



## **National regulations**

Based on the Article 31., related to Article 18., Paragraph 1. of the Law on technical culture (narodne novine, 76/1993.) on basis of Article 32., related to Article 12 of the Statute of the Croatian society of technical culture adopted on 24<sup>th</sup> of February 1994., suggested by a group of ship-modelers through the center of technical culture Rijeka on 6<sup>th</sup> of January 1997.

On a session held on 25<sup>th</sup> of February, the Executive Board has adopted

**NATIONAL REGULATION FOR PRODUCTION, COMPETITION AND EVALUATION  
OF MODELS OF CROATIAN TRADITIONAL SHIPS AND BOATS**

### ***I. BASIC REGULATIONS***

1. Purposes. National regulation for production, competition and evaluation of models of Croatian traditional ships and boats (hereinafter: regulation) regulate important issues of behavior related to production of models – exhibits, competition and their judgment on exhibitions in the Republic of Croatia.

2. Starting from the fact that ship-modeling and modeling are a part of Croatian tradition and from the need to promote this area of technical culture, adopting these regulations will achieve the following purposes:

1.1. encourage nurturing of Croatian tradition in ship-modeling, and the further development of these disciplines of technical culture within general international regulations,

1.2. Uniformly regulate and simplify novice competition,

1.3. Provide an objective evaluation of models on competition according to uniform and merit standards in order to determine as objective evaluation of models and remove the doubt when selling or buying, when instead of merit judgment, awards won on competition that weren't conducted according to such standards are stated as evidence of value.



1.4. ensure designed and established evaluation of more advanced ship-modeling according to standards that encourage and promote research and production of models of autonomous (native) Croatian ships and boats, which are not suitable for international competitions with by the international regulations because of their great diversity, complexity and distinct particularities.

2. Nature and content of the regulations. Regulations are made according to international NAVIGA regulation, using English and American rules as a model in the part regulating the national standard. Changing and adjusting international NAVIGA rules according to Croatian needs and particularities, national standard is insured as well as facilitated introduction of successful Croatian ship-modelers in international competitions.

2.1. The rules form national classes for models of Croatian traditional ships and boats. Forming national classes fills an important gap that influenced nurturing Croatian tradition in ship-modeling and competitions as a part of promotion of this area of technical culture.

2.2. To international model class distribution, a class of models from kit assembly was added, which completed the whole – the young are taught to approach correctly and to value their accomplishments (measurement and weighing of what is conceived and committed). Making models from a kit assembly is acceptable for the beginners, and given the fact that the normal development path to mature modeling supposes possibility of competing, it was necessary to regulate this class as well.

2.3. An integral part of the regulation is National class certificate (attached)

### 3. Regulation application

3.1. This regulations are mandatory for all organizers of models exhibitions in the republic of Croatia.

3.2. The Croatian national evaluation exhibition of models by these rules is organized by the Croatian society of technical culture and the Center of technical culture Rijeka, Školjić 5d, in cooperation with other co-organizers. Executive organizer of the national



exhibition is the center of technical culture Rijeka. National exhibition is prepared by the Organizational Board that consists of prominent modelers from all over Croatia, and the organizers' representatives. Headquarters of the Organizational Board is in the center of technical culture Rijeka. The exhibition has an Honorary Committee.

## ***II. DESIGNATION OF THE NATIONAL SHIP-MODELS***

1. The basic designation of national ship-models is Hr, which is used as a prefix to designation of all classes.

## ***III. CLASSIFICATION OF MODELS***

1. All models are classified into six classes according to object typology and the method of production:

1.1. Class Hr-A – models of sailing ships and ships on oars;

1.2. Class Hr-B – models with mechanical drive;

1.3. Class Hr-C – models of ships in intersection and constructive parts of the ship (didactic presentation), parts of ship equipment of port facilities, ports and shipyards, arbitrary scene show, models in a group (series) and similar;

1.4. Class Hr-D – micro models, ratio 1:250 or smaller;

1.5. Class Hr-E – models of ships in bottles;

1.6. Class Hr-F – models from kit assembly.

## ***IV. COMPETITION***

1. Model is evaluated by the jury (evaluation group, judges), who can assess the model with mostly 100 points in the evaluation process. Based on number of points, gold, silver and bronze medals are given (rings). Champion of the competition will be declared the modeler who won most points.

