

# Buccaneer Class Association Technical Committee Report on Mylar Mainsails May 2009

## Motion:

As approved by the Buccaneer Class Association Board of Directors

"That the National Committee holds a vote of the membership to allow a trial of PET (Mylar) mainsails as recommended in the Technical committee report of 4th May 2009 to approve this material as a class legal sail for all non-sanctioned and sanctioned events for the Buccaneer 18 class for the period of the trial. The duration of the trial will be from after the vote is completed (if passed) and continue through to the conclusion of BNAC 2011. A period of 2 weeks for discussion by the membership after the announcement of the vote should be allowed, followed by the standard voting period.

At the conclusion of the trial the Technical Committee will collect input from BCA class members regarding the performance and durability of mylar mainsails and report back to the National Committee and the membership. A vote will then be held of the membership on a permanent change to the class rules.

Mylar sails that have been used during the trial, and where the owner has submitted a report to the Technical Committee on their findings, can be grandfathered in as legal for the remainder of the life of the specified sail if the vote at the end of trial period is to not to make the permanent rule change to allow PET (Mylar) mainsails." - Motion passed May 26, 2009

**History:** The Technical Committee was asked to investigate the possibility of allowing mylar mainsails to be used in the Buccaneer Class. Mylar jibs have been used successfully for about 14 years.

**Process:** I sent emails to contacts at North, Schurr, Quantum, and Vermont Sailing Partners seeking their opinions regarding Mylar mains on Buccaneers. While none were enthusiastic about the idea, none thought that it would give a technological advantage to the boats using them. Their reservations referred to the potential shortcomings of using Mylar instead of Dacron for our mainsails. There was some discussion on the yahoo Tech Committee group as well as one on one talks with Tech Committee members, including Dave Rawstrom of the Arizona Yacht Club, who has been using a Mylar main for about ten years.

**Cost:** The cost should be about the same. Bill Fastiggi of Vermont Sailing Partners gave a breakdown of the cost of the materials. The Mylar could actually

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be cheaper, but no guarantee that would result in cheaper sails in Mylar. Hunter Riddle of Schurr said that the cost would be within 10% of Dacron.

**Effectiveness:** “Again depending on the weight and style, you should be fine here, but the only way to know for sure is to build a test sail and try it out. They will respond a little differently as the fabric will stretch differently, but the controls should effect the sails the same way.” (Bill Fastiggi, Vermont Sailing Partners)

**Durability:** “I think the mylar main would be FAR less durable than a Dacron mainsail. You might see "batten poke" and shrinkage issues.” (Fastiggi)  
“The bottom line is you can't push a mylar sail beyond it's competitive life like a Dacron sail, it just starts to fail. In summation; larger cash outlay for the sailors.” (Randy Shore, Quantum)

“The flogging that a main endures in heavy wind would possibly result in a shorter life and increased delamination problems.” (Hunter Riddle, Schurr Sails)

**Competitiveness:** “If I were racing a Buc and had the choice for sail fabric for my own boat I would choose Dacron for the mainsail even if the mylar sail were cheaper. I think it will hold up better and I think it would be a faster sail, although it depends a lot on what style Dacron and what style Mylar you would be using.” (Fastiggi)

“I am hearing that the Mylar sails last longer, but that Dacron sails are more versatile across different conditions.” (George Szabo, Quantum Sails)

Greg Fisher of North expressed similar concerns about the adjustability of mylar over a wide range of conditions. “I also worry about the durability unless the weight is ruled high enough. However a high fabric weight would increase the "gear changing" issue, I fear.”

**Comparisons to other One Design classes:** Both the Finn and Tasar classes went through a similar process since 2001. In both cases, they decided to allow laminates.

The Finn class rule covering allowed sail materials says "**The sail shall be made of flexible materials, which may be laminated.**"

The Tasar class says, "**The mainsail and jib may be of different materials, either mylar or dacron**"

**Definition of Materials:** In most of the discussions both with the sailmakers and among the TC, the terms Dacron and Mylar have been used, Dacron being the

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presently approved mainsail material. However, these terms are brand names, not generic, and few sailmakers actually use “Dacron” or “Mylar”. **Polyester (PET)** Polyethylene terephthalate is the generic term for Dacron and Mylar. **(PEN)** Polyethylene naphthalate, is also commonly known by Honeywell's trade name "Pentex". To be more accurate in our use of terms for the racing rules, we should probably use the generic terms rather than trade names. Cloth weight should be mandated the same regardless of material to remove any weight advantage for either. This weight is described in the racing rules as having a “manufacturer’s published finished weight of no less than 3.8 oz. per sailmakers yard (36” x 28.5”)”.

**Carbon and Other Exotic Fibers:** Seldom used in small boat sails. Not considered to be enough of an advantage to be worth the cost. There was some discussion about banning them. However verifying them during the measurement process would be problematic.

**Perspective:** How have other classes similar to ours have taken different courses in their views of Laminates?

Here are the results of the research on sail materials in dinghy classes with a similar DPN to the Buccaneer (+/- 10), that have a reasonable level of popularity (by nationals attendance), and have a rig with shrouds.

Of the 17 classes, only 4 allow Mylar Mainsails and 3 of those have fully battened mainsails. The only one that is not fully battened is the 505 - this is a restricted development class where pretty much anything goes for the rig within certain dimensions.

Class Type	Length	DPN	My jib	Mylar main	NA Champs
Melges 17	17	79	Y	Y (FB)	30 OD
505	17	79.8	Y	Y	32 Restr. Dev.
Flying Dutchman	20	80.1	N	N	14 OD
Thistle	17	83	N	N	60 OD
29er	15	84.5	Y	Y (FB)?	OD
470	15	86.3	N	N	9 OD
Y-Flyer	18	86.7	N	N	? OD

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Buccaneer	18	86.9	Y	N	34	OD
Lightning	20	87	N	N	68	OD
MC Scow	16	87.8	N	N?A	69	OD
Tasar	15	88.2	Y	Y (FB)	11	OD
Flying Scott	19	89.6	N	N	70	OD
Alabacore	15	90.3	N	N	25	OD
Vanguard15	15	90.5	N	N	77	OD
Coronado15	15	91.9	N	N	14	OD
Snipe	15	91.9	Y	N	?	OD
Mutineer15	15	96	Y	N	8	OD

**Dissenting Views:** There were concerns expressed about the perceptions by newer sailors that their older boats would be less competitive and participation would drop among them. One fleet directed their representative to vote against acceptance of mylar mainsails. Perceptions are important and perceptions of supporting a fair playing field should be taken into consideration, though not specifically a technical issue.

**Poll Results:** The members of the Tech Committee voted 5 for provisionally allowing Mylar mainsails for a trial period, 2 voted to allow them with no trial period, and 2 voted to ban them.

**Test Period:** While a lack of on the water data would seem to call for a trial period, it was pointed out that any data gathered during a trial period would be anecdotal and of limited value.

**Conclusion:** While several one design issues remain unresolved regarding the appropriateness of the Mylar mainsails for the Buccaneer, there would seem to be no technical reason to ban them. It is not believed that they would confer an immediate advantage on their users over users of new Dacron sails although they could be expected to hold their shape better over a several year period. Therefore, it is suggested that a trial period be assigned for field testing. Two years has been discussed as a minimum. The membership could then vote on the rule change. It has taken many years of feedback between the top racers in our class and the

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sailmakers to bring the Dacron mainsails to their present form. We can anticipate a similar process for the refinement of any other sailcloth we might allow.

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