World Sailing Stability Database Working Group Report for 2025

To: Oceanic and Offshore Committee, Special Regulations Sub-Committee

From: Richard Hinterhoeller

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Revision 1: 15 September 2025

1 Preamble

During the Stability Screening Working Group presentation at the 2024 annual conference, the concept of having World Sailing host a database which lists the stability screening values was mentioned. It was agreed that a working group be formed to explore this concept.

Please note that this is report is very preliminary. The working group members provided valuable, and valued, time and we didn't want to get ahead of ourselves by doing unapproved work.

2 Terms of Reference (ToR)

2.1 The database will list information permitting a user (e.g. boat owner or race organizer) to positively identify the type of boat and its stability assessment under the 2026-2027 Offshore Special Regulation 3.04 Stability – Monohulls.

2.2 Identify sources that list boats/boat designs evaluated by these systems.

2.3 Invite representatives from these sources (e.g. IRC, ORC, ORR, World Sailing IT) to be part of this working group.

2.4 Define the scope of boat designs which will be included in the database.

2.5 Design the way the information will be clearly displayed to the public.

2.6 Determine the scope of work required to initialize and maintain the database.

2.7 Find the resources to initialize and maintain the database.

2.8 To provide a written report to be circulated by 1 September 2025 to the Special Regulations Sub-Committee and the Oceanic and Offshore Committee.

3 Working Group Members

3.1 Thanks to Dan Nowlan, chair of the original working party, the following people held several meetings:

(a) Zoran Grubisa (ORC Chief Measurer)

(b) Jason Smithwick (RORC Rating Office Director)

(c) Jenny Howells (RORC Technical Manager)

(d) Katrina Ham (WS Offshore and Safety Manager)

(e) Andy Claughton (ORC International Technical Committee chair)

(f) Dan Nowlan (US Sailing former technical director)

(g) Richard Hinterhoeller (WS SRSC vice-chair), working group chair

4 Database Purposes

4.1 The purposes of the database are to:

(a) provide interested parties, typically boat owners and organizing authorities, a sense for whether a particular boat is likely to meet the stability requirements for a race. For example, for a model where no boats meet category 3, the owner would realize that entering a category 2 race would be a waste of time.

(b) provide a centralised list of ISO 12217-2 values.

(c) list only production boats that have had no stability altering modifications.

5 Initiating the Database

5.1 Posting a sparsely populated database is a recipe failure.

5.2 The recommendation is that the database gets seeded by:

(a) Production boats obtaining rating certificates from the two senior rating offices (RORC and ORC), or from other willing to and capable rating offices.

(b) Production boats whose designers or builders provide CE-ISO values.

5.3 The data would be entered by the rating offices. Since it's their job to accurately identify boats, realistically they are the only people qualified to provide this information.

5.4 In a year, or perhaps 2, the stability database would represent a large cross-section of the offshore racing fleet, at which point it could be made public.

6 Maintaining the Database

6.1 RORC has a process whereby designers and builders are providing ISO 12217-2 values, or attestations that the boat meets the STIX etc. as outlined in OSR 3.04.

6.2 ORC has stability data with ORC Stability Index for all boats having an ORC International certificate and stability measured through an inclining test. This data can become immediately available for the database and updated in real time whenever a new ORC International certificate is issued.

6.3 For boats that don't have access to ISO or STIX, the best way is through one of the rating offices. Both senior rating offices do their best to provide stability screening for a reasonable cost.

7 World Sailing Involvement

7.1 A model database (see the next section) has been developed and is currently stored in a shared folder hosted by World Sailing.

7.2 There are known, and there will be as yet unknown, issues that the working group can sort out as it initiates the database.

7.3 Reports can be drawn from this test database (see attachment A).

(a) For the moment, this report can be published as a PDF document, which can be posted to:

(i) Any participating rating office, or (ideally)

(ii) World Sailing

(b) When resources become available, the pdf report could be replaced by a real-time report which reflects data shortly after it has been entered. This could be hosted by:

(i) any participating rating office and posted on their website,

(ii) a participating rating office and posted in a frame on the Word Sailing website, or

(iii) World Sailing and posted on the Word Sailing website.

