

NSOA RULES CONSULTATION AUTUMN 2019

1. Sailcloth rule delete word "mace"

Proposers' reasons for change

The current rule restricts the sailcloth, in effect, to that supplied only by one cloth manufacturer, Contender BV. White cloth is dyed using an expensive process to produce Mace cloth. A few other cloth manufacturers produce dyed cloth using cheaper cloth, but the end product is inferior quality and not competitive. So currently the Squib class has put itself into a position where a key consumable item is subject to a monopoly on supply. One consequence is the mace cloth is significantly more expensive than the comparable white cloth.

Another consequence of only having one source of cloth is the class is at the mercy of any interruption of supply. This can be simply because enough cloth has not been made in the current production run to cater for demand. More significantly if the cloth manufacturers decide to no longer produce the cloth unless the volumes are of a level the class cannot sustain. This happened in our sister class the Sandhopper, where the minimum production run of 500 metres could not be met so the class was forced to abandon blue cloth and adopt white instead.

All these problems can be avoided by having the option of white cloth. Many more cloth manufacturers make white cloth and so many more choices are available which keep price down and supply easy.

The argument in respect of the class "image" is less clear cut. The Squib class is noticeable and distinctive because of its "brown" sails. However feedback from many prospective sailors (and Rondar the class builder) is that this is a negative feature. Good sailors are put off Squib sailing because brown sails are redolent of fishing smacks, Thames barges and Drascombe luggers, in other words it is not a good look! There is also a suspicion that dyed cloth is inferior, not really suitable for racing boats- which where the Contender cloth made since 2015 is concerned seems an unjustified criticism.

Allowing white cloth would not of course preclude sailors still choosing to have Mace sails. Or sails made partly from Mace and partly from white (like the concept sails shown by Hyde at the Dingy Exhibition last year) All the above points would still apply, but at present only the expensive mace option is allowed by the rules.

In classes where the sail plan and/or the cloth colour have been changed, history tends to show that the fate of the class was little affected. Sandhopper numbers have not dramatically changed by abandoning blue. But the change in sail cloth and material probably helped the RS400 and the SB20 classes at a time when interest in the boats were flagging and was welcomed by the sailors with the advantage of hindsight.

Note: All sailmakers were invited to contribute to this debate but to date only this viewpoint from Hyde Sails has been received.

See the appendices for information from Contender

Technical subcommittee

comment: Whilst this is more marketing of the class issue, the technical considerations are.

- a) The current rule ensures that all sails are made from the same cloth with consequently consistent properties in terms of stretch and performance, enhancing the one design aspect of the class.
- b) The downside is the one supplier issues of reduced competitive buying power on pricing. This could be the case irrespective of colour.

If approved the Technical subcommittee would recommend that the wording in the class rule should be:

G.3.2 Materials

- a) The ply fibres shall consist of 5-6oz impregnated woven polyester. The cloth shall be approved by the RYA.

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2. Front bulkhead specifically allowed

Proposers' reasons for change

There has been much angst and argument over the handful of boats that added a full height front tank to their Squibs resulting in a rule clarification that banned them. The argument against them was that they were in fact "mast bulkheads" whose function was to stiffen the boat and a performance advantage was obtained. To an extent this argument has been negated by the Grogan's who have won the nationals in two separate boats one with and one without a front buoyancy tank. 881 was the boat that they used to win in Weymouth and was the subject of an RYA rules case over the bulkhead. It had also won the Nationals without a bulkhead, in Mike Budd's hands a couple of years earlier.

The real reason to install them is to stop Squibs sinking. The Grogan's installed the one on 105 (subsequently removed) after sinking at Rutland. With a full height rear tank (allowed by the class rules) and a full height front tank, a Squib can broach and fill up and be safely bailed out. With no additional buoyancy the boat tends to float so low that water overflows the cockpit coaming and cannot be bailed out.

