synthetic cloth is authorized for making sails.

**1961** - The USA magazine "FINN FARE" develops into the official organ of the IFA. Reinforced polyester is authorized for building hulls.

**1964** - The FINN Class develops a precise method of controlling hulls worldwide.

**1969** - Aluminium alloy and reinforced polyester are authorized for building spars.

**1973** - The FINN Class adopts the Lamboley pendulum test to control the distribution of weight of hulls.

**1974** - Building materials for hulls are set free. The double bottom is accepted. A minimum weight is fixed for booms and rudders.

**1984** - Any flexible material is authorized for making sails. A standard jig for the definition of station points is required for world and continental championships. The first FINN clinic is held for sailors from developing nations, as part of a long-term development programme of the class.

**1986** - Publication of FINNLOG 1. This book contains both the history of the Class and many technical articles written by experts.

**1993** - Carbon fibre is authorized for building spars.

**1994** - The mast weight is reduced to 8 kg.

**1995** - The first wing mast appeared and was used to win the FINN GOLD CUP in Melbourne, Australia.

**1996** - The hull weight was reduced by 5 kg to 120 kg.

**1998** - The 100th edition of FINNFARE is published.

**1998** - Reinforced plastic sails came into widespread use.

**1999** - Publication of FINNatics - The History and Techniques of Finn Sailing, to celebrate 50 years of the Finn.

**2000** - For the first time ever, competitors at the Olympics are allowed to bring their own FINNS.

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NB.

In Part B, reference to previous editions of the rules are given in brackets after rule numbers.

Those rules needing further explanation are followed by an interpretation in italicised type.

Text written in red shows the included amendments since the 1998 Edition of the Rules Book.

## Part A

### INTERNATIONAL FINN ASSOCIATION CONSTITUTION

#### 1. GENERAL

- 1.1 The organization shall be called the International Finn Association (IFA).
- 1.2 The emblem of the Class shall be two blue waves, as prescribed in measurement Rule 4.8.4.1.
- 1.3 The object of IFA shall be:
  - To promote International Racing in the Class.
  - To maintain the one-design character of the Class.
  - To co-ordinate the activities of National Finn Class Associations.
- To maintain close co-operation with National Authorities, National Finn Associations and the International Sailing Federation (ISAF).

#### 2. MEMBERSHIP AND DUES

- 2.1 Membership shall be open to anyone interested in Finn sailing upon payment of dues fixed by the Council.
- 2.2 The Council may award Honorary Life Membership to Finn sailors of particular distinction.
- 2.3 Membership dues shall be revised by the Council from time to time. Membership dues shall be paid through National Class Associations to IFA by May 1<sup>st</sup> in each calendar year, or - in case the Gold Cup or the European Championships are scheduled earlier - 10 days before the starting date of said events. No rights or privileges of membership shall be enjoyed by anyone after that date whilst his dues remain unpaid. If the payment is received after the deadline date, an additional fee of 25% of the dues may be charged.
- 2.4 The minimum number of dues per National Class Association is 10 per year.

#### 3. MANAGEMENT

- 3.1 The Members of IFA delegate general jurisdiction and control over all proper Finn Class activities to the Council of IFA (the COUNCIL). The Council shall in turn delegate the management of IFA to the Executive Committee.
- 3.2 The Council shall consist of the representatives (properly appointed in writing) of each National Class Association and the Executive Officers.
- 3.3 Each National Class Association representative shall have one vote plus one extra vote for every 100 paid-up memberships; 100 memberships gives 2 votes, with a maximum of 5 votes.  
Executive Officers shall have one vote each, unless they are also National Class Association Representatives, in which event they shall vote as such.
- 3.4 An Annual General Meeting of the Council shall be held during the Finn Gold Cup Week at the time and place to be fixed by the Executive Director, who shall circulate to members of the Council, at least one month before the Meeting, an Agenda which must include imperatively:
  - The Treasurer's statement of the National Class Association representatives' voting powers, based on the IFA dues received.
  - Approval of the Minutes of the last AGM.
  - Reports of the Executive Committee members and of each Subcommittee.
  - Approval of the Summary of the Accounts of the previous year and of a Budget for the next year.
  - Election of the members of the Executive Committee, Technical and other Committees, IFA Measurers, IFA Advisors, IFA Delegates to the ISAF November Meeting, to the IOC, and the IFA Liaison Officer to the ISAF for the next Olympic Games.
  - Approval of venues and dates of IFA Championships.
  - Any item presented to the Executive Director in writing at least two calendar months before the Meeting.

The AGM may, by a simple majority, decide whether any other business should be added to the Agenda.

The Council has the sole right to approve increased national quotas for entry to IFA championships as allowed in exceptional circumstances (see Part D).

- 3.5 There shall be the following Executive Officers:
  - President
  - Vice-President (Sailing)
  - Vice-President (Development)
  - Vice-President (Masters)
  - Treasurer
  - Chairman of the Technical Committee
  - Executive Director

who shall form the "Executive Committee". The Executive Officers for each year, with the exception of the Executive Director, shall be elected by the Council at its Annual General Meeting and nomination for the appointments of the

Executive Officers shall be notified in writing to the Executive Director two months prior to the Annual General Meeting. The Executive Committee is responsible for implementing the policy of the Council as expressed at its AGM, and is responsible to the Council.

3.6 The Executive Officers' term of office shall take effect immediately upon election.

3.7 The Executive Committee shall be empowered to designate the country in which the funds will be kept for the ensuing year.

3.8 A Technical Committee shall be responsible for control and enforcement of the Measurement Rule and design of the Class in general. There shall be no limitation as to the number of members of the Technical Committee. Its members shall be elected each year by the Council at its Annual General Meeting.

3.9 Interpretation of the Class Rules shall be proposed by the Technical Committee to the Council, or when an immediate interpretation is required at IFA events, to the Executive Committee. This interpretation shall be ratified or altered by the Council or the Executive Committee and thereafter submitted to the ISAF for final decision at its next meeting.

3.10 The Executive Committee shall appoint a Finance and Marketing Committee, consisting of the Executive Director, the Treasurer, and not more than three others, who shall act in an advisory capacity to the Executive Committee on IFA finances, advertising and the production of FINNFARE.

#### **4. NATIONAL CLASS ASSOCIATIONS**

4.1 National Class Associations (NCA's) may be set up to have the jurisdiction over their members and Finn Class activities within their own national boundaries and shall be autonomous.

4.2 The Executive Committee may lay down rules for the recognition of NCA's for the purpose of IFA activities (e.g., for the right to take part in IFA-sponsored regattas). Such rules, which shall be subject to ratification by the Council, may provide for minimum paid-up membership fees, the payment of royalties, and any other matters considered relevant by the Executive Committee.

4.3 NCA's shall be responsible to IFA for enforcement of the Measurement rules and for promoting the objectives of IFA within their national boundaries.

4.4 NCA's shall be responsible for collecting IFA dues from their members and for remitting such dues annually to IFA by the date specified in Section 2.2. NCA's shall be responsible for the issue of sail numbers, Measurement and Registration Certificates, and annual Membership Stickers to their members, also for keeping copies of the Measurement Forms, but may delegate these responsibilities to their National Sailing Authorities. Each NCA shall be responsible for duly appointing its representative to the Council.

#### **5. FINN GOLD CUP**

5.1 Every year one week's racing (not less than four races) will be scheduled for the Finn Gold Cup which will be the official World Championship of the Class. Subject to compliance with the Deed of Gift of this Trophy, and to ratification by the Council, the Executive Committee shall lay down rules to apply to the sailing for the Finn Gold Cup.

5.2 In laying down such rules, the Executive Committee shall take into account that it is desirable to organise the event so that the maximum feasible number of Finn sailors from as many countries as possible may be gathered together for the week of racing. Any limitation on the number of entries should also allow proportional representation according to the numbers of members of each individual NCA.

#### **6. OTHER OFFICIAL IFA CHAMPIONSHIPS**

The Executive Committee may arrange other official IFA championships such as the Open European Championship, the European Junior Championship, and the Masters World Championship, subject to approval of the Council as specified in Section 3.4. The Executive Committee may lay down rules for the organization of such events.

#### **7. AMENDMENTS**

No amendment may be made to this Constitution except by a two-third majority of the Council at its Annual General Meeting.

## **Part B**

# **RULES AND INTERPRETATIONS FOR THE CONTROL OF THE INTERNATIONAL FINN CLASS BOATS**

### **INTERPRETATIONS TO BE USED WITH RULES FOR THE CONTROL OF INTERNATIONAL FINN CLASS BOATS**

Note: Where the Rules do not otherwise cover a case, the ISAF Measurement Instructions shall apply. The numbers of the former rules have been indicated to help in situations when reference is made in case of an old boat by the Rule number. In the event of disputes the Rules and these Interpretations take precedence over all plans and the English text shall prevail.

KEY TO MARGINAL MARKINGS: (mn - lo)

- mn : OR: Original rule, or retrospective for all boats.  
60: Applicable to boats first measured or altered since January 1960.  
62: Applicable to boats first measured or altered since 1 January 1962.  
63: Applicable to boats first measured or altered since 1 January 1963.  
64: Applicable to boats first measured or altered since 1 October 1964.  
65: Applicable to boats first measured or altered since 1 May 1965.  
73: Applicable to boats first measured or altered since 1 March 1973.  
74: Numbering as in 1974/1976 Rule Book Edition.  
81: In force since 1981 - retroactive, applicable for all boats.  
84: In force since 1984 - retroactive, applicable for all boats.
- lo: Former number of the Rule.

Example (for Rules only):

4.2.2.1 (74-6.4) (OR-18) The Rule numbered 4.2.2.1 for the new edition was numbered 18 in original Rules, and 6.4 in 1974 and 1976 Editions of the Rule Book.

## **1. GENERAL**

### **1.1 Purpose of the Measurement Rules**

1.1.1 The Finn is a One-Design Class.

1.1.2 (74-1.1) (OR-1) The object of these rules is to establish a class of boats which is one-design in all matters which affect basic speed. The rules shall be interpreted in this spirit.

### **1.2 Authority**

1.2.1 The International Authority of the Finn Class is the International Sailing Federation (ISAF). The International Finn Association will cooperate with the ISAF in all matters concerning these rules.

1.2.2 Neither the ISAF nor the International Finn Association accepts any legal responsibility in respect to these rules and/or the plans or any claim arising therefrom.

### **1.3 Eligibility**

Before a boat is eligible to race:

1.3.1 (74-19.7) The International Class Fee shall have been paid, the owner must be a member of IFA and the current yearly licence must be fixed to the boat. This current licence is the yearly sticker, which is the receipt of the yearly membership due paid to the International Finn Association.

1.3.2 The boat, her spars, sails and equipment shall have been measured by an official measurer, found correct, and the results entered on the Measurement Form and/or Measurement Cards. These must be produced upon official demand.

1.3.3 The International Finn Rule Book shall have been bought from the International Finn Association complete with the Measurement Form and an ISAF plaque.

1.3.4 The Measurement Certificate shall have been confirmed by the boat's national authority in the owner's name.

### **1.4 Class Rules and their Interpretations**

1.4.1 These rules are to be read in conjunction with the Interpretations, the Measurement Certificate and the Measurement Cards.