7.4 The suggested schedule is:

(a) The deadline for rating offices to submit their information is the end of each calendar month, and

(b) The deadline for the report to be published is the 10th of the following month (i.e. 10 days after the rating office deadline).

8 Model Database

As the idiom says, "The devil is in the details". In the model database we are slowly working through these. This is how we solved one.

8.1 Identifying Models:

(a) Some builders have re-used the same designation for different models introduced decades apart.

(b) Where people can enter their own model description, there can be variations (e.g. J24, J 24, J-24, J/24).

(c) A model might have variants such as shallow or deep keels, masthead or fractional rigs, ketch or sloop.

(d) Rating offices have used abbreviations such as SK, DK, MH, FR, K. Sometimes they conflict (does SK stand for Standard Keel, Shallow Keel or Swing Keel?).

(e) In an ever-evolving sport, this eventually runs into a dead end.

8.2 In the model database, the solution was to use an unintelligent number (a universal model identifier or UM_ID).

(a) When a model is introduced, it might get the UM_ID = 14.

(b) By the time a variant to this model is introduced, the next available UM_ID might be 1087, so it's applied.

(c) Each rating office can add a UM_ID field to their database.

(i) If the boat is a custom boat, it receives no UM_ID.

(ii) Modified production boats are treated as custom boats.

(iii) A production boat which as obtained multiple ratings would only have the UM_ID assigned to one of its ratings.

(iv) Statistics used in the stability database only get drawn from boats that have a UM_ID.

8.3 The variants are shown in a descriptive field (see model *A 27* in Attachment A).

9 Conclusion

9.1 The working group has provided a plan for developing, initiating and maintaining the stability database.

9.2 The resources required from World Sailing range from nearly 0, to as small or large as the organization chooses.

9.3 The working group recommends that we be permitted to continue developing the stability database.

Attachment A: Stability List by Model- DRAFT

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Model/Builder/Designer	Variant																			
1D 35				ISO	Source		STIX		AVS		Cat									
Carroll Marine	L_H	10.67	Draft	2.31	ORC	Slx: Qty	7	Min	112.2	Avg	114.3	Max	117.2	Avg-σ	112.3	Avg+σ	116.2			
Nelson Marek	Series Date			1998	IRC	SSS: Qty		Min		Avg		Max		Avg-σ		Avg+σ				
A 27					ISO	Source		STIX		AVS		Cat								
Archambault Boats (FRA)	L_H	8.35	Draft	1.65	ORC	Slx: Qty		Min		Avg		Max		Avg-σ		Avg+σ				
Joubert-Nivelt	Series Date			2014	IRC	SSS: Qty	1	Min		Avg	23.7	Max		Avg-σ		Avg+σ				
A 27	Swing keel, twin rudders				ISO	Source		STIX		AVS		Cat								
Archambault Boats (FRA)	L_H	8.35	Draft	1.75	ORC	Slx: Qty		Min		Avg		Max		Avg-σ		Avg+σ				
Joubert-Nivelt	Series Date			2014	IRC	SSS: Qty	1	Min		Avg	23.7	Max		Avg-σ		Avg+σ				
A 31					ISO	Source	ISO	STIX	36	AVS	139	Cat	A							
Archambault Boats (FRA)	L_H	9.55	Draft	1.90	ORC	Slx: Qty	7	Min	118.5	Avg	124.7	Max	131.5	Avg-σ	119.8	Avg+σ	129.5			
Joubert-Nivelt	Series Date			2009	IRC	SSS: Qty		Min		Avg		Max		Avg-σ		Avg+σ				
A 35					ISO	Source	ISO	STIX	37	AVS	130	Cat	A							
Archambault Boats (FRA)	L_H	10.59	Draft	2.10	ORC	Slx: Qty	21	Min	108.0	Avg	114.8	Max	120.0	Avg-σ	111.7	Avg+σ	117.9			
Joubert-Nivelt	Series Date			2006	IRC	SSS: Qty		Min		Avg		Max		Avg-σ		Avg+σ				
A 40					ISO	Source	ISO	STIX	39	AVS	125	Cat	A							
Archambault Boats (FRA)	L_H	11.99	Draft	2.41	ORC	Slx: Qty	10	Min	98.6	Avg	114.6	Max	122.8	Avg-σ	107.7	Avg+σ	121.6			
Joubert-Nivelt	Series Date			2004	IRC	SSS: Qty		Min		Avg		Max		Avg-σ		Avg+σ				