The new Rondar boat of course has both these features included as standard and a present does not seem any faster as a consequence. The Grogan's performance in 105 both with and without a bulkhead seems to be the same. The original plans for the boat appear to have allowed them. Their banning by the RYA seems to have been mainly political as part of a vendetta against 881. It still has no certificate because without the front bulkhead it is underweight.

It seems sensible to encourage safety related improvements to the Squib if they do not confer any specific performance gain (as demonstrably the case here) Alternatively why prohibit them on older Squibs if the new ones can have them?

Technical subcommittee comment:

Any change that has the potential to improve safety is beneficial, but the issue of buoyancy needs considering in total.

The Squib as designed by Oliver Lee with a front and half height rear buoyancy chamber contained approximately 600Kg of floatation due to enclosed air. The plywood structure contains a further 100kg of floatation, thus a 680Kg boat just floats, however has no ability to keep a crew afloat. Many years ago the rule made the addition of approximately 158Kg of additional buoyancy bags to ensure the boat stayed afloat with 2 x 12.5 stone people). Unfortunately all this additional buoyancy was in the front so the boat floats stern down (under water).

More recently Parkers introduced the under rear floor tank increasing buoyancy in the rear of the boat by 168 Kg and the full height aft tank which if fully submerged a further 420kg (however typically this tank would not be fully submerged, so contribute somewhere between the half height tank of 187Kg and 420Kg). In this condition the boat with crew is far better balanced in terms of fore and aft buoyancy. In reality the addition of this Parker buoyancy should be encouraged, especially the under floor tank. It is far more necessary than additional front buoyancy.

The addition of a front buoyancy chamber would further help in total floatation terms to keep the bow up which is advantageous whilst towing, however this addition would have little if any benefit in terms of allowing the Squib to self recover, it will still need a tow boat.

The Technical subcommittee would recommend that the position and construction of the additional buoyancy tank if approved should be.
*"A single watertight bulkhead maybe fitted between the underside of the foredeck and the top of the buoyancy tank. It shall be constructed of a single piece of 12mm plywood. The top shall be installed anywhere between 1025mm and 1500mm forward of section 6. (IE the aft deck beam on traditional boats and the position in the Rondar boat). The bulkhead shall be perpendicular to the centre line of the hull, and base line. It shall be bonded to the top of the front tank, the hull on either side and the underside of the deck. Up to two water tight inspection hatches maybe fitted to the bulkhead, no bigger than 350mm.
The watertight chamber shall contain no less than 158 litres of additional buoyancy (in case of the chamber being holed)."*

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3. Loose footed mainsail (delete Bolt rope on foot of main)

Proposers reasons for change:

The proposal is to delete the requirement that the mainsail must have a boltrope on the foot of the sail. Foot bolt ropes are an old fashioned style of finishing for racing sails requiring extra material and labour. The better practice is to use a clew slide that runs in the boom and have a loose foot. The main benefit is that the boat is much quicker to rig and de-rig as the slide facilitates easy single handed removal of the mainsail. It is a very minor change but simply makes going Squib sailing more convenient. There is no difference in respect of performance but the sail is slightly easier to trim as there is less friction in the outhaul.

Technical subcommittee comment:

The committee see little in this proposal that would improve the appeal of the class to existing and future Squib sailors. The only benefit would be slightly quicker sail changes, The downside is that the mainsail will be more 'sensitive' to foot tension, leading to the probable development of more complicated foot tensioning devices. Would there be a performance advantage? We simply do not know for sure.

The Technical subcommittee are not in favour.