1.4.2 The plans of the first carvel construction, the body lines and section plans of 1964, the spirit of the rules and the standard practice in the Finn Class may be used as guidance in interpreting these rules.



1.4.3 In the event of disputes over interpretations, these rules take precedence over all Interpretations and Plans. The English text shall prevail.

1.4.4 In the event of a discrepancy between these rules, the Measurement Form, the Interpretations, or the Plans, the matter shall be referred to the ISAF.

1.4.5 Any final interpretation shall be made by the ISAF, which may consult IFA.

1.4.6 (74-1.1) (OR-1) The object of these rules is to establish a class of boats which is one-design in all matters which affect basic speed. The rules shall be interpreted in this spirit.

1.4.7 (74-1.2) (OR-2) Builders should not attempt to get around the spirit or the letter of these rules to produce boats which are intended to be basically faster. They should note that building tolerances are intended only for the purpose of accommodating accidental errors and distortions.

1.4.8 (74-1.4.1) (OR-5) Since it is unlikely that these rules can cover in detail every possible eventuality, builders are strongly advised to clear doubtful points with the IFA Technical Committee before starting construction, to avoid the possibility of boats being subsequently out of class.

1.4.9 (80-1.4.2) When points are referred to the Technical Committee under Rule 1.4.8 or by a Measurer under 1.5.4.5, the Technical Committee shall interpret the rule and submit its interpretation to the Council, or to the Executive Committee when there are urgent matters.

*1.4.9 The Technical Committee shall be guided by:*

*- The body lines and section plan, 1964.*

*- The plans of the first carvel construction.*

*- The spirit of the rules.*

*- Standard practice in the Finn Class.*

*Technical Committee interpretations should be made by at least three members.*

*Case Laws will be published in FINNFARE.*

*It is the responsibility of owners to know the contents of Case Laws.*

1.4.10 The Council or the Executive Committee shall ratify or alter the interpretation and thereafter submit it to the ISAF for final decision at its next meeting.

1.4.11 The Technical Committee's interpretation shall be valid until it is ratified or altered by the Council or by the Executive Committee. This ratification or alteration is then valid until a final decision by the ISAF.

1.4.12 Thereafter such a decision will be published from time to time as "Case Law".

1.4.13 On the Technical Committee's recommendation, to be ratified or altered by the Council or in urgent matters by the Executive Committee, the ISAF may give dispensation, in which case the Measurer shall enter full details under his comments and sign and date.

## **1.5 Measurement and Measurers**

### **1.5.1 Measurer**

#### *1.5.1.1 National Measurers*

(74-2.1) (OR-6) National Measurers shall be approved by the National Sailing Authority and the National Finn Association, or by IFA in countries where there is no National Authority.

*1.5.1.1 Measurers should be experienced in the particular problems of Finn Class measurement. National Measurers are therefore asked to attend major IFA events held in their part of the world. The Measurer's fees may be fixed by the approving authority.*

#### *1.5.1.2 Class Measurers*

(74-2.2) Class Measurers shall be proposed by the IFA Technical Committee, approved by the IFA Executive Committee and registered with the ISAF.

*1.5.1.2 Class Measurers operate at major IFA events. Afterwards they shall inform the Chairman of the Technical Committee of any problems of measurement that have arisen.*

1.5.2 Where these rules do not otherwise cover a case, the ISAF Measurement Instructions shall apply.

### **1.5.3 Measurers who are interested parties**

**1.5.3.1 (74-2.3) (OR-15) Except as prescribed by Rule 1.5.3.2, a Measurer shall not measure a boat, spars, sails or equipment owned or built by himself, or in which he is in some way an interested party or has a vested interest.**

**1.5.3.2 A person who is an interested party as described by Rule 1.5.3.1 may be approved as in Rule 1.5.1.1 for the measurement of masts, booms, sails or rudders at the manufacturer's premises.**

### **1.5.4 Measurement Procedure**

1.5.4.1 (74-4.3) (OR-7) Boats shall be complete in every respect with all necessary gear when presented for measurement except that masts, booms, rudders and sails may be measured separately.

1.5.4.2 (74-4.2-1) (OR-11) The Measurer shall see that the ISAF plaque has been fixed to the hull and the plaque number recorded on the Measurement Form. He shall add the official IFA stamp to the mast near the heel, to the boom near the black band, to the rudder head, and on the centreboard arm, when these items have passed measurement, punching at the same time his consecutive number (for the item) and his initials - as identification marks. The Measurer shall enter all measurements in the Measurement Form attached to the Rule Book and/or on Measurement Cards - for mast, boom and rudder, where he also enters the identification marks as assigned. The centreboard is always measured together with the hull, details appearing on the Measurement Form.

*1.5.4.2 Record all measurements and answers. Ticks are not sufficient.*

1.5.4.3 (74-4.2-2) (OR-12) After it has passed measurements, each new or substantially altered sail shall be signed and dated legibly by the Measurer inside a circle near the headboard or the tack, and also signed across the IFA Sail Label.

1.5.4.4 (74-4.2-3) All new equipment mentioned in Rules 1.5.4.1 and 1.5.4.2 shall, if passed, be stamped and signed by the Measurer, who must fill in the Measurement Form or Measurement Cards as appropriate. Measurement Cards shall be attached to the Rule Book.

*1.5.4.4 Certificates shall be kept attached to Rule Books together with the Measurement Cards as required for masts, booms and rudders. All shall be provided by IFA only.*

1.5.4.5 (74-4.1) Measurers shall report doubtful cases to the IFA Technical Committee and enter a suitable comment on the Measurement Form (or Certificate in case of a boat already registered).

*1.5.4.5 If an appropriate measurement or answer cannot be written, the Measurer shall write alongside "see comments" and enter a suitable comment in the space provided.*

### 1.5.5 (74-5) (64-8) **Templates**

Boats shall be measured with certified copies of the Master set of Templates held by IFA. National Finn Associations or National Authorities shall hold duplicates of the Master Templates and they shall issue to their own Measurers certified copies. All Templates shall be checked, initialled, dated and given a serial number by the Authority issuing them.

*1.5.5 National Authorities may obtain from IFA certified duplicates of the master set of templates.*

1.5.6 All boats, spars, sails and equipment shall be liable to re-measurement at the discretion of the National Authority or race committee, but only by an official Measurer.

1.5.7 (74-3.7) (OR-16) Certificates shall not become invalid solely because the boat does not comply to rules applicable after first measurement of the boat. If during the life of the boat, alterations or renewals are made to any part of the boat or its equipment, then the altered or renewed part shall thereafter conform to the new rules.

*1.5.7. It is intended that hulls should be measured under the Class Rules in force at the time they were built. Exceptions to this are indicated in the markings between brackets ahead of each rule.*

## 1.6 **Owner's Responsibilities**

1.6.1 (74-1.3) (OR-4) It is the responsibility of the owner to see that the boat is properly measured. The boat must remain in class following any altering, adding or rebuilding of the boat.

1.6.2 (74-3.6) (OR-10) New owners should make certain they are buying a fully certified boat. A buyer of a second hand boat shall take over the responsibility of keeping the boat in class by signing the owner's copy of the Measurement Certificate. He shall immediately inform the authority issuing the certificate of his new ownership. The certificate does not become valid for the new owner until signed by him.

1.6.3 It is the owner's responsibility to ensure that stretching of the sail after the measurement does not result in maximum dimensions being exceeded.

1.6.4 It is the responsibility of the owner to know and to comply with the requirements of Case Laws as published in FINNFARE from time to time.

1.6.5 (74-14.4) (OR-76) It is the responsibility of the owner to see that the buoyancy apparatus is kept securely fastened and fully effective when afloat. If Measurers are not satisfied with a visual check, then a full flotation test shall be carried out.

1.6.6 It is the responsibility of the owner to see that the "hull depending" rules for the masts and rudders (see 4.2.6.3, 4.4.4.2 to 4.4.4.4 and 4.6.2.3) are adhered to.

1.6.7 It is the responsibility of the owner to see that the boat complies with rules controlling weight at all times.

## 2. **ADMINISTRATION**

### 2.1 **Language**

2.1.1 The official language of the Finn Class is English. In the event of dispute over translations, the English text shall prevail.

2.1.2 Whenever the words "Class Rules" are used in these rules, it shall be understood to include the Rules and Interpretations - as contained in this book - and Case Laws - as published from time to time in FINNFARE. Plans may be referred to for guidance.

## **2.2 Administration of the Finn Class**

2.2.1 The administering authority is the International Finn Association (IFA) as described in Part A of this book: IFA CONSTITUTION.

2.2.2 In countries where there is no National Sailing Authority (N.A.) or the N.A. does not wish to administer the Class, its functions as stated in these rules shall be carried out by IFA or its representatives (National Finn Associations).

## **2.3 The International Class Fee and the ISAF Plaque**

2.3.1 The International Class Fee (ICF) shall be paid by the builder on every hull built, whether or not it is subsequently measured and registered. Payment shall be made to IFA, which will transfer to Sailing International Limited and issue an ISAF plaque.

2.3.2 The amount of the ICF may be revised annually by ISAF in consultation with IFA.

2.3.3 The ISAF plaque shall be fixed to the centreboard case or aft face of the cockpit.

2.3.4 No hull shall leave the builders' premises without the ISAF plaque affixed.

## **2.4 Builders**

2.4.1 The Finn may be built by any professional or amateur builder.

2.4.2 Professional builders shall be responsible for supplying boats or kits complying with the Finn Class Rules. The builder shall, at his own expense, correct or replace any boat which fails to pass measurement, due to omission or error by the builder, provided that the boat is submitted for measurement within twelve months of purchase.

## **2.5 Registration**

2.5.1 A valid Measurement and Class Registration Certificate is an original or certified true copy of the Measurement Form, which has been signed by the owner and stamped by the National Authority.

*2.5.1. The issuing Authority shall be the National Finn Association, or (if this does not exist) the National Authority, or (if this does also not exist) the IFA Executive Director.*

2.5.2 The Measurement Certificate is only valid if the owner is a current member of a National Finn Association (NFA) or if there is no NFA in his nation, the owner must be a member of IFA.

### **2.5.3 Registration Procedure**

2.5.3.1 The builder or owner shall purchase a Rule Book containing a Measurement Form and an ISAF plaque from IFA.

2.5.3.2 The number of the ISAF plaque must be copied onto the Measurement Form.

2.5.3.3 (74-3.1) (73-9) The Measurement Form and its copy shall be filled in by an approved measurer and by the owner as required.

2.5.3.4 (74-3.2) When the Measurement Form and the copy are satisfactorily completed, or after all comments have received a favourable solution, then the Measurement Form and copy shall be signed by the measurer and the owner and sent to the National Authority.

2.5.3.5 (74-3.3) The N.A. may then sign and stamp the Measurement Form which thus becomes the boat's Measurement And Class Registration Certificate. This shall be returned to the owner, and the copy of the Measurement Form shall be retained by the N.A. The N.A. shall issue a sail number for the boat.