2. The jury (evaluation group) consists of the Chief Judge and at least two helpers (judges). A modeler who is experienced and who witnessed achievements may be appointed a judge.



## ***V. PARTICIPATION RIGHTS***

1. All citizens of Croatia, no matter if they are members of clubs or similar alliances or they are unregistered individuals have the right to participate on competition under these rules.
2. Foreigners have the right to participate under the condition that they produce models of ships that can be included in Croatian national classes. Competitions on which foreigners participate under this condition are renamed into “Croatian open championship”.
3. Only modelers who assembled the model by themselves without anyone’s help may participate in the competition.
4. One can exhibit – compete with up to 2 models in each class, paying admission for each model.
5. Competitors who wins 3 medals with the same model, or overall 5 other (silver and bronze) rings, doesn’t have the right to participate again with the same model.
6. The author of the model, the competitor must be present during the evaluation. Absent competitor may be replaced by a group leader or a person appointed by the absent competitor. If all mentioned persons are absent, model can be evaluated if the competitor delivers documentation that guarantees model’s authenticity to the competition management (the organizer). All supporting evidence must be returned to its owner.

## ***VI. COMPETITION REGULATIONS***

1. The basic concept of the model. A model (in this case non-floating or table) implies a reduced copy of a ship. The model is -in its details, shape, color and construction – true to the original, while the size is conditioned by the scale.

Except with ship-models (sea, river and lake) competitors may compete with models of port facilities, ports, shipyards, parts of ship equipment etc. This broad and diverse range is –in purpose of simplified evaluation process- divided into 5 classes (labeled by letters written after the national label “Hr”).



1.1. **Class A** – This class is characterized by models of ships whose MAIN propulsion means are sails or oars. It includes all types of sailing ships from ancient times to the modern school sailing ships, even when they are equipped with auxiliary motor. Sailing ships can be exhibited with or without sails. Boats with oars are presented from their beginnings as pirogues, small kaićs to liburnas and gallium (Naviga C-1)

1.2. **Class B** – This class includes only models of ships whose MAIN propulsion mean is the mechanical drive: reciprocating steam engine, motor, turbine drive etc. as well as gadgets driven by a human and (or) animal power using different wheels, blades and bolts. Most frequently, this class include ships of a newer date, so called “modern” such as (by purpose) passenger, cargo and war ships, then special, for example trucks and slide, icebreakers, ship-workstations etc. (Naviga C-2)

1.3. **Class C** – Most comprehensive class that includes: models of ships depicting construction, mostly in intersection, then parts of the ship construction, separated parts of the ship or ship equipment, scene presentation, scale models of water-lines, half models and other vessels without their own drive (Maons, barges, pontoons, work and oil platforms etc.) and series of models which are in any way in mutual relationship. This class includes presentation of shipyards, docks, different marine plants, lighthouses and all other things related to maritime facilities and waterways which are not covered by Classes A and B (Naviga C-3)

1.4. **Class D** – Micro models. This class includes all previous models of classes A, B and C under the condition that they are expressed in 1:250 ratios or smaller, e.g. 1:300, 1:500, 1:1200 etc (Naviga C-4)

1.5. **Class E** – Ships in bottles. This class includes all kinds of models of ships and boats, port and harbor facilities, special work platforms and everything else which can be included in a wide “maritime” range, put in a bottle or a similar container. Bottleneck or the container must be narrower, that is smaller than the model placed into transparent, glass container. This class includes all classes, except that the models aren't limited by the ration but the size of the bottle (or its throat) (Naviga C-5)



1.6. **Class F** – This class includes all previously mentioned models of classes A, B, C, D and E no matter the type of the ship and degree of preparedness of enclosed materials and equipment and documented comprehensiveness. They are handicapped compared to all other mentioned classes regarding the general success in assessment due to less research (11.3.3) and smaller scope of work (11.3.4.) considering that they are already industrially prepared (made) different works on the hull and equipment. Only models whose basic material is wood are accepted. For plastic and metal models from kit assemblies it is necessary to adopt completely different evaluation rules.