4. Barber Hauler rule deletes “in one plane only” restriction

Proposers' reasons for change:

The current restriction on the barber hauler rule in insisting it can only alter the sheeting angle in one plane, causes undesirable and unintended consequences, the most obvious being that many Squib cuddies are riddled with exit holes as sailors have grappled with the challenge of getting their jib clew in the right place according to wind strength, waves, mast rake, jib tack height, sail design and sheet tension. Allowing an extra line to adjust vertically as well as horizontally would be a cheap and easy way to allow comprehensive adjustment whilst not wrecking your boat. Additionally it would enable the knowledgeable sailor to adjust to changing conditions simply and easily- which is not possible if you need to re-thread your barber haulers through a different hole. Jib life would also be extended as leach flapping could be reduced in stronger breezes by enabling better vertical control of the sheeting angle. A very simple change that makes Squib sailing cheaper and more interesting.

Technical sub-committee comments:

The Jib barber haulers rule was introduced many years ago with the intent to make a simple arrangement. Largely this intent has been fulfilled, although changing the sheeting angle to suit differing cuts of jib often requires modifications such as a new hole in the cuddy being made. To many class members the inclusion of the current rule made the boat more “technical” to sail. With this in mind the committee question if this change is advantageous to the average Squib sailor? Additionally the fear that without a defined solution the number of interpretations could be infinite. Beware of un-intended consequences. If there is appetite for change, we should firstly try and find a good solution and then propose a rule change.

The Technical subcommittee are not in favour without further investigation.

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5. Outboard Motor to be included in the minimum weight

Proposers' reasons for change:

The proposal is to allow an outboard motor to be included in the 680kg minimum weight. The reason is that there are venues, eg. Dartmouth, where tides run strongly and there may be a long sail to the designated race area, which may leave a Squib dependant on outside assistance or paddling should the wind fail. This is a disincentive for Squib sailors to use their boats and is therefore highly undesirable! Equally it reduces the versatility of a seaworthy little keelboat to be used simply for recreation "I won't take the kids out fishing because we might have to paddle back!"

The main reason for not carrying an outboard is that the current rules insist that its weight (typically 10-20kg) is on top of the minimum weight. Most sailors do not want to carry a weight penalty of that magnitude.

Many more modern keelboat classes include outboards, eg the new RS 21 has a clever electric outboard system but hardly any Squibs carry them.

Four stroke outboards weigh around 17kg and are designed to be stored on a designated side (so the oil does not run out) or upright. Electric outboards have detachable batteries which could of course be used to power bilge pumps too.

If the rule was changed to allow their weight to be included in the overall weight. Squib sailors could choose not to carry them (the current default position) or replace some of their correctors with a (much more useful) outboard instead. Obviously an overweight boat does not have the same opportunity.....for them the situation is no different than now.

It's a performance neutral measure to improve the appeal and usability of the class. Ideally it should be looked at in terms of "what does it do for the class?" not "How does it help me personally?"

Technical subcommittee comments:

If a fleet today wants to carry an outboard they can elect to do that by agreement locally within the fleet. If all boats comply with the 680Kg rule irrespective of the amount of correctors, all the boats with outboards sail at a similar weight addition, thus a level playing field. If adopted, for example one fleet boat carries 30Kg correctors the outboard could be carried within the 680kg weight. However a boat carrying zero correctors will then have to sail at 680Kg plus outboard, thus destroying the level playing field. In addition 'four stroke' outboards must be stored upright. If laid down and the boat heels, sump oil flows above the piston and they will not start. This proposal is only good for either electric outboards, which are unlikely to operate very reliably having been soaked in salt water or two stroke outboards which have not been available new in the EU for about 10 years.

The technical subcommittee are not in favour.

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6. Increase minimum weight by 20kg

Proposers' reasons for change:

It is proposed that the minimum weight is increased from 680kg to 700kg. The reason is that the class needs to attract new members, especially young new members. They have better things to spend their (often) limited money on than boats. Cost is a key factor in losing racing sailors from the sport. The Squib offers a uniquely low price keelboat racing proposition but for years we have neglected the pool of middle aged boats that neither have the old, fast keels, or were built by Parker. These boats can be bought for sometimes below £1000 and can be competitive with some hard work and updated equipment. However many are significantly overweight which puts potential owners off. To raise the minimum weight by 20kg would enable a significant number of these boats to become attractive starter boats.