*2.5.3.5. The measurement and class registration certificate, attached to this Rule Book, shall be returned to the owner. The copy shall be retained by the issuing Authority.*

2.5.3.6 The Hull Identification Sticker Number/ISAF plaque can never be changed. In the event that the boat is sold to ownership in another country, the new owner shall sign and forward the Measurement and Registration Certificate to the N.A. of that country, who shall keep a copy, stamp and return the Certificate, and issue a new sail number for the boat.

2.5.3.7 (74-3.4) If the boat does not measure correctly or if the Measurer's comments cannot receive a favourable interpretation the Measurement Form shall not be signed and cannot become the boat's Measurement and Registration Certificate.

2.5.3.7. *If such a comment appears, in case of a new boat, this book shall not be signed in accordance with Rule 2.5.3.5 until approval is obtained from the Technical Committee, or until the boat is corrected and re-measured. In the case of a certified boat this comment shall invalidate the certificate and it can only be restored after correction and re-measurement.*

2.5.3.8 When the owner has paid his yearly IFA dues through his National Finn Association or directly to IFA, he shall be supplied with the yearly IFA Sticker. The IFA dues have to be paid before May 1st of each year. Except in IFA Championships, the IFA Sticker of the previous year is valid until June 15th.

2.5.3.9 (74-3.5) (OR-9) Every boat of the Finn Class entering a race shall hold a valid Measurement And Class Registration Certificate (which shall be produced upon official demand) and shall have the current IFA Sticker affixed.

### 3. PROTECTION OF ONE-DESIGN

3.1 The master standard of hull shape consists of theoretical lines on a metal sheet held in the custody of IFA. All templates used for measurements shall be certified copies of a master set, checked against the theoretical lines as described in Rule 1.5.5.

*IFA can provide a table of co-ordinates enabling easy programming of a numerically controlled milling machine for cutting templates. However, final responsibility for the product and its certification lies with a producer.*

3.2 (74-1.2) (OR-2) Builders shall not attempt to get around the spirit of these rules to produce boats which are intended to be faster. They should note that building tolerances are intended for the purpose for accommodating accidental errors and distortions.

3.3 If the Measurer considers that there has been any attempt to depart from the One-Design, or the Class Rules in any particular way, he shall report the matter on the Measurement Form. Then the N.A. shall report the matter to the ISAF, which shall give its decision before a Measurement and Class Registration Certificate is issued.

3.4 (74-15.6.1) Unless otherwise stated in these rules the methods of construction and the material are unrestricted.

### 4. CONSTRUCTION AND MEASUREMENT RULES

#### 4.1 ISAF Plaque

The hull shall carry an ISAF plaque as defined in Sections 2.3.3 and 2.5.3.2 affixed at a well visible spot on the centreboard case. The hull always has to be presented with the Rule Book carrying the same identification number.

*The ISAF plaque replaced the Hull Identification Sticker in 1992.*

#### 4.2 Hull and Deck

##### 4.2.1 Materials

Structural panels, which include the hull shell, tank sides, decks, floorboard or inner bottom, centreboard case and bulkheads shall be made from wood or glass reinforced plastic, except that additional stiffening and local reinforcement may be of any material.

##### 4.2.2 Shape of the Hull

*Rule 4.2.2 Defining the hull shape requires use of a measurement jig to check length distances of the hull. The jig should be used during measurements at major championships and preferred for the first measurement of a boat, particularly at builder's premises. Measurers sometimes use alternative methods of hull measurement, one of them based on levelling the hull on the horizontal plane with 468 mm vertical difference between levels of the Aft Measurement Point (keel-transom intersection) and the top point on the stem. Such methods have no legal implications. In case of different results, the measurement results obtained with the use of the jig prevail. Diagram 1 shows the principle of the measurement jig and how to set the hull in the jig.*

*The measurement shall start with positioning the hull upside down on the measurement jig. The jig shall consist of a horizontal frame materializing distances from the Aft Measurement Point (where keel line intersects the transom) to Sections in the horizontal plane and of a vertical frame materializing the base line above the keel. This allows positioning of the hull at the required distances on Station 0 and Station 8. The IFA Technical Committee can, on request, provide a drawing of a good jig construction, which may serve as a guide for construction of the tool, based on local materials and possibilities. The boat has to be supported bottom up firmly on the horizontal frame in such a way that the base line is set exactly at a  $x+201$  at the Aft Measurement Point and  $58+x$  at a point 4000 mm forward, measuring along the base line,  $x$  being a constant for a particular jig (see Diagram 1). It is practical that the bar defining the base line rests horizontally. Although the principle of measurement requires only right angles between the elements of the jig, the /horizontal situating is desirable, allowing for a number of points to be found with a spirit level. The beams of the jig should be situated at least at stations 1, 2, 4, 6, 8 (i.e. 0.5, 1, 2, 3, 4 meters from the AMP). They serve, together with vertical posts on the horizontal bar, to define planes of sections where templates are applied or cockpit measurements made. Overall length of the boat referred to the AMP can now be measured. Check for verticality of the transom, using a spirit level. The maximum distance of the transom surface from the AMP (at Station 0) as defined in Rule 4.2.2.2. should not be greater than 5 mm. Make notes of the distance of the transom to Station 0 for future use when checking the distance of the leading edge of the rudder to Station 0. The Measurer shall refuse to measure boats which have transoms more than 5 mm out of the theoretical Station 0 plane.*

4.2.2.1 (74-6.4) (OR-18) Hulls shall follow the general arrangement shown in the Plans except where added to or varied by these rules.

4.2.2.2 Length measurements are taken from one of the following: Aft Measurement Point - the intersection of the line of the keel and the centreline of the transom. Aft Measurement Plane - the vertical plane through the Aft Measurement Point, which is the Station 0 plane.  
(See Diagram 1).

4.2.2.3 (74-6.7) (OR-23) The baseline shall be set up at exactly 201 mm height from the Aft Measurement Point and exactly 58 mm from the underside of the keel at Station 8, the distance between the Aft Measurement Point and Station 8 being 4000 mm, measured along the baseline.

4.2.2.4 (74-6.5) (OR-21) Overall length from the plane of Station 0 to the outside of the stem band, but excluding any overlap of deck and hull at stem and transom, which is controlled by Rule 4.2.8.1 shall be: 4495 mm + or - 15 mm.

4.2.2.5 (74-6.7) (OR-23) Measurement of the keel profile shall be made from the base line as defined in the Rule 4.2.2.3 to the underside of the keel excluding keel bands. The distance in the plane of the sections shall be:

152 mm + or - 5 mm at Station 1  
109 mm + or - 10 mm at Station 2  
45 mm + or - 10 mm at Station 4  
16 mm + or - 10 mm at Station 6

*Using the stiff horizontal bar of the jig and taking advantage of the studs on it, or applying a taut string set up exactly 201 mm and 58 mm above keel line at Station 0 and Station 8 respectively, check keel profile defined by Rule 4.2.2.5 (Diagram 2). Based on the beams on the jig and studs on the bar defining the base line and using templates as extending tools, mark station points on the sheer guards and on the keel band (e.g. using a felt pen).  
(See Diagram 2.)*

4.2.2.6 (74-6.8) (64-24) The hull shall conform to the official templates with a tolerance of 0 to 10 mm. This shall be controlled at Stations 0, 2, 4, 6 and 8 by means of official full-width outside templates made 5 mm larger than the sections and with sufficient cut-outs for the keel band and sheer guards. The hull shall not lie more than 10 mm inwards from the templates measured in the plane of the sections. The centreline marked on the template shall lie opposite the centreline of the keel. The sheer height shall lie within 10 mm of that marked on the template.

*The station points are now used to apply templates and clearances are measured, in the planes of the Stations, between templates and the hull shell (Rule 4.2.2.6) - Diagram 3. The wedges, which may be used for positioning templates against the hull surface (starting with theoretical 5 mm distance at the keel, to be adjusted as necessary), are not meant to give readings of the gap between hull surface and templates. They give wrong results when the gap is close to the tolerance. A precise ruler should be used in the planes of the Sections. Normally the Measurer will find that a certain adjustment of the wedges is necessary to enable the template to fit correctly, while also allowing the sheer to lie within the tolerance and also for the gap to be nowhere more than 10 mm.*

*If it is impossible for all these conditions to be satisfied, the Measurer should try to decide whether any minor alteration of the hull could enable the template to be fitted correctly, and inform the owner. Sometimes re-positioning the centreline of the hull will enable the template to be fitted. Padding the hull with tape so as to make the hull conform to the official templates is not acceptable. Adhesive tape is to be considered as a removable fitting and is therefore not a part of the hull.  
(See Diagram 3.)*

4.2.2.7 The transom shall be substantially vertical and not more than 5 mm out of the Aft Measurement Plane.

4.2.2.8 (74-6.9) (64-25) The profile of the stem including the stem band to Station 8 shall be controlled by a template cut 5 mm larger than the stem profile given on the plans, except at Station 8 and 50 mm below the sheer where the template shall not be cut away for a length of 10 mm and shall touch the boat.

The Station 8 end of the template shall be placed exactly at Station 8 plus or minus the actual tolerance found on the overall length of the boat. The stem including the stem band shall lie not more than 10 mm inwards from the template, and the sheer shall lie within 10 mm of that marked on the template.

*Check the stem profile, according to 4.2.2.8. See Diagram 4.*

*The stem profile cannot be measured correctly unless the Station 8 end is adjusted accordingly to the actual difference between the overall length of a particular boat and the true theoretical overall length (4495). See Diagram 4.*

*Hull shell fairness, as in original plans, is to be maintained throughout hull construction. In doubtful cases the method of visualizing hollow areas or hard spots with an elastic batten, as suggested by the ISAF Measurement Manual, should be used. Results of normal wear, surface deterioration or concave part of bow surface (when measuring at an angle to waterlines) are not regarded as contravening the rules.*

*The remaining measurements on the hull upside down are straightforward and are explained as necessary in the diagrams. Diagram 6 for keel bands.*

*Note that padding resulting in masking of keel bands is prohibited. Padding to connect double keel band at the ends of the centreboard slot to the single keel bands along the keel is not allowed.*

*(See Diagram 4.)*

4.2.2.9 The keel bands are optional from Station 0 to the forward end of the centreboard slot.

4.2.2.10 Forward of the centreboard slot the stem band and keel band are compulsory. They shall not be smaller in section than 6 mm radius half round.

They shall be made in metal or durable plastic. Between Station 0 and Station 8 Bands shall be made separately from the hull (for boats first measured after October 1, 1964), they shall be constant in section and the section shall be fully apparent at any point. Between Station 8 and the top of the stem, they may be made part of the hull, but shall not be smaller in section than 6 mm radius. The forward keel band may be tapered for up to 25 mm from the forward end of the Centreboard Slot.

(See Diagram 6.)

