

International 2.4mR Class Association, Technical Committee

$$R = (L + 2d - F + \sqrt{S}) / 2.37 = 2.4$$



2.4mR TC ADVICE 2023

2.4mR & 2.4 NOD CLASS RULES SAIL AREA

Background

The 2.4mR class rules do not control the foot median dimensions of headsails and mainsails, they also do not control the lowest point (tack) of headsails with respect to the deck and mainsails with respect to the mast lower point height.

2.4 NOD class rule G.3.4 includes a mainsail foot median of 4900mm. The 2.4 NOD class rules do not control the headsail foot median dimension they also do not control the lowest point (tack) of headsails with respect to the deck and mainsails with respect to the mast lower point height.

Sail area is based on main-triangle and fore-triangle dimensions only with foot extensions not considered in the rating.

The omission of these controls rules permits sails with extended luff dimensions and foot roaches significantly increasing sail area and potentially making existing sail designs redundant.

HEADSAIL

The headsail foot median for standard headsails varies from 3760mm to 3785mm.

The headsail foot median for an extended medium headsail is 4125mm with 230mm luff extension.

MAINSAIL

The mainsail luff extension for standard mainsails is 0mm.

The mainsail luff extension for an extended mainsail is 190mm.

KEEPING EXISTING SAILS COMPETITIVE

To keep existing sails designs competitive, and sail designs to the spirit of the class rules, the 2.4mR Technical Committee intends to submit amendments to the class rules for 2.4mR World Council approval at the next AGM as required under the 2.4mR Constitution. Subject to 2.4mR World Council approval any 2.4mR class rules amendment requires World Sailing approval.

Add foot median dimension controls as follows:

FOOT MEDIAN	2.4mR	2.4 NOD
Headsail	$l \times 1.02$ (proposed)	3825mm (proposed)
Mainsail	$P \times 1.054$ (proposed)	4900mm (existing)

Add tack controls as follows:

C.9.2 MAINSAIL

The **tack point** of the **sail** shall not be set below the upper edge of the mast **lower limit mark**.

C.9.3 HEADSAIL

The **tack point** of the **sail** shall not be set below the intersection of the forestay with the deck.

Peter Russell

Chairman of the 2.4mR ICA Technical Committee.

2.4mR CLASS RULES SAIL AREA SUBMISSION TO WORLD SAILING 2023

Background

The current 2.4mR class rules do not control the foot median dimensions of headsails and mainsails, they also do not control the lowest point (tack) of headsails with respect to the deck and mainsails with respect to the mast lower point height.

The omission of these controls from the 2.4mR class rules permits sails with extended luff dimensions and foot roaches significantly increasing sail area and potentially making existing sail designs redundant.

HEADSAIL (refer photo)



Headsail foot median for standard headsails varies from 3760mm to 3785mm

Headsail foot median for an extended medium headsail is 4125mm with 230mm luff extension.

MAINSAIL

Mainsail luff extension for an extended mainsail is 190mm.

CLASS RULES

2.4mR class rules do not include foot median controls, sail area is based on main-triangle and fore-triangle dimensions only with foot extensions not considered in the rules.

2.4 NOD class rule G.3.4 includes mainsail foot median of 4900mm. Amendment of the 2.4 NOD class rules to include a headsail foot median of 3825mm is subject to approval by the 2.4mR World Council.

Proposed Amendments

Add foot median dimension controls using ratios, consistent with the 2.4 NOD Class Rules, to the 2.4mR Class Rules section G SAILS.

FOOT MEDIAN	2.4mR	2.4 NOD
Headsail	$l \times 1.02$ (proposed)	3825mm (proposed)
Mainsail	$P \times 1.054$ (proposed)	4900mm (existing)

Add tack controls to the 2.4mR Class Rules C.9 SAILS.

C.9.2 MAINSAIL

(a) USE

(2) The highest point of the **sail**, projected at 90° to the mast spar, shall not be set above the lower edge of the mast **upper limit mark**. The **clew point** of the sail, projected at 90° to the boom spar, shall not be set behind the fore side of the boom **outer limit mark**. **The tack point of the sail shall not be set below the upper edge of the mast lower limit mark.**

C.9.3 HEADSAIL

(a) USE

(1) The highest point of the **sail**, projected at 90° to the mast **spar**, shall not be set above the **forestay rigging point**. **The tack point of the sail shall not be set below the intersection of the forestay with the deck.**

Explanation

The current 2.4mR class rules do not control the foot median dimension permitting sails with extended luff dimensions and foot roaches significantly increasing sail area and potentially making existing sail designs redundant.