For existing boats that have maximum correctors, the argument that the seats could not cope is obviously overstated; the seats cope well with 100kg crew leaping on and off them every race and I have never heard of any failures. In any event, boats with max correctors could have the extra 20 fitted to the beam in front of the mast and the front face of the rear tanks, for example.

Re measuring would not be necessary if the rule change was drafted appropriately. ie "additional correctors may be added without the need for re-measurement provided they were noted on the certificate" In which case the certificate would need updating, just like a change of ownership.

Technical subcommittee comments:

The committee are unanimous in opposition to this on the grounds that:

- a) Tony Saltonstall's experience suggests very few boats where the structural woodwork is in sound condition are much more than 680Kg.
- b) Boats that are not in "sound" condition with water logged structural woodwork, are not seaworthy and have a high probability that they will sink if capsized, and endanger life.
- c) To implement the change to approx 800 boats only 400 of which are owned by NSOA members will be difficult, and take years.

The implementation procedure will be that all boats will have their certificates withdrawn by the RYA. All boats will need re-weighing by a measurer with the new weight and correctors in place and recertified with the RYA. The cost of this will have to be borne by the owner.

Typically £35 recertification with the RYA, £30 lead (20KG), Measurers fee ?

- d) It is considered that at club level a rule change of this magnitude will never be implemented, and become a divisive issue bad for club and class relationships.
- e) The maximum allowable correctors will need increasing to 50Kg. There are practical and structural considerations regarding fitting and the securing of 25kgs of lead under each side seat, in boats that already carry a large amount of correctors.

Appendices: Documents from Contender regarding sailcloth.

From: Roeland Wentholt <Roeland@contender.nl>
Subject: Squib cloth 2020
Date: 25 July 2019 at 13:01:48 BST
To: Nigel Grogan <nigelgrogan@hydresails.co.uk>
Cc: Max de Bruin <Max@contender.nl>

Dear Nigel,

Max asked me to reply to your e mail regarding coloured 5.52 oz for the Squib class.
Thanks for informing us that the class is considering allowing white sails in the future.

Pricing:

The present price for 5.52 oz Squib is € 10.56 per meter and will have to go to € 10.88 per meter.
The net price we can offer you for 5.52 oz Polypreg natural is € 9.32 per meter, so the saving per sail on cloth is roughly € 58.00 per sail

Finishing/colouring working steps of woven polyester Polypreg fabrics:

Natural woven polyester Polypreg finish working steps:

- 1) weaving
- 2) washing
- 3) drying
- 4) impregnating (polypreg finish).
- 5) Heatsetting (process in which we apply up to 225Celsius to shrink the polyester yarn, it shrinks up to 12-15% to make a tighter weave and set the resin in the yarn to create the best stability).
- 6) Calendering (We apply up to 50 tons of pressure to give the fabric a nice smooth surface and good flatness).
- 7) Inspection and trimming.

Coloured woven polyester fabric working steps: There are two type of machines/processes which you can use to colour woven polyester, one is thermosol dyeing (a process we used up to 2015), the other process is jigger dyeing a process we use since.

- 1) weaving
- 2) washing
- 3) drying
- 4) Colouring on either Thermosol or Jigger
- 5) impregnating (polypreg finish).
- 6) Heatsetting (process in which we apply up to 225Celsius to shrink the polyester yarn, it shrinks up to 12-15% to make a tighter weave and set the resin in the yarn to create the best stability).
- 7) Calendering (We apply up to 50 tons of pressure to give the fabric a nice smooth surface and good flatness).
- 8) Inspection and trimming.