## 2. Additional remarks

2.1. In classes a and B only complete models are accepted, meaning the ones whose trunk is built completely as well as all other equipment, which satisfy with their exterior. Opposite is valid for construction presentation where inner “details” are visible so they are assessed too, which is the case with the Class C and sometimes with class F.

2.2. In classes C, D, E and F models made up to waterline are accepted, that is hulls without ribines (the immersed parts).

## ***VII. PROHIBITION OF PARTICIPATION***

15.1. Person who is a judge or technical director of the competition CANNOT participate in the competition.

15.2. Judges cannot compete in classes for which they obtain the assessment.

## ***VIII. TECHNICAL REGULATION OF EVENTS AND EVALUATION***

### 1. Annunciation and applications

1.1. Exhibition with the nature of competition, organizer must first announce in an annunciation with attached application. Annunciation is revealed at least 9 months before the date specified admission of models.

1.2. Annunciation must contain the following information:

1.2.1. Official name of the exhibition;

1.2.2. Organizer's name;



- 1.2.3. Short description of the exhibition;
  - 1.2.4. Exhibition location;
  - 1.2.5. Time of exhibition;
  - 1.2.6. Terms (rights) of participation;
  - 1.2.7. Terms and method of applying;
  - 1.2.8. Date of admitting the models (bringing to reception area);
  - 1.2.9. Notification of admission;
  - 1.2.10. Notification of the models' insurance;
  - 1.2.11. Particular responsibility of the organizer;
  - 1.2.12. Method of evaluation;
  - 1.2.13. Details about awarding;
  - 1.2.14. Competition program;
  - 1.2.15. Competitors- exhibitors' accommodation;
  - 1.2.16. Date of returning models;
  - 1.2.17. Date, name and signature of the authorized person.
- 1.3. The annunciation must have an attached application with the exact name of the exhibition, place and time and premises where the competitor-exhibitor rights:
- 1.1.1. Name, surname and basic information
  - 1.1.2. Class designation preceded by the national label "Hr"
  - 1.1.3. Name – type of the model being applied
  - 1.1.4. Name of the model (ship that it represents) if it has one
  - 1.1.5. Exact scale of the model
  - 1.1.6. The largest dimensions (volume measures)



1.1.7. To be able to plan evaluation that will be done immediately after the admission of the model, at least one quality photograph (which will eventually be published in the official catalog of the exhibition) is submitted with the application. It is obligatory to include the name of the photograph's author.

2. For evaluation, the organizer must ensure:

1.1. Spacious place protected from the sun, wind, rain or well lit indoor space equipped with tables, pedestals or stabile surfaces where the models will be exhibited

1.2. Glass showcases to protect models during the entire exposure. Only judges have direct access to models due to evaluation and it must be technically feasible.

1.3. Smaller, separate room for judges' needs.

1.4. Work desk for the jury secretary (commission) and one desk in the center of the room (exhibition area) where the assessment will be performed

1.5. Measuring instruments: a sliding scale, micrometer, a double tape meter, various linear size converters. All measurement is carried out without touching the models in order to avoid potential damage.

1.6. Organizer, competition management or a judging group must predict the scope of evaluation process referred to the number of received application forms – exhibitors. Models are when they are brought so the schedule and time of assessment are subordinate to competitors and their models.

1.7. The order of evaluation is coordinated and determined by the jury secretary.

2. In case of a greater number of competitors, two juries are formed: one for Classes A, B and C, and the other for Classes D, E and F.

3. The jury consists of four or eight people:

3.1. Referee who monitors both groups (in case of greater number of competitors)

3.2. Chief Judge of the group



3.3. At least two help judges for each group

3.4. One assistant who serves both groups and has no right to evaluate

### ***IX. REGULATIONS ABOUT THE MODEL CONSTRUCTION***

1. It is recommended that the models are built in one of the following scales: 1/5, 1/10, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/75, 1/100.

2. All other scales are equal to the mentioned. Choice of scale is left to the modeler to decide. Use of metric or feet measures (Vienna, Venice, English, French etc) is allowed.