#### 4.2.3 Shape of Decks and Cockpit

##### *Rule 4.2.3 - Cockpit and Decks*

*With the hull out of the jig and deck up, mark Stations on side decks starting from marks on the sheer guards, using a straight batten and a spirit level (Diagram 7). Mark stations 2, 3, 4, 5. Locate Station points in the cockpit. Diagram 7 shows approximate way of projecting station planes being a compromise between practicality and accuracy. The method starts with sheer points marked with the use of the jig, but continues with approximate levelling and vertical projections.*

*The way of checking smallest cockpit area, defined by Rule 4.2.3.4 is shown on Diagram 8 and of a maximum area, as in Rule 4.2.3.5, on Diagram 9. Diagram 10 shows how cockpit limits are defined when a carling, or a bulkhead or breakwater form sloping surface at cockpit ends. (Rules 4.2.3.6, 7, 8). A sloping rear bulkhead is limited at floor level by Rule 4.2.3.8, maximum length of the aft deck, which is measured 30 mm above floor level (30 mm is maximum allowed radius where two panels meet). Regarding controls defined by Rules 4.2.3.4, 4.2.3.5, (decking, side tanks) and 4.2.5.4 (depth of floorboards) it is required that panels defined by above-mentioned rules, when checked between measurement stations, have to be bound by imaginary straight lines connecting limits defined by the tolerances at points controlled. Holes in the deck, covered with a sheet of plastic are prohibited. Pieces of wood or any other material to make hiking easier, fixed on the deck, are allowed. They may be considered as fittings. They must only be screwed or bolted onto the deck. They may not be glued, and thus made part of the deck.*

*(See Diagram 7.)*

4.2.3.1 (74-7.1) (OR-27) The general arrangement of decking and cockpit shall be substantially as shown in the plans except as varied by these rules.

4.2.3.2 (74-7.2) (OR-28) The ends of the cockpit shall be either straight across the boat or faired into the side decks in compliance with Rule 4.2.3.4.

4.2.3.3 (74-7.3) (64-30) The shapes of the decking and built-in tanks shall be approximately the same on both sides of the boat.

4.2.3.4 (74-7.4) (OR-31) The distance between opposite side decks or between built-in tanks shall not be less than:

820 mm	at Station 2	
1000 mm	at Station 3	
980 mm	at Station 4	
880 mm	at Station 5	(See Diagram 8.)

4.2.3.5 (74-7.5) (60-32) At Stations 2, 3, 4 and 5 there shall be at least one point between sheer height and 100 mm below sheer height where the side decks or built-in tanks reach inboard enough so that they are not further apart than:

1040 mm	at Station 2	
1120 mm	at Station 3	
1100 mm	at Station 4	
1000 mm	at Station 5	(See Diagram 9.)

4.2.3.6 (74-7.6) (OR-33) The crown of the transom shall be 50 mm + or - 5 mm above the sheer at Station 0.

4.2.3.7 (74-7.7) (64-34) The top of the deck on the centreline shall not lie more than 10 mm from a straight line between the stem head and the transom. Break-waters and cockpit coamings are allowed and may be disregarded for the purpose of measuring the deck line. Mast deck bearing arrangements may also be disregarded, subject to Rule 4.2.6.1.

(See Diagram 10.)

4.2.3.8 (74-7.11) (OR-38) Length of the foredeck within the limits of Rule 4.2.3.7:

1400 mm + or - 50 mm  
Length of the aft deck within the limits of Rule 4.2.3.7:

600 mm + or - 50 mm

4.2.3.9 (74-7.8) (OR-35) Hatches may be fitted in any deck. Hatch covers must be in place when racing.

4.2.3.10 (74-7.9) (62-36) The corners where two panels meet may be rounded to maximum radius of 30 mm.

*Diagram 11 shows measurements of the thwart and of the Centreboard Case - Rules 4.2.3.10 to 4.2.3.12.*

*There is no limit on a depth of centreboard case capping - it may extend down to the bottom.*

*(see Diagram 11.)*

4.2.3.11 (74-7.10) (OR-37) The thwart shall have:

outside dimensions 21 mm + or - 5 by 75 + or - 5 mm; the aft side 20 mm in front of Station 4 + or - 30 mm, the top not more than 130 mm below the sheer.

4.2.3.12 (74-8.6) (64-44) The centreboard case shall not be more than 100 mm wide.

#### 4.2.4 Centreboard Case

4.2.4.1 (85-8.4.1) The slot in the centreboard case shall be of uniform width 10 mm + or - 2 mm down to the underside of the keel, except that longitudinal strips extending the full length of the centreboard slot, and of uniform thickness, are permitted if done equally on both sides of the slot. Longitudinal tapering and rocking points are prohibited.

*Rule 4.2.4.1 Centreboard (CB) Case construction.*

*If the CB Case has warped unintentionally, Measurers may note that the object is to prevent the board being angled. Provided the Measurer is satisfied of this, he may, at his discretion, pass the boat.*

*The parallel longitudinal strips allowed inside the CB Case are meant to allow using a thin Centreboard in a wide CB Case without penalizing the competitor. They may not allow for any type of changing CB angle.*

4.2.4.2 (74-8.4-2) (65-82) Centreboard slot sealing strips are prohibited.

4.2.4.3 (74-8.5) (OR-43) The centre of the pivot shall lie:  
45 mm + or - 5 mm above the underside of the keel excluding keel bands.

4.2.4.4 The distance from the Aft Measurement Point to the aft edge of the partially or fully extended centreboard, shall be not less than 2050 mm, measured along the flat under the keel band.

**Rule 4.2.4.4**

*Measure from the bottom of the Transom along the side of the keel band. Make sure the centreboard is as far aft as it can be moved.*

4.2.4.5 (74-8.5.3) The difference between the size of the pivot hole and the size of the pivot pin shall be less than 3 mm.

**Rule 4.2.4.3, 4.2.4.4, 4.2.4.5**

*The Rules prevent centreboards being moved away from the pivot position by more than 1.5 mm. It shall be interpreted in such a way if another system such as a slot is provided. In particular the direction of a slot shall not allow fore and aft movement of more than 3 mm.*

4.2.4.6 (74-8.5.4) The pivot pin shall go through the walls of the centreboard case and the centreboard shall be easily removable.

#### 4.2.5 Floorboards

4.2.5.1 (74-9.1) (OR-45) The floorboards shall extend at least from Station 4 to the aft end of the cockpit. They may be pierced with holes totalling not more than 10 percent of their nominal area. They may be part of the hull so as to form a double bottom.

4.2.5.2 (74-9.2) (OR-46) From Station 4 to the aft end of the cockpit, the floorboards shall lie in a straight line athwart ships and shall have sufficient support to enable them to remain substantially flat when under load.

*Rule 4.2.5.2 Floorboards*

*They should lie straight athwartships. This is checked with a maximum deviation allowed to be 5mm. The double bottom filled in with foam cannot be regarded as a sandwich construction; the upper surface of the double bottom construction should comply with requirements of Rule 4.2.5.2 regarding floorboards. For panel fairness reference Rule 4.2.5.4, together with Rules 4.2.3.4 and 4.2.3.5.*

4.2.5.3 (74-9.3) (OR-47) Minimum width of the floorboards shall be:

800 mm	at Station 2
880 mm	at Station 3
720 mm	at Station 4

4.2.5.4 (74-9.4) (OR-48) The floorboards shall lie not less than the following distances below the sheer:

285 mm	at Station 2	
325 mm	at Station 3	
375 mm	at Station 4	
375 mm	at Station 5	(optional floorboards or double bottom)
390 mm	at Station 6	(optional floorboards or double bottom)

4.2.5.5 (74-6.2) Normal stringers and reinforcements of the hull in any position are allowed.

#### 4.2.6 Mast Bearings

**Rule 4.2.6**

*Diagram 13 shows how to check mast position in the hull as prescribed in Rule 4.2.6.2.*

4.2.6.1 (74-10.1) (64-51) The position of the mast hole in the deck shall be free. Bearing surfaces shall not extend more than 10 mm above the deck.

4.2.6.2 (74-10.2) (OR-52) The heel of the mast shall rest at a point not more than 50 mm from the underside of the keel excluding keel bands.  
(See Diagram 13.)

4.2.6.3 (81-10.3) The fore-and-aft movement at the masthead due to play at the deck and heel bearing systems, shall not exceed (10cm), when measured in the prescribed manner With the boat held stern down, a light line shall be rigged at a constant tension from the masthead halyard sheave to the top of the transom. The mast shall be pushed maximum forward and maximum aft to take up play at the bearings. The difference in the distance from the masthead to the transom shall not exceed 10 cm.

4.2.6.4 (74-10.4) (OR-54) The bearings on both mast and boat shall be made of metal or some other similarly hard material so that Rules 4.2.6.5 and 5.4 are not contravened.

4.2.6.5 (74-10.5) (OR-55) The mast bearings may be adjustable for position fore and aft when not racing, but any adjustable or movable part, whether permanently part of the step or not, shall always be forward of Station 7.

#### 4.2.7 Buoyancy Equipment

4.2.7.1 (74-14.1) (OR-73) Surplus buoyancy shall be fitted to the hull so that in the event of complete flooding the fully rigged boat will float approx. level.

4.2.7.2 (74-14.2) (OR-74) Buoyancy units are bags, tanks or foam blocks complying with Rule 4.2.7.1. Other buoyancy may be fitted provided that no other rule is infringed.

*Rules 4.2.7.2 to 4.2.7.7 Buoyancy.*

*A tank completely filled with foam plastic shall not count as two units. A tank having holes for running rigging or for the mast is not a buoyancy unit.*

*The hatch shall have a detachable cover capable of resisting accidental dislodgement and that cover shall be kept in place at all times when afloat.*

*For the purpose of Rule 4.2.7.6. the cockpit area shall be considered to be the space between the vertical projections of the decks and of the centreboard case capping.*

*Measurers, Race Committees, or Juries having reasonable grounds for suspecting that a boat's buoyancy is ineffective, may require that a buoyancy test be satisfactorily completed at any time.*

4.2.7.3 (74-14.2-1) At least four separate buoyancy units shall be fitted so that the flooded boat can provide a minimum of 120 kg of positive buoyancy. The loss of any one unit shall leave a minimum of 90 kg of support intact.

4.2.7.4 (74-14.2-2) The buoyancy units shall be fitted in such a way that it is possible to check their existence, condition and size, after the hull has been completed.

4.2.7.5 (74-14.2-3) All tanks considered as buoyancy units shall be fitted with inspection hatches of minimum diameter 95 mm. The hatch covers must be in place while racing.

4.2.7.6 (74-14.3) (OR-75) There shall be no surplus buoyancy within the cockpit area above the floorboards except that flexible bags may bulge within this area as long as their main volume and their anchorages for the fixation straps are outside it. (Rules 4.2.3.4, 4.2.3.5)

4.2.7.7 (74-14.4) (OR-76) It is the owner's responsibility to see that the buoyancy apparatus is kept securely fastened and fully effective when afloat. If Measurers are not satisfied with a visual check, then a full flotation test shall be carried out.

#### 4.2.8 Miscellaneous Items

4.2.8.1 (74-15.1) (OR-77) Sheer guards shall measure not more than 25 mm at a right angle from the shell and 35 mm down from the sheer along the shell. For hulls constructed or altered after 1 March 1998, sheer guards are required. Sheer guards shall measure not less than 20 mm at a right angle from the shell and 20 mm down from the sheer along the shell (this requirement does not apply within 100 mm of the stem and within 100 mm of Station 0). Sheer-guards may be formed as part of the hull in plastic boats. They shall be capable of supporting the boat for the pendulum test.

*Miscellaneous measurements.*

*The sheer guards shall be measured in the manner shown in Diagram 19. (Rule 4.2.8.1)*

4.2.8.2 (74-15.2) (OR-78) Breakwaters and cockpit coamings are allowed.