Before we changed to jigger dyeing (2015) we used the thermosol colouring process, in this process the fabric gets impregnated with the pigments which have to be set in the polyester weave by applying a temperature of around 200 Celsius (this is to prevent the fabric from bleeding when wet) , by applying this temperature the fabric before impregnating already shrinks up to 10-12 % which makes it much more difficult for the resin to penetrate the fabric, hence it is impossible to have the same stability in the coloured 5.52 as the natural version. Typical a Squib colored fabric then would have 10 unites of stretch at 10lbs in the bias and a natural 5.52 oz would have around 7 to 8 units so the natural would easily be 25% more stable and would not marble as much in use.

In the jigger dyeing process the pigments are set at a temperature of around 120-130 Celsius which hardly shrinks the weave so the resin can penetrate the fabric the same way as in natural so we have no negative impact of the colouring process on the stability of the fabric which is confirmed by enclosed graphs.

I hope this answers your questions.

Best regards,

Roeland



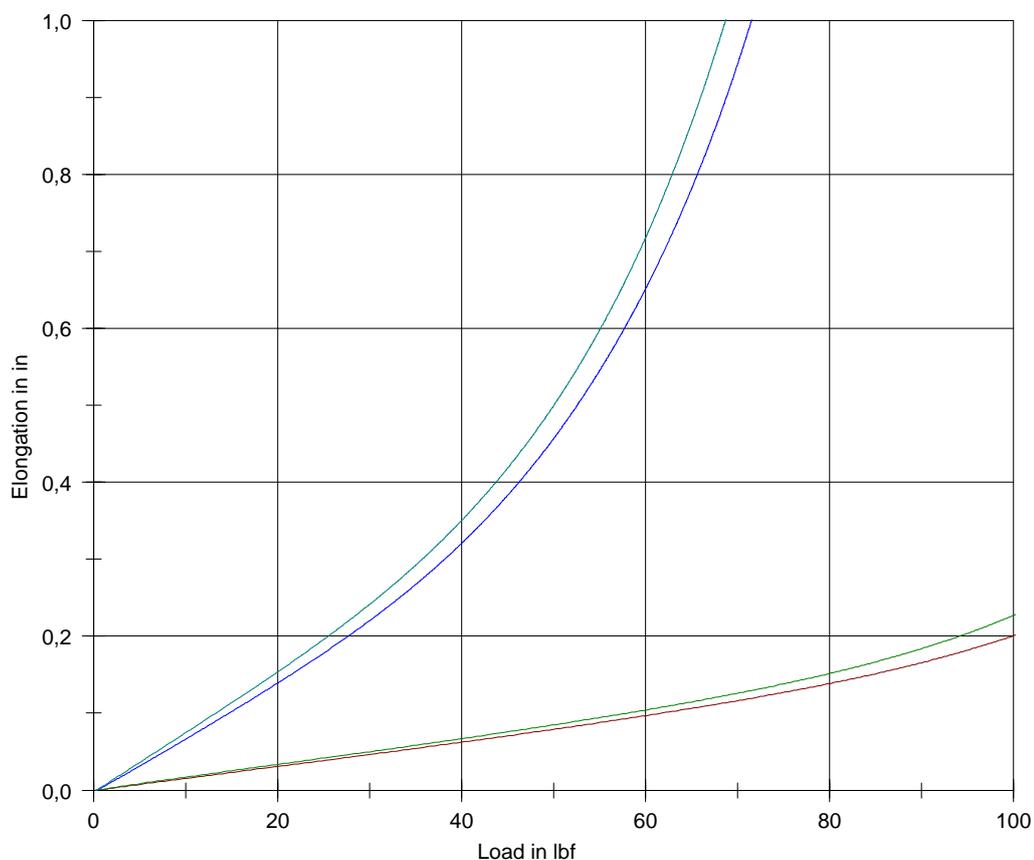
CONTENDER SAILCLOTH®

FINISHED BY 

Date : 05.02.18

Quality : 5,52 oz	Finish : Polypreg 8
Style : Fibercon Pro	Colour : Squibbrown
Lot : 6101671/1	Width/cm: 103
SM OZ : 5,83	Count/in :
gr./m ² : 250	

