

Keel Fatigue Working Party – Report to Oceanic and Offshore Committee 2022

A paper by the Working Party Chair – Jason Smithwick

Introduction

World Sailing, through its Offshore Special Regulations Structural Plan Review Scheme has established a process to have racing yachts reviewed and certified through notified bodies. This process uses ISO12215-9 amongst other standards. In 2019 World Sailing's Oceanic & Offshore and Special Regulations committees established a working party to investigate the requirements within ISO12215 Part 9 – Sailing Craft Appendages particularly related to the fatigue recommendations within the standard.

Working Party Members: Jason Smithwick (chair), Hasso Hoffmeister, David Lyons (TC188/WG35 chairman), James Dadd, Stuart Carruthers, Simon Forbes (staff)

Particular thanks to Simon Forbes who has done much of the coordination of the project and the team who have attended the TC/188 meetings.

ISO 12215-9 Systematic Review and WG35

The primary focus of work in 2021 and 2022 has been working with the relevant ISO Working Group - WG18 to open a systematic review of ISO12215 Part 9 which deals with sailing craft appendage (keels, rudders etc.) structures and in particular review the optional keel fatigue requirements in Annex F. The working group have written multiple letters to representatives to the ISO organisation on this basis and we finally succeeded in ISO opening a ballot for revision of ISO12215-9. This ballot resulted as unconfirmed but due to the comments received a new working group was set up. The following timeline describes the sequence of events and details of the process:

Timeline:

In January 2022 a ballot was opened to determine if a systematic review and revision of ISO 12215-9 is required. In April the ballot resulted in a tie with members voting 8 confirm, 8 revise/amend. The review result was not confirmed, but due to the comments received a revision of ISO12215-9 was launched for ISO/TC 188 approval.

In June 2022 there was a further ballot for the systematic review of ISO12215-9. This was also at the same time that David Lyons, AUS was proposed as the project leader. David is a former member of the WS Special Regulations Sub-committee. The proposed project plan as follows:

Therefore, ISO/TC 188 is asked to approve a revision of ISO 12215-9:2012 Small craft — Hull

construction and scantlings — Part 9: Sailing craft appendages with

- 36 months SDT

- project leader: Mr David Lyons (SA) (david@lyonsconsult.net)

- current scope

- the project is starting at stage 20.20

- under a new WG: "Hull construction and scantlings" with Mr David Lyons as Convenor
Project plan

- WG meeting: before 2022-09-30

- Circulation of first WD (20.20): 2023-02-28

- *Circulation of CD (30.20): 2023-08*
- *Submission of DIS (40.20): 2024-07*
- *Publication: 2025-07*

In mid-July 2022 the proposal for revision was confirmed and there was a resultant call for experts. David Lyons was made chairman of a new working group WG35 created as part of the TC188 Technical Committee. Following recommendations from James Dadd and Hasso Hoffmeister, Arran Bird of Pure Design and Engineering was nominated by World Sailing as an expert to WG35.

The ISO TC 188/WG35 met on 7 September to discuss the revision of ISO 12215-9. David Lyons chaired the meeting with Hasso Hoffmeister, Richard Hinterhoeller and Simon Forbes (amongst others) attending the meeting. The meeting did not result in a settled opinion for the scope of review of Part 9 of the ISO standard. The resulting action items from the meeting are as follows.

6. Summary of action items and those responsible/when

- 6.1. Agreed data base of study boats, as discussed: Prepare suggestions for next meeting. ALL.
- 6.2. Bring settled opinion about the scope of the review of Part 9 for discussion at the next meeting. ALL.
- 6.3. Adopt a settled opinion about whether we direct our work to a new clause, Annex or Part of ISO12215 for next meeting. ALL.
- 6.4. Decide if and what further areas of editorial amendment to Part 9 are needed. ALL.

Further Work

The TC188/WG35 project plan and subsequent actions items confirms investigation of the ISO standard. The next phase is to collect data from World Sailing and other parties. Through the World Sailing working party we will assist the ISO Working Group and continue our lobbying of the TC188/WG35 with the next meeting date in early October to be confirmed.