4.2.8.3 (74-15.3) (64-79) Maximum number of transom holes is four. Two shall fit within circles of 150 mm diameter, and two others shall be maximum of 30 mm diameter.

4.2.8.4 (79-15.4) The centreline of the mainsheet block attached to the traveller, when in vertical plane, shall not be capable of travelling more than 550 mm from the centreline of the boat and not more than 150 mm in front of Station 4.

*Rule 4.2.8.4*

*Recesses in side tanks for the purpose of accommodating mainsheet traveller movement, allowed by Rule 4.2.8.4, are legal provided they do not contravene Rules 4.2.3.5 and 4.2.7.*



4.2.8.5 (74-15.6-2) There are no restrictions on the types of fittings which are used to enable the boat to be sailed. A fitting is anything which is screwed or similarly fastened onto the main structure of the boat. It shall be possible to remove a fitting without damaging the structure. Holes and recesses may be cut to receive a fitting but measurers shall report details of any fitting which in their opinion alters the one-design character of the boat. All fittings shall have a reasonable weight, i.e. a weight which cannot be used to alter the boat's weight distribution.

*Rule 4.2.8.5*

*The Measurer shall take note of Rule 4.2.8.5 and make sure that all fittings are genuine and not likely to gain for the owner unfair advantages. Any doubtful cases shall be reported to the IFA Technical Committee under Rule 1.5.4.5.*

### **4.3 Centreboard**

#### **4.3.1 (74-8.1) (OR-39) Materials**

4.3.1.1 The centreboard shall be made from a sheet of uniform thickness. Only aluminium alloy or steel are permitted. Any protective coating not more than 1.0 mm in thickness is allowed.

4.3.1.2 For boats built after March 1, 1997, the Centreplate shall be made from a sheet of aluminium alloy of 8 mm nominal thickness. The plate may be anodised or coated with a clear coating. Fibre and opaque reinforcement are allowed only to repair corrosion and other damage. The builder must stamp the plate "8".

#### **4.3.2 Shape of Centreboard**

*Rule 4.3.2*

*Diagram 12 shows measurement of the Centreboard.*

*(See Diagram 12.)*

4.3.2.1 (74-8.2) (OR-40) The shape shall be as shown on the plans.

4.3.2.2 (74-8.2-1) Large radius: 890 mm + or - 5 mm.

4.3.2.3 (74-8.2-2) Small radius: 35 mm + or - 5 mm.

4.3.2.4 (74-8.2-3) Chord length: 820 mm + or - 5 mm.

4.3.2.5 (74-8.2-4) Edges may be shaped for not more than 25 mm.

4.3.2.6 (84-8.2-5) The centreboard shall be of uniform thickness except as allowed by rule 4.3.2.5.

4.3.2.7 (74-8.2-6) The length and the shape of the arm is free; a stop shall be fitted so the centreboard cannot contravene Rule 4.3.4.

#### **4.3.3 (74-8.2-7) Weight**

Weight not more than 16 kg.

4.3.4 (74-8.3) (OR-41) When fully lowered the centreboard shall not project more than 700 mm from the keel, excluding keel bands, measured to a theoretical reference point. Normal wear is allowed, however the reference point is to be used for the purpose of this rule. Theoretical reference point, which shall be used during first measurement of the centreboard shall be where the straight line extension of the leading edge meets the largest radius measured.

*Rule 4.3.4*

*For the purpose of finding maximum projection of the centreboard, a theoretical reference point should be used during a first measurement of the CB. It shall be where the straight line extension of the leading edge meets the largest radius measured.*

*When the CB is checked at regattas, a simplified way of finding the reference point is by using tangential extensions of the leading edge and the trailing edge, but not at the World or Continental Championships.*

4.3.5 In its raised position no part of the centreboard shall project below the hull.

### **4.4 Rudder**

*Rule 4.4 Rudder*

*Diagram 15 explains measurement of the rudder as required by Rules 4.4.2.1, 4.4.2.2, 4.4.4.3 and 4.4.4.4.*

*Fit the rudder onto the boat and put the pin in lifting rudders. Lay the template against the rudder so that the two leading edges conform + or -5 mm below keel level. Point "k" shall lie within + or -5 mm of the bottom of the transom.*

*When checking rudder to Station 0 distance account for transom slope as noted during hull measurement.*

#### **4.4.1 Materials**

Materials for rudder construction are free.

#### **4.4.2 Shape**

(See Diagram 15.)

4.4.2.1 (74-11.1) (64-56) The outline shape of the blade below the keel level and the leading edge up to deck level shall conform to the official template including the position of the keel + or - 5 mm. The leading edge shall be straight above the keel level.

4.4.2.2 (74-11.2) (OR-57) Maximum thickness below keel level 23 mm. Metal leading edges may be fitted.

#### 4.4.3 (74-11.6) **Weight**

The weight of the rudder, together with a tiller, tiller extension and all other fittings shall not be less than 4 kg.

#### 4.4.4 **Fittings**

4.4.4.1 (74-11.3) (OR-58) Lifting rudder blades shall be pinned or bolted in the position shown in the plans during racing. Lifting may be allowed by a National Authority or by a Race Committee if the local conditions justify it and if it is clearly stated in the Notice of Race and in the Sailing Instructions.

4.4.4.2 (74-11.4) (OR-59) There shall be a fitting to prevent the rudder from falling off if the boat is upside down.

4.4.4.3 (74-11.5) (64-60) The distance between the foreside of the rudder blade and the plane of Station 0 shall be measured at deck level and at the keel level. The difference between these two measurements shall not be more than 3 mm.

4.4.4.4 (OR) The distance at keel level shall not be more than 45 mm.

4.4.5 It is the responsibility of the owner to see that Rules 4.4.4.2 to 4.4.4.4 are adhered to in regard with all rudders used with his hull.

4.4.6 A Rudder Measurement Card is valid only in conjunction with a specific hull, of which the Hull Identification Number/ISAF plaque is to appear on the Card.

### 4.5 **Weight**

4.5.1 (74-16.1) (OR-83) When weighed, the boat and its equipment shall be in dry condition and cleaned out to the satisfaction of the measurer.

#### 4.5.2 **Hull weight**

4.5.2.1 (74-16.3) (OR-88) The total weight of a boat ready for racing including fittings, ropes, painter, corrector weights and other gear, but excluding mast (as defined in Rule 4.6.4.1), boom (as defined in Rule 4.7.4), rudder (as defined in Rule 4.4.3), sail, paddle and bailer or bucket shall not be less than 120 kg.

4.5.2.2 (84-16.4) Additional lead correctors, if needed, shall be fastened in accordance with Rule 4.5.2 and 4.5.3. Correctors shall be visible to allow for inspection without use of tools. This ruling is retroactive, i.e. applies to existing boats.

4.5.2.3 (74-16.5) (OR-89) The total weight of hull correctors shall not exceed 5 kg and they shall be permanently attached when the requirements of Rules 4.5.2 and 4.5.3 have been met.

Lead correctors shall be marked with the weight and fastened to the boat. The amount and the exact position shall be entered on the Measurement Certificate.

#### 4.5.3 (81-17) **Hull Weight Distribution and Centre of Gravity**

4.5.3.1 (81-17.1) The hull shall be controlled in the following conditions: the boat ready for racing but excluding spars, sail, mainsheet, rudder, tiller, paddle and bailer. Control lines and painter shall be pulled tight and wrapped around the thwart; the centreboard shall be raised so its lower corner is even with the flat supporting keel bands; also refer to Rule 4.5.1. The hull shall be successively supported by two transverse axes 01 and 02 so that the base line is level. 01 shall be the upper axis; the vertical distance 01-02 shall be 200 mm.

#### **The following measurements shall be made:**

Distance  $\lambda$  from the centre of gravity to Station 0.

Distance  $d$  of axis 01 to the underneath of the keel (keel bands excluded). Periods of oscillations: T1 around axis 01. T2 around axis 02.

4.5.3.2 (81-17.1-1) Distance  $\lambda$  shall not be less than 2100 mm or more than 2290 mm.

4.5.3.3 (81-17.1-2) Distance  $h$  from underneath the hull, keel bands excluded, to the centre of gravity (calculated from the graph) shall not be less than 210 mm.

4.5.3.4 (81-17.1-3) Radius of gyration  $r$  shall not be less than 1100 mm.

4.5.3.5 (81-17.1-4) If necessary, lead correctors shall be permanently attached. They shall comply with Rule 4.5.2.3. Corrector weights required by Rule 4.5.2.2 may be moved to comply with rules 4.5.3.2, 4.5.3.3, 4.5.3.4. Correctors shall be visible to allow for inspection without use of tools. This ruling is retroactive, i.e. applies to existing boats.

### WEIGHT

Lead correctors shall be marked with the weight and permanently fastened (bolted, screwed or glassed in). The number, total weight and the exact position shall be entered in the measurement column.

#### WEIGHT DISTRIBUTION AND CENTRE OF GRAVITY: PRINCIPLES

The degree of concentration of the weight in the boat is described by the radius of gyration. A boat with "light ends" has a short radius of gyration.

In Diagram 20, if "a" is the distance from the oscillation axis 01 to the centre of gravity G, "ρ" is the radius of gyration, and "g" is the acceleration due to gravity, then the oscillating period T1 is given by:

**EQUATION 1**  
(available on hard copy)

We can measure T but we have two unknowns "a" and "ρ"; so we need two equations. Another is obtained by choosing a new oscillation axis 02 exactly 200 mm lower.

**EQUATION 2**  
(available on hard copy)

Hence by measuring T1 and T2 we may calculate "a" and "ρ".

Solutions applicable to the Finn are presented in the graph (See Diagram 24). The setting up of the axis may be achieved with the equipment illustrated in diagrams 21 and 22. The brackets are designed to keep distance "a" short, to aid accuracy. The distance 01 02 shall be correct to within 1 mm. (See Diagram 20 and 21.)

#### WEIGHT DISTRIBUTION AND CENTRE OF GRAVITY: PRACTICE

It is essential that the measurements be made in a sheltered place. The boat shall be hung from the brackets on axis 01, 02 and the periods of oscillation T1 T2 measured.

Plot the position with co-ordinates T1, T2 on the graph, and read off the values for "a" and "ρ" from the curves. The distance "λ" is measured parallel to base line from Station 0 to axis 01 (diagram 20). If "λ" is found close to limit values make sure that base line is level as in diagram 1. The distance "d" can usually be measured from axis 01 to the underneath of the hull (excluding keel band) by means of a rule or tape passed down through the centreboard box (diagram 20). If this is impossible, use the principle shown in diagram 13. It is wise to provide a protection under the boat but the boat shall not touch anything while oscillating. The oscillations shall be small, but should not become damped in less than about 100 periods. There shall be no twisting oscillations about a vertical axis. There shall be no movement of the supports. The measurement of periods T1 and T2 requires most care. It is recommended to operate in the following way: two time keepers stand on either side of the boat, they shall start their stopwatches when the boat passes the rest position which is made easier with two rods placed opposite each other as in diagram 23; they count ten pitching periods and if they get the same result within 0.1s, the measurement is satisfactory (the result being thus 0.01s accurate).