Direction	LBS 10 in	LBS 20 in	LBS 50 in	LBS 100 in	F 1% lbf
Fill	1,5	3,1	7,9	20,0	88,2
Fill Flutter	1,7	3,3	8,5	22,7	83,0
45°	6,6	13,9	45,6	-	22,8
45° Flutter	7,4	15,3	49,9	-	20,8





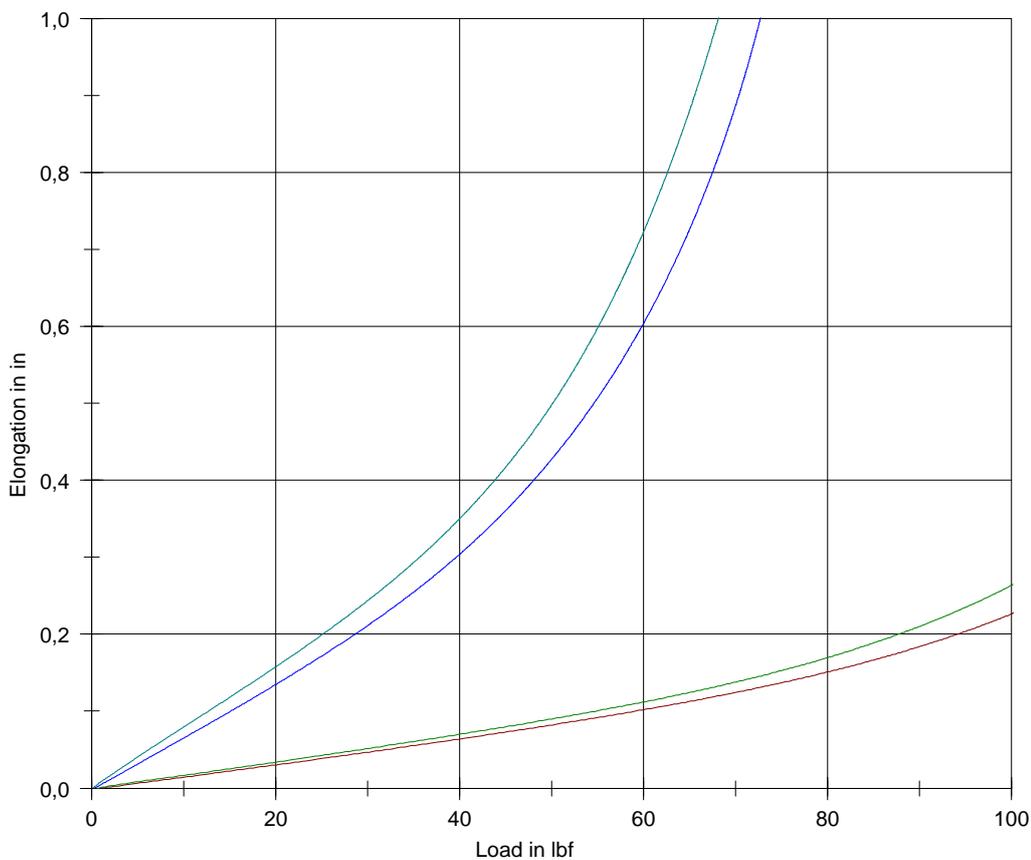
CONTENDER SAILCLOTH®

FINISHED BY 

Date : 08.07.16

Quality : 5,52 oz	Finish : Polypreg 9
Style : Fibercon Pro	Colour : Squibbrown
Lot : 1020578	Width/cm: 102
SM OZ : 5,79	Count/in :
gr./m ² : 248	

Direction	LBS 10 in	LBS 20 in	LBS 50 in	LBS 100 in	F 1% lbf
Fill	1,4	3,0	8,2	22,6	83,1
Fill Flutter	1,7	3,4	9,0	26,3	77,3
45°	6,5	13,4	42,7	-	23,5
45° Flutter	7,9	15,7	49,7	-	20,3