Disclaimer TBD

Model/Builder/Designer	Variant																	
A 40RC		ISO	Source	ISO	STIX	47	AVS	140	Cat	A								
Archambault Boats (FRA)	L_H 11.98 Draft 2.48	ORC	Slx: Qty	8	Min	120.4	Avg	131.8	Max	136.6	Avg-σ	126.9	Avg+σ	136.8				
Joubert-Nivelt	Series Date 2005	IRC	SSS: Qty		Min		Avg		Max		Avg-σ		Avg+σ					
Oceanis 34		ISO	Source		STIX		AVS		Cat	A6/B								
Beneteau	L_H 10.34 Draft 1.82	ORC	Slx: Qty		Min		Avg		Max		Avg-σ		Avg+σ					
Finot-Conq Architectes	Series Date 2008	IRC	SSS: Qty		Min		Avg		Max		Avg-σ		Avg+σ					
Stratus 36		ISO	Source	IRC	STIX	38	AVS	127	Cat	A								
Albin Marine	L_H 10.72 Draft 1.80	ORC	Slx: Qty		Min		Avg		Max		Avg-σ		Avg+σ					
Peter Norlin	Series Date 1980	IRC	SSS: Qty		Min		Avg		Max		Avg-σ		Avg+σ					

World Sailing Stability List

Questions and Answers

Why is World Sailing publishing this stability list?

For category 3 and more severe offshore races, Offshore Special Regulation 3.04 requires that boats meet certain minimum stability thresholds. This information can be found in a variety of places. For newer boats sold in the European Economic Community it might be found on a CE capacity plate and published elsewhere. For other boats, the values are determined by the rating offices.

For unmodified production boats, this information is available online but in many places. The World Sailing Stability list centralises this information into one convenient place.

Who would use the list?

Preparing for an offshore race involves many steps. Often procuring the rating certificate gets put off until a few weeks before the start of the race. It would be awful for the crew to discover that the boat fails the stability screening after having invested hours and money preparing for the event.

The stability list would be used by the monohull boat to determine how likely it is that it will be accepted by the event organising authority. Similarly, the race committee can pre-screen boats as they enter and alert the boat if it's unlikely that the boat will qualify.

If a boat model is on the list, does it still need a rating certificate to prove its stability screening?

In all cases, the Notice of Race will take precedence (e.g. some races will deny entry to a boat meeting the ISO 12217-2 category because it fails to meet another stability requirement).

Generally, if the boat is listed as meeting the appropriate ISO category for the race, being on the list should be acceptable. World Sailing recommends that the CE capacity plate be inspected to ensure compliance.

If the boat model relies on the stability value published on a rating certificate, World Sailing recommends that the rating certificate is required for that boat. Since production variations and owner modifications might reduce the stability of a boat, only an inclining experiment will verify if the boat still meets the race requirements.

How is this list produced?

During the process of issuing rating certificates, the two senior rating offices (RORC and ORC) routinely calculate stability values. ORC calculates the ORC stability index. RORC calculate the IRC-SSS. RORC also collects ISO values from design offices. Both rating offices have generously offered to share this information with World Sailing.

How does this list deal with custom boats?

It doesn't.

The stability list is for the typical owner of a production boat that hasn't been significantly modified. A production boat which has had any stability altering modifications is considered a custom boat.

Custom boats must prove their seaworthiness using other methods.

When does this list get published?

The preliminary schedule, subject to change, is to publish the stability list by the 10th of each month.

What do I do if my boat model is not on the published list?

If the boat has a CE capacity plate (and the Notice of Race accepts that), provide that information to the organizing authority. If the stability screening is required from a rating certificate, arrange for that certificate.

Wow! There's a lot of information for each model of boat. What does it all mean?

This is under development. Once we decide which information to present, this section will get populated with examples.