3. Model dimension must not exceed 2.500 mm. Scene presentations must not exceed 2m<sup>2</sup> areas.

4. Component part of the model (elements) which were bought or made by someone else is not evaluated. These elements must be listed by the competitor-author and the list attached with the documentation. For evaluation only semi-products as ropes, chains, tacks, various tubes and profiles except for Class Hr-F (6.6.1.) where the parts that the modeler did by himself/herself and replaced the purchased (ropes, anchors, cannons, decoration etc) must be pointed out.

5. General appearance of the model must match the appearance of the ship-barge in service. Extremely glossy surfaces aren't allowed unless they match the original.

### ***X. DOCUMENTING THE MODELS***

1. For exhibiting needs, the competitor – exhibitor must submit all documentation at which models were done. In order to avoid unauthorized copying, competitor may submit the documentation before the evaluation and immediately get it back.

2. For purpose of evaluation of production, or verification of authenticity, the attached elements must contain:



2.1. Draft in the same scale in which the circuit model with body plan and floor plan and cross and longitudinal sections of the data: visible, indicated overall length, width and the gauge.

2.2. Sources of documents used for making the draft, if the draft was made by the author: modeling draft, shipbuilding draft (original), books, magazines, catalogs, photo albums, museum and archive documents etc.

2.3. If the drafts are altered or modified it is necessary to state the reason and on what basis were the changes made or to state the source and name of documentation.

2.4. Clauses 10.2.1 and 10.2.2. are a mandatory minimum required for comparing the model with the real ship (vessel-building).

3. If a document (draft, image, text, etc.) is partially contradictory to reality – with a real ship that wants to be shown in such a way, the modeler has the right to do the model otherwise, more proper. The change that was made reasonably and logically and accompanied with any kind of evidence, like photograph, must not negatively influence the scoring. In such case, the competitor (author) is obligated to document the change, point it out or tell the judges.

4. If there is no documentation submitted or it is lacking, the model loses 20 points in the beginning of the evaluation, predicted by the Clause 11.3.2. of these regulations.

### ***XI. ASSESMENT - EVALUATION OF MODELS***

1. The criteria that will be applied by the jury is determined in the previous meeting based on the global insight in the received applications and models' photographs. It is forbidden to publicize anything from the agreement since the purpose of the agreement is to agree about the views about the evaluation, in order to avoid large deviations in the evaluation process. If major disagreements occur, the referee has the right to make the decision and it is final. The referee suggests, for each class separately, the highest grade for production quality. Once agreed highest grade cannot be changed.



2. Every member of the commission evaluates independently from other members.

While evaluating, judges must not discuss the evaluation.

3. Models are scored according to the following criteria:

3.1. For quality of production, up to 50 points may be appointed. Quality, technical processing, construction and shape accuracy, surface features and color are evaluated.

During the measurement and verification of measurement correctness or size ratio, tolerances from the Clause 11.4. are taken into account.

3.2. Documented accuracy brings the competitors up to 20 points. It is determined if there is the entire equipment according to attached documentation (drafts) that was available to the modeler. The right choice of color is evaluated and the type of materials that are not colored: wood, metal, hemp, sails etc.

3.3. In purpose of encouraging research in national class, modeler can be given up to 10 points for the research he/she did by himself/herself. While evaluating reconstruction (completeness of production) and (or) improvements (alterations) are taken into account.

3.4. For the bulkiness of work (production complexity) competitor may be given up to 10 points and the number of points is determined on the judging the scope of work and difficulty of production.

3.5. General impression can bring up to 10 points. Technical smartness and general appearance of the model are assessed.

4. The measurement allows the following deviations:

4.1. Model's length: to 500 mm +/- 3 mm; 1.000 mm +/- 5 mm; 2.000 mm +/- 8 mm; 2.500 mm +/- 10 mm.

4.2. Model's width: to 50 mm +/- 2 mm; 150 mm +/- 2,5 mm; 300 mm +/- 4 mm; 600 mm +/- 5 mm

5. The modeler (author) or their representative must attend the evaluation and be prepared to answer all questions the jury asks and holds relevant for objective evaluation.



6. Each judge examines every model and enlists the appointed score respecting the agreed criteria and the determined maximum point's number for the quality of technical production (see 11.1.). Scores are entered as whole numbers – use of decimal numbers is not allowed.