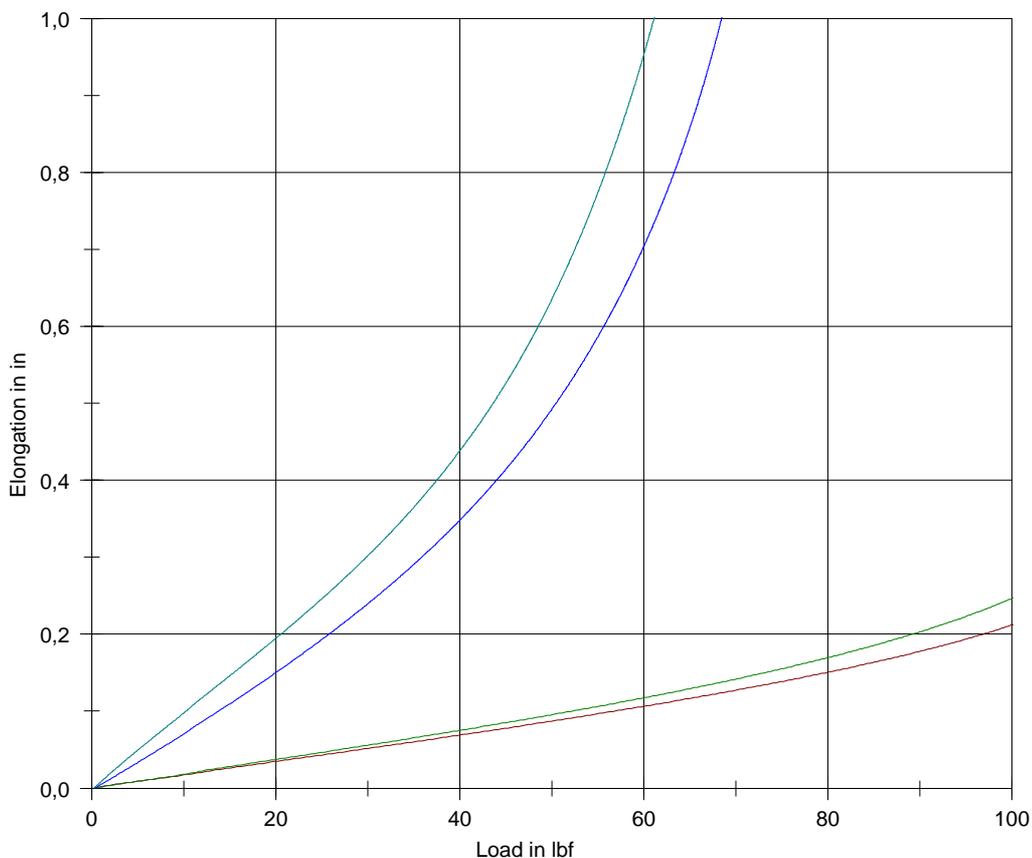
CONTENDER SAILCLOTH®

FINISHED BY 

Date : 08.05.15

Quality	: 5,52 oz	Finish	: Polypreg 8
Style	: Fibercon Pro	Colour	: Squibbrown
Lot	: 1020072/1	Width/cm	: 102
SM OZ	: 5,67	Count/in	:
gr./m ²	: 243		

Direction	LBS 10 in	LBS 20 in	LBS 50 in	LBS 100 in	F 1% lbf
Fill	1,7	3,5	8,7	21,2	83,7
Fill Flutter	1,8	3,7	9,5	24,6	76,8
45°	7,0	15,0	49,2	-	21,2
45° Flutter	9,7	19,4	63,4	-	16,5