Stopwatches accurate to 0.05s shall be used. If a stopwatch only accurate to 0.1s is used, twenty pitching periods shall be measured.

(4.5.3.2, 4.5.3.3, 4.5.3.4) if a correction is necessary, record only the results obtained after correction. (See Diagram 22 and 23.)

#### 4.6 (74-12) Mast

##### Rule 4.6 Mast

Diagram 16 explains the principle of mast measurements, especially procedures useful for measuring a greater number of masts. When measuring the mast for straightness, Measurers should bear in mind that it is intended to prevent intentionally bent masts. If it is obvious that the mast has bent accidentally, then it may be passed, but if the Measurer is in doubt, he should ask for the mast to be altered. The halyard alone is not sufficient to comply with Rule 4.6.2.7. There must be some definite fitting on the mast to prevent it from coming out. A keyway and a slot shall be accepted.

##### 4.6.1(74-12.1-1) Materials

The mast shall be made of wood, fibre reinforced plastic, aluminium alloy or a combination of these materials. Fastenings may be of any materials.

4.6.1.1 Plastic extruded sail track is allowed. Maximum 20 mm in the plane of the rig.

4.6.1.2 For the purposes of Rules 4.6, the sail track is part of the spar.

##### 4.6.2 (74-12.2) (OR-62) Construction

The method of construction is optional except as laid down in Rule 4.6.2 and in particular the following:

4.6.2.1 (74-12.2-1) The main central axis of the spar shall be taken as a straight line passing through the two following points:

- (i) centre of the heel
- (ii) point 20 mm forward of after edge at upper measurement band.

When at rest, no part of the mast and its bearings shall be more than 60 mm from the main central axis. A boom ledge and screwed on or bolted fittings are exempt from this requirement.

4.6.2.2 (74-12.2-2) Between the upper measurement band and the point where the sail leaves the track, the aft edge of the mast shall be straight; a regular deflection due to strain after construction may be allowed up to 20 mm; abrupt deflections are prohibited.

This line and its extensions is the "aft edge line".

*When measuring masts of unusual shape, measurers should check that the measurement band on the boom is:*

- 1. not more than 3270 mm from the Aft Edge Line (see 4.7.3.2);
- 2. not more than (3270 + 60) mm from the Main Central Axis; and
- 3. not more than (3270 + 100) mm from the front of the mast at boom level, disregarding local reinforcements.

4.6.2.3 (74-12.2-3) "Standard sizes are recommended for mast bearings and boom attachments. Masts complying should be marked "C" near the boom attachment.

The diameter of the standard mast bearing at the deck shall be 103 mm ±1mm.

The diameter of the standard mast bearing at the heel shall be 63 mm +1mm.

The standard boom shall be attached by a standard fork fitting on the mast. The width between arms of the fork shall be minimum 37 mm, maximum 40 mm. A pin shall be provided, diameter 16 mm ±0.5mm. The holes shall be 16 mm diameter ±0.5mm. The centre of the holes shall be not less than 820 mm above the heel and not more than 40 mm aft of the "Aft Edge Line".

4.6.2.4 (74-12.2-4) The width of the mast at right angles to the plane of the boom shall be not less than:

- (a) from below the heel bearing to 1 metre above the heel: 60 mm;
- (b) from 1 metre above the heel: a uniform taper to 28 mm at 5 metres above the heel;
- (c) from 5 metres above the heel to 6573 mm above the heel: 20 mm.

*Examples:*

<u>Distance from Heel</u>	<u>Minimum Width</u>
10 mm	60 mm
1000 mm	60 mm
2000 mm	52 mm
3000 mm	44 mm
4000 mm	36 mm
5000 mm	28 mm
above 5000 m	20 mm

*Note: The Rule refers to minima. It does not require that the mast have a uniform taper.*

(See Diagram 17.)

4.6.2.5 The fore and aft dimensions of the mast including sail track but not deck ring nor other fittings shall not exceed:

- (a) From the heel to 2060 mm above the heel, 100 mm; thence
- (b) A uniform taper to 55 mm at 6560 mm above the heel.

*Examples:*

<u>Distance from Heel</u>	<u>Maximum Fore and Aft</u>
2060 mm	100 mm
2560 mm	95 mm
3560 mm	85 mm
4560 mm	75 mm
5560 mm	65 mm
6560 mm	55 mm

*Note: The Rule refers to maxima. It does not require that the mast have a uniform taper.*

(See Diagram 18.)

4.6.2.6 (74-12.2-5) (OR-62d) The sail shall be set so that the highest visible point at the head is lower than the lower edge of the upper mast measurement band and so that the aft most visible part of the leech is forward of the inner edge of the boom measurement band. The top of the boom at the mast end shall not be below the top of the lower band at any time, and the boom shall be fixed to the mast so that they turn together.

4.6.2.7 (74-12.8-1) (OR-67) The mast shall be fitted in such a way that it will not come out of the step when the boat is capsized and the sail lowered.

4.6.2.8 (79-12.9) Holes shall be provided so that water drains readily from near the heel of the mast.

4.6.2.9 (79-12.9) The sail shall be hoisted and lowered on a halyard.

4.6.2.10 It is the responsibility of the owner to see that Rules 4.6.2.3 and 4.2.6.7 are adhered to in regard with all masts used in his hull.

#### 4.6.3 (74-12.8) (OR-68) **Measurement Bands**

4.6.3.1 (74-12.8-2) A distinctively coloured band 13 mm wide shall be painted round the mast. The top edge on the aft side shall be 860 mm minimum above the heel.

4.6.3.2 (74-12.8-2) The whole of the mast top above a point 6560 mm maximum above the heel shall be painted a distinctive colour.

#### 4.6.4 **Weight**

4.6.4.1 (74-12.3) (OR-63) The weight of the mast including all normal fittings and halyard, shall not be less than 8 kg.

4.6.4.2 (74-12.4) (OR-64) Corrector weights up to a maximum 1 kg are allowed and shall be fastened to the outside of the mast above deck level in compliance with Rule 4.6.4.3.

4.6.4.3 (74-12.5) (OR-65) Except for masts weighing more than 10 kg, the centre of gravity shall not be lower than 2400 mm from the heel. This shall be checked with any corrector weights in position. For masts weighing more than 10 kg, the centre of gravity shall not be lower than 2200 mm from the heel.

##### *Rule 4.6.4 Mast Weight*

*The amount and position of corrector weights shall be recorded on the measurement card.*

#### 4.6.5 **Mast Measurement**

4.6.5.1 Every mast built after the 1<sup>st</sup> of March 2001 shall have an IFA Mast Label attached within 1 metre above the deck bearing. The attention of builders is drawn to Rule 2.4.2.

4.6.5.2 Masts shall be measured by an official measurer before leaving the builder premises.

4.6.5.3 Plastic masts built before the 1<sup>st</sup> of March 2001 shall have an IFA Mast Label attached within 1 metre above the deck bearing.

*4.6.5.2 This may be issued by class officials on production of the completed Mast Measurement Card for the mast.*

#### 4.7 (74-13) **Boom**

##### **Rule 4.7 Boom.**

*Diagram 25 explains measurements of the boom. Note requirement in Rule 4.7.2.2 that full boom section should extend to the aft edge of the measurement band.*

*(See Diagram 25.)*

#### 4.7.1 (74-13.1) **Materials**

Booms shall be made of wood, glass reinforced thermosetting resin, aluminium alloy or a combination of these materials.

#### 4.7.2 **Construction**

4.7.2.1 The boom shall be fixed to the mast so that all parts rotate together. Arrangements allowing over-rotation of the mast are prohibited.

4.7.2.2 (74-13.4) (OR-72) From 500 mm aft of the aft edge line to the aft edge of the measurement band, the cross section including sail groove shall lie inside a rectangle 37 mm wide by 82 mm high and outside a rectangle 32 mm wide and 77 mm high. This cross section shall be continuous and its main direction shall be vertical.

4.7.2.3 (81-C.L.) Devices on the boom allowing additional athwart ship travel are prohibited.

#### 4.7.3 **Measurement**

4.7.3.1 (74-13.2) (OR-70) The overall length of the boom shall not be more than 3600 mm.

4.7.3.2 (74-13.3) (OR-71) A distinctively coloured band 13 mm wide shall be painted round the boom with the forward edge at the upper side maximum 3270 mm from the "aft edge line" of the mast and measured along the top of the boom.

4.7.3.3 A stop shall be fitted to the boom to prevent the Leech of the sail from contravening Rule 4.6.2.6.

4.7.3.4 Standard sizes are recommended for boom attachments. Booms complying should be marked "C" near the boom attachment.

The standard boom shall be attached to the mast by a standard fork fitting. The pin hole shall be 16 mm diameter  $\pm$  0.5 mm. It shall be centred not less than 40 mm below the top of the boom. In compliance with Rule 4.7.3.2, the distinctively

coloured band on the boom shall be not more than 3230 mm from the centre of the boom pin hole, measured along the top of the boom.

#### 4.7.4 (74-13.5) **Weight**

The weight, including mast pin, blocks, boom vang, outhaul and other fittings normally removed with the boom, shall not be less than 5 kg.

##### *Rule 4.7.4 Boom Weight*

*The amount and position of corrector weights shall be recorded on the measurement card.*

## 4.8 **Sail**

### *Rule 4.8 Sail*

*Diagram 26 shows the basic dimensions of the sail. The sail shall be dry when measured and pulled taut enough to remove wrinkles in the material.*

#### 4.8.1 **Definitions**

Sail	The term "sail" includes the headboard, tabling, and bolt ropes
Luff	The edge between the <b>Head Point</b> and the tack.
Leech	The edge between the <b>Aft Head Point</b> and the <b>Clew Point</b> .
Foot	The edge between the tack and the <b>Clew Point</b> .
Head Point	The intersection of the <b>Luff</b> extended if necessary and a line through the highest point of the sail at 90° to the <b>Luff</b> .
Aft Head Point	The intersection of the line through the <b>Leech</b> extended if necessary and a line through the <b>Head Point</b> at 90° to the <b>Luff</b> .
Clew Point	The intersection of the <b>Foot</b> and the <b>Leech</b> , each extended if necessary.
Upper Girth Point	The point on the <b>Leech</b> 1500 mm from the <b>Head Point</b> .
Middle Girth Point	The point on the <b>Leech</b> 3000 mm from the <b>Head Point</b> .
Concavity	The shortest distance from a point on the <b>Leech</b> to a long straight line, tangential to the <b>Leech</b> above and below the point.

#### 4.8.2 **Materials and Construction**

4.8.2.1 Except as provided for in rules 4.8.2.2 to 4.8.2.10:

- (a) the sail shall be made in one ply from panels not more than 1 metre wide, of flexible materials, which may be laminated; and
- (b) continuous layers or fibres crossing the seams are prohibited.

4.8.2.2 (81-18.1-2) Reinforcement of material having the effect of stiffening the sail is permitted at the corners. Reinforcement shall not extend lower than 200 mm from the highest point of the sail, nor more than 350 mm from the **Clew Point** except that an additional two layers of the sail material are permitted at the head and at the clew as extensions of the reinforcement. This additional reinforcement may extend a distance of 1000 mm from the **Head Point** and from the **Clew Point**.