7. Upon completion of the evaluation the secretary collects ballots and delivers them to the Referee.

8. If judges appoint the model, concurrent for one of the medals, a different number of points in the range bigger than 10, the Referee is obligated to organize a closed discussion where the judges must explain their opinion and extreme number of points. Based on their explanations, the referee sets median point values as a final result after which they can ask for voting. Judges who assigned extreme point values must correct it by increasing or decreasing it for maximum of five points. Before this negotiate concession the final score – result cannot be determined. The same procedure is applied in the case when two or more modelers get the same score in order to get a winner of the competition, or the model with the highest score and to whose author the Intermediate Cup is given (see 13.3.)

9. The final score is determined by calculating arithmetic mean of total scores appointed to the same model by three judges. Immediately after computer processing the secretary reveals the results by public posting of evaluation scale in the exhibition area.

10. Publicly posted scale must contain:

10.1. Name and surname of every judge and secretary

10.2. Surname and name of the competitor (exhibitor)

10.3. Name and exact name of the model

10.4. Number of the exhibit (model)

10.5. Number of the certificate or the model's registration chart

10.6. The scale of development

10.7. Evaluation date



## ***XII. CERTIFICATE OR A REGISTRATION CHART OF THE MODEL***

1. A certificate is issued by the club or association to every competitor for each model separately in a uniform template. The certificate must contain the following details:

- 1.1. Name and surname of the competitor
- 1.2. Basic information about the competitor
- 1.3. Name (type) of the model and its name if it has one
- 1.4. Classification date preceded by a prefix Hr and measurement of production
- 1.5. Name and surname of the author of the used draft and (or) the documentation label
- 1.6. Model's image
- 1.7. List of the used material
- 1.8. Space assigned for entry of particular notes
- 1.9. Space assigned for the entry of participation on competitions and certified final results and awards won in these competitions

2. Competitor who participates in the exhibition by himself/herself, as an individual, without a certificate is obligated to specify that in the application form in order to get a certificate in the competition, just before the evaluation.

## ***XIII. RESULTS - AWARDING***

1. Model, as a competition object, is evaluated by the jury applying these rules only if the model's certificate is presented.
2. Nor competitor nor anyone else can challenge the assigned points that constitute the final evaluation result.
3. The intermediate cup is given to the author of the model (exhibit), which got the maximum point number no matter the Class (except Class F, see 6.1.1.)
4. Medals are awarded based on the following average points won:



- 4.1. From 100 to 90 points – gold medal
- 4.2. From 89, 67 to 80 points – silver medal
- 4.3. From 79, 67 to 70 points – silver medal
5. Considering that the models are not compared to each other, there is no rank list, or dual ranks (two modelers cannot be first, second, third etc. at the same time)
6. List of results must contain the following information:
  - 6.1. Title – the official name of the competition
  - 6.2. Competitors Class
  - 6.3. Surname and name of the participant – competitor
  - 6.4. Name and surname of every judge
  - 6.5. Number of points appointed by every judge individually
  - 6.6. Final sum of points
  - 6.7. Achieved success: medals: gold, silver, bronze and intermediate cup
  - 6.8. Referee's signature.

#### ***XIV. EXHIBITION CATALOG***

1. Organizer must make a catalog of the exhibition containing all information about the exponents and their authors in this way:
  - 1.1. List of exhibits arranged by Classes in the order in which application forms arrived
  - 1.2. With each exhibit, its name and label, scale and year of production, volume size, name and surname of the author (competitor), their address and telephone number, name and surname of the draft or documentation author, all previously achieved medals, score on the current competition (number of points won) and possibly a won medal.
  - 1.3. The organizer must give the catalogue of the exhibition to all participants: competitors and organizers. They can sell the catalogue to interested visitors.
  - 1.4. The quality and volume of the catalogue depends on organizer's possibilities.



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### ***XV. TRANSITIONAL AND FINAL REGULATIONS***

1. These rules come to force 8 (eight) days after adopting them.
2. All exhibitions whose organization began before adopting these regulations may be organized by the standards announced by the organizer, and the exhibitions whose organization begins after the day of adopting the regulations must be organized according to these regulations.
3. Amendments to these regulations will be adopted in the same way as the regulations.