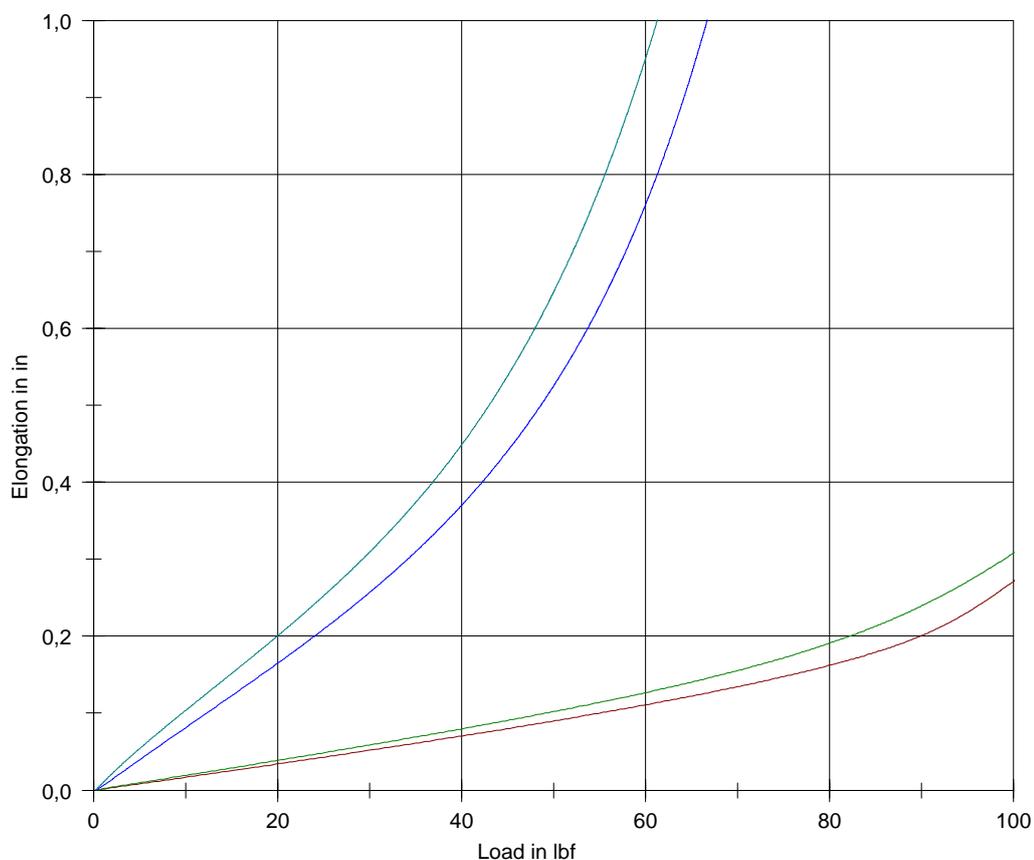
CONTENDER SAILCLOTH®

FINISHED BY 

Date : 25.08.17

Quality : 5,52 oz	Finish : Polypreg 9
Style : Fibercon Pro	Colour : Natural
Lot : 6101038	Width/cm: 103
SM OZ : 5,67	Count/in :
gr./m ² : 243	

Direction	LBS 10 in	LBS 20 in	LBS 50 in	LBS 100 in	F 1% lbf
Fill	1,7	3,4	9,0	27,1	79,4
Fill Flutter	1,9	3,9	10,2	30,8	71,5
45°	8,1	16,5	52,4	-	19,5
45° Flutter	10,3	20,0	64,6	-	15,9



FINISHED BY 

Date : 25.01.17

Quality	: 5,52 oz	Finish	: Polypreg 9
Style	: Fibercon Pro	Colour	: Natural
Lot	: 1020762/1	Width/cm:	103
SM OZ	: 5,62	Count/in	:
gr./m ²	: 241		

Direction	LBS 10 in	LBS 20 in	LBS 50 in	LBS 100 in	F 1% lbf
Fill	1,6	3,3	8,7	21,4	83,2
Fill Flutter	1,8	3,7	9,6	24,8	76,0
45°	7,7	16,3	52,5	-	19,7
45° Flutter	9,7	19,5	62,5	-	16,5