*Rule 4.8.2.2 Measurers should watch out for any excessive stiffening especially at the clew and ask for it to be reduced if necessary. As a guide, Measurers may use the test of folding the corner reinforcing patch double. If it can be folded easily between the finger and thumb of one hand so that opposite sides of the patch touch, then the reinforcement shall be considered to be "reasonable". Check that the extensions of the reinforcement consist of no more than two additional layers of the sail material.  
(See Diagram 28.)*

4.8.2.3 (74-18.1-3) The material for making sail numbers or for separate luff and foot tabling, if fitted, may be of any flexible material.

4.8.2.4 (74-18.1-4) The **Aft Head Point** shall be not more than 165 mm from the **Head Point**. A headboard may be fitted, maximum width 150 mm, maximum depth 200 mm.

*Rule 4.8.2.4 The headboard shall not come more than 200 mm down from the highest point (otherwise it would infringe 4.8.2.2).*

4.8.2.5 (74-18.1-5) Leech lines, zip fasteners and alternative foot ropes are allowed. Loose-footed sails are prohibited.

4.8.2.6 (74-18.1-5) The following are permitted: stitching, glues, tapes, bolt ropes, normal seaming, normal tabling, normal corner eyes, headboard with fixings, headboard slides extending not more than 200 mm down from the **Head Point**, track slides, batten pockets, batten pocket elastic, batten pocket end caps, leech line with cleat, sail maker's label, IFA sail label or button, tell tales.

4.8.2.7 (74-18.4)(OR-93) There shall be five sail battens. The distance from the upper part of the top batten at the **Leech** to the **Head Point** shall be not less than 960 mm. The distance from the lower part of a batten at the **Leech** to the upper part of the batten below at the **Leech** or to the **Clew Point** shall be not less than 900 mm.

4.8.2.8 The distance from a point on the **Luff** 200 mm down from the **Head Point** to the **Leech**, measured at a right angle to the **Luff**, shall not exceed 375 mm.  
(See Diagram 29.)

4.8.2.9 The maximum length of the battens in order from top to bottom are: 400, 600, 700, 600, 500 mm respectively and the batten pockets may be up to 50 mm longer. The width of the batten pockets shall not exceed 50 mm. Protective reinforcement at the end of a batten pocket must lie within a circle of 100 mm diameter.

4.8.2.10 (74-18.1.7) Stiffening other than that described in Rule 4.8.2 is prohibited.

4.8.3 **Measurement** (see Diagram 26)

4.8.3.1 (74-18.2) (OR-91) The distance from the **Head Point** to the **Clew Point** shall not be greater than 6020 mm.

4.8.3.2 (OR-62d) The **Head Point** shall not be hoisted above the lower edge of the upper measurement band on the mast. The **Leech** shall not be pulled beyond the inboard edge of the measurement band at the top of the boom.

4.8.3.3 (74-18.3) (OR-92) The distance from the **Upper Girth Point** to the nearest point on the **Luff** shall not exceed 1075 mm.

The distance from the **Middle Girth Point** to the nearest point on the **Luff** shall not exceed 1935 mm.  
If there is **Concavity** in the **Leech** at a **Girth Point**, this shall be included in the distance.

*Rule 4.8.3.3 To check for **Concavity**, the sail is to be laid flat in the area adjacent to the **Leech**. This should be done by folding the fullness of the sail into a central fold as shown in Diagram 27.*

*Measure any concavity. Add this to the distance from the **Girth Point** to the **Luff**. The total must not exceed the given figure (1075 mm or 1935 mm).*

4.8.4 **Class Insignia**

4.8.4.1 The Class Emblem shall be two blue waves approximately 700 mm long.

*Rule 4.8.4.1 The two waves are as below, blue in colour. From left to right they shall go up, then down and up again.*

4.8.4.2 (74-18.6) The class insignia, national letters and sail numbers shall comply with the specifications and positioning requirements of the ISAF Racing Rules of Sailing. No part of the national letters or sail number shall be less than 1800 mm from the foot rope. The national letters may be above or below the class insignia.

The class insignia, national letters and sail numbers shall be made from additional material of contrasting colour, firmly attached to the sail. Painted class insignia, national letters and sail numbers are prohibited.

4.8.5 **Special Regulations**

(74-18.7) Every sail shall have an IFA sail label/button attached near the tack.

*Rule 4.8.5. Check that the IFA sail label is not an old one transferred from another sail.*

**4.8.6 Sail Measurement**

**Sails shall be measured by an official Measurer before leaving the sail loft.**

## 4.9 Equipment

4.9.1 (74-15.5) (OR-81) Equipment when racing shall include the following items:

4.9.1.1 (74-15.5-1) A paddle minimum length 1 m and of sufficient strength and size to be able to make some headway against a wind of 4 Beaufort force.

4.9.1.2 (74-15.5-2) A hand bailer or a bucket which has to be a movable container of sturdy waterproof material of at least 1 litre content.

4.9.1.3 (74-15.5-3) A painter, minimum diameter 8 mm and minimum length 8 meters, capable of floating.

4.9.1.4 (74-19.5) (OR-100) A protest flag and a fitting to display it.

*The equipment given in the rules is compulsory and shall be carried at all times during racing*

4.9.2 (74-19.5) (OR-100) Anchors and anchor warps need not be carried unless clearly stated in the Notice of Race or Sailing Instructions.

4.9.3 (74-19.6) Electronic and electrical aids other than a watch and magnetic compasses are prohibited. Devices transmitting or correlating data relative to wind direction or speed, or boat speed and location, by such means as, but not limited to, electronic, mechanical, hydraulic, or pneumatic are prohibited.

4.9.4 Hiking pads, attached to but removable from the hull are permitted. They shall extend not more than 10 mm outboard of the vertical plane of the sheer guard.

## 5. SPECIAL REGULATIONS

5.1 (74-19.1) (OR-96) The dinghy shall be raced with one person on board.

5.2 (74-19.2) (OR-97) Arrangements extending outboard to support the helmsman are prohibited.

5.3 (74-19.3) 5.3 Movable ballast is prohibited. A competitor's clothing shall comply with the requirements of the ISAF Racing Rules of Sailing. As allowed by the Racing Rules, a competitor's clothing and equipment, excluding items worn only below the knee, may weigh up to 10 kilograms.

5.4 (74-19.4)(OR-99) Standing rigging is prohibited. The halyard shall be arranged in such a way that it is not effective as standing rigging. Except for normal sail controls, arrangements to introduce pre-bend or twist, or to vary the stiffness of a mast during a race are prohibited. Flexible fairings are prohibited.

5.5 (74-15.6-1) Unless otherwise stated in these rules the methods of construction and the materials are unrestricted.

5.6 A National Authority may permit limited advertising according to RRS 79.

5.7.1 Except on a beat to windward, when surfing (rapidly accelerating down the leeward side of a wave) or planning is possible, the helmsman may pull the sheet in order to initiate surfing or planning, but not more than three times for each wave or gust of wind. (Alters RRS 42.3(b).)

### 5.7.2 In alteration to RRS 42:

5.7.2.1 Flag Q displayed at the start or near a mark, indicates that: "After starting or rounding the nearby mark, RRS 42 is varied in that except on a beat to windward, pumping, rocking and ooching are permitted."

5.7.2.2 Flag I displayed near a mark indicates that: "After rounding the nearby mark, RRS 42 is varied only by Class Rule 5.7.1".

5.7.2 For an initial trial period, the Class will recommend to Race Officers that they allow pumping in winds of 15kts and over.

### *For Regatta organisers:*

*It is recommended that the flag Q be changed to Romeo to avoid confusion on the starting vessel. Flag I can also be changed with another Flag at the discretion of the race committee. Whenever possible, Flag I shall be on a hard board to maximise visibility and accompanied by a sound signal.*



## Part C

### INTERNATIONAL FINN CLASS

#### MAJOR CHAMPIONSHIP RULES

These rules are binding upon Organizing Authorities unless varied in writing by the Executive Committee. They will govern the Finn Gold Cup, the European Senior Open Championship and the European Junior Open Championship or any other championship that IFA decides to sanction (hereafter "Major Championships").

Wherever the rules are applicable to the Gold Cup only, it will be so designated.

Further details on the management of major Finn Championships are laid down in the IFA Championship Manual.

#### 1. Deed of Gift (Gold Cup only)

The Finn Gold Cup, presented by Mr F.G. Mitchell of the Royal Corinthian Yacht Club, Burnham-on-Crouch, United Kingdom, is to be held every year. If for any reason races cannot be held in a given year, the Cup shall be returned to the Royal Corinthian Yacht Club. The Gold Cup shall be held outside Europe a minimum of once every four years.

#### 2. Bond

The Organizing Authority of the Gold Cup or the European Senior Championship shall forward to IFA, **no later than one month after the AGM at which the venue was approved, a bond to the value of 3000 Euros**, made out to IFA by means of a cheque or cash payment.

This bond may be used at the discretion of IFA to ensure compliance with the "International Finn Class Major Championship Rules" for the relevant championship. Upon satisfactory completion of the Championship, the bond (or the remaining part thereof) will immediately be released to the Organizing Authority.

#### 3. Championship Venues

The Gold Cup shall be sailed on open water.

No major championship should be held in water that has a very strong tidal stream, or that is likely to have light or unsteady wind.

The course of all Finn Class Major Championships shall be exclusive and separate, except that Junior Championships may be combined with Senior Championships.

Date and place for each major championship shall be published in FINNFARE at least nine months in advance. The Organizing Authority shall send the Notice of Race and Entry Forms to each country's National Finn Secretary and National Authority six months in advance.

The Annual General Meeting shall decide on the venue of the following year's Major Championships upon the written proposals submitted by aspiring host National Finn Associations. A country wishing to organize the Gold Cup shall guarantee a visa for all competitors. Proposals for the succeeding years may also be discussed and decided upon.

#### 4. Organizing Authority

Each Organizing Authority shall work in conjunction with the President and Secretary of its country's National Finn Association or their nominees. All items listed in the IFA Championship Manual are to be addressed in the preparatory stage leading up to each championship.

#### 5. Notice of Race and Sailing Instructions

The Notice of Race and Sailing Instructions shall be written in English in accordance with RRS 87 and 88, RRS Appendix M and N, and be based on the IFA Standard documents, which aim to follow the ISAF Race Management Manual as closely as possible. They shall be agreed in writing with the IFA Executive Director or the Vice-President Sailing. The Notice of Race shall also list all the information required by Championship Manual item 5.

#### 6. Entry and entry fee

Entries for all Championships must go through the National Secretaries. The number of entries is based on the number of dues (IFA stickers) paid by each country in the current year (see Part D, Entry System). Only current members who have paid their National Finn Association and IFA dues will be permitted to race. They must be able to present their IFA stickers. Anyone racing without having fulfilled these requirements shall be scored DNS.

**The entry fee shall not exceed 7 times the current IFA fee** and shall include the cost of the award dinner. Entry dates will normally close four weeks before the start of the regatta. No double entry fee shall be charged to late entries.

#### 7. International Jury

There must be an International Jury in accordance with RRS Appendix M. It shall include at least three members who have proven experience in on-the-water judging of RRS 42 (Propulsion). At least one should have practical Finn racing experience.

