

Name of Authorised Person:	Richard Hinterhoeller
Position:	Special Regulations Sub-Committee Vice Chair
Title of Proposal:	3.04 Stability - Monohulls
Subtitle:	A Proposal from the Stability Working Group Recommending Hydrostatic Tests for Monohull Category 0 and 1 Boats
Related proposals:	OOC-2025-008 proposes unrelated changes to this proposal.

Proposal:

Category	Rule number	Rule wording
Mo0,1	3.04.1 a)	Compliant with <u>ISO</u> 12217-2 ^a design category A, or the requirements of <u>OSR</u> 3.04.2 or <u>OSR</u> 3.04.3. <u>From 2027, this compliance shall be confirmed by having the actual displacement measured and by an inclining experiment. The inclining experiment is not required for boats that hold a valid one-design class certificate for which stability data has been confirmed.</u>

Current position:

Current 2024-2025 Version:		
Category	Rule number	Rule wording
Mo0,1	3.04.1 a)	Able to demonstrate compliance with ISO 12217-2* design category A or higher, either by EC Recreational Craft Directive certification having obtained the CE mark or the designer's declaration

Approved 2026-2027 Version:

Category	Rule Number	Rule Wording
	3.04	Stability – Monohulls
Mo0,1	3.04.1	a) Compliant ^b with ISO 12217-2a design category A, or the requirements of OSR 3.04.2 or OSR 3.04.3.
Mo2		b) Compliant with ISO 12217-2 ^a design category A or the requirements of <u>OSR</u> 3.04.2, <u>OSR</u> 3.04.3 or <u>OSR</u> 3.04.4.
Mo3		c) Compliant with ISO 12217-2a design category B, or higher or the requirements of OSR 3.04.2, OSR 3.04.3 or OSR 3.04.4.

Mo0,1,2,3		^a This can be demonstrated either by EC Recreational Craft Directive certification having obtained the CE mark or by the designer’s declaration. The latest effective version of <u>ISO</u> 12217-2 should be used unless the boat was already designed to a previous version.																									
Mo0,1		^b From 2027, this compliance shall be confirmed by having the actual displacement measured and by an inclination test.																									
Mo0,1,2,3	3.04.3	Table 2 – STIX, AVS, m*A_{GZ} and ORC Requirements																									
Mo0,1,2,3		<table><tr><th>Race Category</th><th>0</th><th>1</th><th>2</th><th>3</th></tr><tr><td>minimum <u>ISO</u> 12217-2 Stability Index (STIX)</td><td colspan="3">32</td><td>23</td></tr><tr><td>minimum <u>ISO</u> 12217-2 Angle of Vanishing Stability (AVS)</td><td colspan="3">130-0.002*m</td><td>130-0.005*m</td></tr><tr><td>but AVS always >=</td><td colspan="3">100°</td><td>95°</td></tr><tr><td>a minimum righting energy m*A_{GZ} (where A_{GZ} is the positive area under the righting lever curve in the minimum operating condition, expressed in kg metre degrees from upright to AVS)</td><td colspan="3">172000</td><td>57000</td></tr></table>	Race Category	0	1	2	3	minimum <u>ISO</u> 12217-2 Stability Index (STIX)	32			23	minimum <u>ISO</u> 12217-2 Angle of Vanishing Stability (AVS)	130-0.002*m			130-0.005*m	but AVS always >=	100°			95°	a minimum righting energy m*A _{GZ} (where A _{GZ} is the positive area under the righting lever curve in the minimum operating condition, expressed in kg metre degrees from upright to AVS)	172000			57000
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Mo0,1,2,3	3.04.3	Table 3 – ORC Stability Index or SSS Requirements																									
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Mo0,1,2,3	3.04.4	Table 4 –IRC Safety and Stability Screening numeral (SSS)																									
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Mo0	3.04.35	A boat shall be capable of self-righting from an inverted position with or without reasonable intervention from the crew and independent of the condition of the rig.																									

Reasons:

- During the 2024 annual meeting, it was drawn to the attention of the working group that in order to earn accreditation for ISO 12217-2, a boat requires an inclining test. In light of this, the working group was asked to review whether sentence 1 **"From 2027, this compliance shall be confirmed by having the actual displacement measured and by an inclining experiment."** was necessary. The working group determined the following:
 - When production boats are assessed under Module B (EU Type Examination Certificate) or Module A1 (Internal Control of Production plus supervised testing), the inclining test is carried out on a representative "sample" of the production. That is what the EU regulations require (it's similar for other types of "products" covered by the EU Directives).
 - It is normally the first boat built, of certain model, that is used for the inclining test and first approval (either Module B or A1).
 - Where there are different keel versions for example, the manufacturer must do VCG calculations for each one of the versions. Calculations are permitted in the standard.

- 1.4 It is the manufacturer's responsibility to ensure that next boats in the series production, if that's the case, are built according to the approved type. If they made significant changes affecting compliance with stability requirements they would need to communicate the changes to the Notified Body for reassessment. Unless changes are made to the model, the Notified Body only supervises the inclining test / calculations done in the boat presented for certification, normally the first one.
- 1.5 It is the opinion of the working group that testing a sample of one production boat leaves too great a possibility that other boats in the series might have inadequate stability, or that an owner could make a stability-reducing modification that was not anticipated when the boat received it's CE certification.
- 1.6 Conclusion: The working group recommends that proposed sentence 1 be retained as originally submitted.
For proposed sentence 2, **"The inclining experiment is not required for boats that hold a valid one-design class certificate for which stability data has been confirmed."**,
The Stability Working Group does believe that established and active One-Design classes are not subject to the potential configuration variations that concern the Stability Working Group as listed in 1.5 (above). Therefore, it is recommended that boats holding a valid One-Design class certificate for a class meeting the proposed measurement requirements of 3.04 be deemed as meeting those requirements.
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