The addition of 2.4mR boat foot median and tack class rules will prevent foot extensions and control sail area to main-triangle and fore-triangle dimensions consistent with the boat's rating.

Peter Russell

Chairman of the 2.4mR ICA Technical Committee

2.4 NOD CLASS RULES – HEADSAIL FOOT MEDIAN 2023

Existing Rule

C.10.3 MAINSAIL

(a) USE

- (2) The highest visible point of the **sail**, projected at 90° to the **mast**, shall not be set above the lower edge of the **mast upper limit mark**. The **clew point** of the sail, projected at 90° to the **boom**, shall not be set behind the fore side of the **boom outer limit mark**.

C.10.4 HEADSAIL

(a) USE

- (1) The highest visible point of the **sail**, projected at 90° to the **mast**, shall not be set above the **forestay rigging point**.

G.4 HEADSAIL

G.4.4 DIMENSIONS STANDARD HEADSAIL

	minimum	maximum
Foot length		1716mm
Three quarter width		437mm
Half width		827mm
Top width		40mm
Number of batten pockets		3
Batten pocket length outside		450mm
Batten pocket width outside		60mm
Number of battens		3
Batten length		400mm
Head point to intersection of leech and centreline of uppermost batten pocket	700mm	
Clew point to intersection of leech and centreline of lowermost batten pocket	700mm	
Primary reinforcement		600mm
Secondary reinforcement		600mm

G.4.5 DIMENSIONS HEADSAIL BOOM HEADSAIL

	minimum	maximum
Foot length		1482mm
Three-quarter width		468mm
Half width		850mm
Top width		40mm
Number of batten pockets		3
Batten pocket length outside		450mm

	minimum	maximum
Batten pocket width outside		60mm
Number of battens		3
Batten length		400mm
Head point to intersection of leech and centreline of uppermost batten pocket	700mm	
Clew point to intersection of leech and centreline of lowermost batten pocket	700mm	
Primary reinforcement		600mm
Secondary reinforcement		600mm

Proposed Rule

C.10.3 MAINSAIL

(a) USE

- (2) The highest visible point of the **sail**, projected at 90° to the **mast**, shall not be set above the lower edge of the **mast upper limit mark**. The **clew point** of the sail, projected at 90° to the **boom**, shall not be set behind the fore side of the **boom outer limit mark**. **The tack point of the sail shall not be set below the upper edge of the mast lower limit mark.**

C.10.4 HEADSAIL

(a) USE

- (1) The highest visible point of the **sail**, projected at 90° to the **mast**, shall not be set above the **forestay rigging point**. **The tack point of the sail shall not be set below the intersection of the forestay with the deck.**

G.4 HEADSAIL

G.4.4 DIMENSIONS STANDARD HEADSAIL

	minimum	maximum
Foot length		1716mm
Three quarter width		437mm
Half width		827mm
Top width		40mm
Foot Median		3825mm
Number of batten pockets		3
Batten pocket length outside		450mm
Batten pocket width outside		60mm
Number of battens		3
Batten length		400mm
Head point to intersection of leech and centreline of uppermost batten pocket	700mm	
Clew point to intersection of leech and centreline of	700mm	

	minimum	maximum
lowermost batten pocket		
Primary reinforcement		600mm
Secondary reinforcement		600mm

G.4.5 DIMENSIONS HEADSAIL BOOM HEADSAIL

	minimum	maximum
Foot length		1482mm
Three-quarter width		468mm
Half width		850mm
Top width		40mm
Foot Median		3825mm
Number of batten pockets		3
Batten pocket length outside		450mm
Batten pocket width outside		60mm
Number of battens		3
Batten length		400mm
Head point to intersection of leech and centreline of uppermost batten pocket	700mm	
Clew point to intersection of leech and centreline of lowermost batten pocket	700mm	
Primary reinforcement		600mm
Secondary reinforcement		600mm

Explanation

The current 2.4 NOD class rules do not control the headsail foot median dimension permitting sails with extended luff dimensions and foot roaches potentially making existing sail designs redundant.

For the purpose of rating calculation the headsail area is based on the foretriangle area so foot extensions are not penalized.

The 2.4 NOD class rules are designed to ensure that boats are of equal performance.

The addition of a 2.4 NOD headsail foot median and tack class rule will prevent headsail foot extensions and is consistent with the mainsail class rules which include a foot median control to prevent mainsail foot extensions.

Peter Russell

Chairman of the 2.4mR ICA Technical Committee.