The jury must have at least three well-maneuvrable boats at its disposal for RRS 42 enforcement, and there should be two judges in each boat. If the jury consists of the minimum of 5 members, a sixth person with proper experience must be added to make up the third pair. He/she need not be part of the International Jury.

The International Jury should meet with the IFA Representative (the Executive Director or the Vice-President Sailing) before the first race for a policy briefing on RRS 31, 42, etc. The International Jury chairman should liaise with the IFA Representative throughout to receive sailors' feedback, etc.

If a practice race is held, the Jury should be prepared to hold a debriefing on RRS 42 afterwards.

#### 8. Race Office

From 9.00 on the day before the first measurement day the Race Office should be open daily from 9 am till 7 pm. Preliminary race results must be available as soon as possible after each day's racing. The Official Notice Board must be in, or close to, the Race Office.

#### 9. Other facilities

The following facilities should be available:

- \* Free parking
- \* Campsites with special rates
- \* Communication services for competitors and press
- \* Fresh water in the dinghy park (1 hose per 10 boats)
- \* Launching ramps. These should be 1.5 metres wide per 10 entries and made in such a way that competitors can use their trolleys. There should be buoys and hauling-off lines if the launching site is on the lee shore.
- \* A spectator boat for supporters to go out on each day
- \* Emergency medical facilities

Every effort should be made to provide adequate security for cars, boats, accommodation, and valuables left ashore when racing. In addition the location of the nearest boatyard, sailmaker and yacht chandler should be published and every effort must be made to ensure that the sailmaker is available at all times.

#### 10. Measurement

Boats will be measured to the latest Class Rules and Case Laws, and competitors must present valid IFA measurement certificates (Rulebooks not older than 1990).

Boats should be measured before racing, but the measurer may check any measurements within the class rules any time. The following should be checked at the preliminary measurement:

#### Hull

- \* Shape using the IFA-approved templates and jig.
- \* Weight, Lamboley test, Longitudinal Centre of Gravity
- \* Centreboard slot. (Boat to be measured with one centreboard only).
- \* Play at the mast bearings.
- \* Arrangements to prevent the mast and rudder from becoming detached in a capsize.

#### Masts

Max 2 per boat. Weight, centre of gravity and black measurement bands.

#### Booms

Max. 2 per boat. Black measurement bands and limiting stop with the boom attached to the mast.

#### Rudders

Max. 2 per boat. Shape and thickness.

#### Centreboard

Max. 1 per boat. Maximum projection from the keel.

#### Sails

**Max. 2 per boat.** Sails should have been measured beforehand. If unmeasured sails are presented, the measurer may (a) postpone their measurement to avoid inconvenience to others; and (b) charge a fee.

Measurers should check measurements of three boats after each day's racing. Contraventions should be reported to the International Jury, who are requested to consult the Technical Committee or Executive representatives before reaching decisions.

All interchangeable gear, i.e. masts, booms, sails and rudders must be clearly marked as measured with waterproof material. All mechanical and electrical instruments, except magnetic compasses and watches are prohibited.

#### 11. Measurer's Boat

There should be a separate rubber boat available for the IFA Chief Measurer at all times to enable him to check boats on the water anytime.

#### 12. Skippers Meeting

A briefing meeting for the sailors should be held before the start of the practice race, or the first race if no practice race is scheduled. The Race Officer should be present. Sailing Instructions should be available well in advance so sailors can ask questions.

#### 13. The Course

Gold Cup only: The nearest land should be at least one mile away from any point of the course area. If at all possible, the entire course area should be at least two miles off high ground.

*All major championships:*

- Total of 9 races
- The 9 races will be sailed over 6 days (to be scheduled in conjunction with the local race committee, ie. taking into account the likely local weather conditions).
- There will be no possibility to sail 3 races per day.
- Races should be approximately 90 minutes in duration
- 1 discard will be allowed, which will take effect once 5 races have been completed.
- The triangular course (as per 1998 Championship rules) will be sailed in winds over 12 knots (upwind finish); under 12 knots, the course will be a windward/leeward race with an offset mark at the top and a gate at the bottom (downwind finish).

The Race Committee must make every effort to see that the beats are straight upwind.

#### 14. Marks of the Course

In poor visibility each mark of the course should be indicated by a boat lying off with a large spherical shape at least 10 feet above the water.

**15. Course Direction**

The Starting vessel should display the approximate magnetic compass bearing from the leeward mark to the windward mark in clear, large numbers.

**16. Starting Procedure**

The starting line must be of adequate length - approx. 1.25 x 4.5 m x no. of boats. It is recommended for regattas in which more than 60 boats compete that a range mark be placed in the centre of the starting line to assist competitors in judging the starting line.

There should be a Line Boat that repeats the following visual signals of the Starting Vessel: Codeflag X, 1st Substitute, Z-Flag, Black Flag.

**17. Lead Boats**

In poor visibility there should be a clearly identified lead boat going ahead of the fleet in the direction of the next mark throughout the race.

**18. Minimal wind strength and time limit**

No race shall be started in less than 5 knots of wind measured on the starting vessel at deck level. The time limit must be specified in the sailing instructions.

**19. Scoring**

The Championship shall be awarded to the winner of a series of 9, of which 4 shall be completed to constitute a series. The Sailing Instructions shall state that the Low Point Scoring System be used, modified so that if 5 or more races are sailed, the result of each boat's worst race shall be discarded. They shall also state that in alteration of RRS A1.3 a DSQ under RRS 42 may be discarded.

**20. Rescue boats**

There must be at least one rubber rescue boat per 20 competitors.

**21. Prizes**

The Organizing Authority shall provide a first prize for each race, and one overall prize per six competitors entered. The prize giving ceremony should be held as soon as possible after the end of the last race.

**22. Final Decisions**

The final decisions on any matters not covered by the RRS and the Int. Jury shall rest with IFA.

**23. IFA Annual General Meeting (Gold Cup only)**

The IFA Annual General Meeting shall be held during the Gold Cup at a date to be determined by the IFA Executive Director.

**24. Competitors' Accommodation**

Competitors' accommodation must be as close together as possible and every effort should be made for the accommodation to be within walking distance from the boat park.

**25. Accommodation and Transport for Class Officers**

The Organizing Authority shall pay for transport, hotel and 50 Euros per day for the Class Measurer as well as the travel expenses, accommodation and meals for the IFA President and Executive Director or their nominees.

## Part D

### ENTRY SYSTEM FOR IFA OFFICIAL CHAMPIONSHIPS

All competitors must be paid up members of an IFA recognized National Finn Association or direct members of IFA.

#### The Gold Cup and European Championship

The National Finn Association (NFA) must have paid the following dues:

Dues paid to IFA by NFA in current year:	Entries allowed
10 (= minimum per country)	1
30	2
50	3
70	4
90	5
110	6
160	7
210	8
260	9
310	10
360	11 ... etc.

In addition to any country's normal quota:

1. One "rookie" per country who has never sailed a Gold Cup or European Championship before;
2. The 10 top individual finishers of the previous Gold Cup (or European Championship, if applicable);
3. The National Finn Secretaries;
4. The former and present members of the IFA Executive Committee;
5. The Medallists of the previous Olympics.

#### Junior Finn Gold Cup and Junior Finn European Championships

To qualify for the Junior Finn Gold Cup and the Junior Finn Europeans, entrants must not have reached their 21<sup>st</sup> birthday prior to the 1<sup>st</sup> of January in the year of the Championship. The entry quota for the two IFA Junior Championships is based on the above numbers, except that the entries allowed may be increased by 2.

Example:

Dues paid to IFA by NFA in current year:	Entries allowed:
10	1 + 2 = 3
30	2 + 2 = 4 ... etc.

## **Part E**

### **I. Duties and Rights of IFA Executive Officers**

#### ***President***

A representative and operational function. He\* makes the final decisions in all important matters after consultation with the members of the Executive Committee, and all decisions in cases of emergency. He coordinates the relationship between IFA, the ISAF and the IOC, and represents IFA at official functions. He takes the chair in the Annual General Meeting. He enjoys the lifetime right to enter the Gold Cup and the European Championship above the quota of his country.

#### ***Vice-President Sailing***

Responsible for all race management matters, such as the international calendar, the venues for major championships, approval of the documents for IFA events (Notices of Race, Sailing Instructions, etc.) Through the Executive Director he maintains contact with the National Finn Associations and individual Finn sailors. By attending as many regattas as possible he is able to express the sailors' opinions on all racing matters. In case of any emergencies he has all the rights and duties of the President. He enjoys the lifetime right to enter the Gold Cup and the European Championship above the quota of his country.

#### ***Vice-President Development***

Responsible for development of new Finn sailors and Finn fleets. He organizes clinics, and coaches with the aim to develop sailing in isolated areas and to bring sailors from those areas to Olympic level. He maintains relations with National Authorities, National Olympic Committees, etc. He enjoys the lifetime right to enter the Gold Cup and the European Championship above the quota of his country.

#### ***VICE-PRESIDENT MASTERS***

Responsible for all Masters race management matters, such as the international calendar, the venues for major Masters championships, approval of the documents for Masters Finn events (Notices of Race, Sailing Instructions, etc.) Through the Executive Director he maintains contact with the National Finn Associations and individual Master Finn sailors. By attending as many regattas as possible he is able to express the Master sailors' opinions on all racing matters. He enjoys the lifetime right to enter the Gold Cup and the European Championship above the quota of his country.

#### ***Chairman of the Technical Committee***

Takes the chair at the meetings of the Technical Committee. He maintains contact with the members of the Technical Committee, circulates information, collects advice and makes the final decision in technical matters. He advises the organizers of IFA events on measurement problems. He prepares submissions of the Technical Committee to the Annual General Meeting. When required by the IFA Council, he prepares and presents submissions regarding the Measurement Rules to the ISAF. He enjoys the lifetime right to enter the Gold Cup and the European Championship above the quota of his country.

#### ***Honorary Treasurer***

Responsible for the source and use of funds and the accounts and budget of IFA. He has to approve expense items and is responsible for the collection of dues and fees. He checks the quotas of each nation at IFA events and states the voting power at the AGM. He enjoys the lifetime right to enter the Gold Cup and the European Championship above the quota of his country.

#### ***Executive Director***

He takes care of the day-to-day business of the class, including all finances and correspondence. He circulates all documents to members of the different committees, and is responsible for organizing and documenting the IFA Annual General Meeting in accordance with item 3.4 of the Constitution. He maintains official contact with outside parties, such as ISAF, National Finn

Associations, National Sailing Authorities, Olympic Committees, Major Championship organizers, boat builders, sailmakers, sparmakers, etc.

The Executive Director is also responsible for the publication and distribution of FINNFARE and the running of the Finn Shop. He enjoys the lifetime right to enter the Gold Cup and the European Championship above the quota of his country.

## **II. Duties and Rights of the National Finn Secretary**

Maintains contact with the members of the IFA Executive Committee, with the National Sailing Authority in his country and with its individual sailors. He has to inform the Executive Director about who will represent his National Finn Association at the IFA Annual General Meeting. During his term of office he enjoys the right to enter the Gold Cup and the European Championship above the quota of his country.