



# THE LIGHT

## LAGUNA MADRE YACHT CLUB

June 2009



## Choosing a Sailcloth

Our story this month starts with the recent race to Port Mansfield. The race was fantastic. The boats were sailed by skilled skippers, the course well organized and the experience one that everyone will remember for years to come. The friendly chats in Port Mansfield at El Jefe's were wonderful and a great way to end a day on the water. The winds were out of the ESE blowing 20-30 knots most of the time and peaking at 40 knots in the afternoon. Most of the race was a broad reach or run and the following waves 5-10 feet. Amazing and a great test for the boats. Even after hours of racing, Rocky and I hit the pin at the cut within seconds of each other for a great finish. The only difference is that he had all his sails up and I was running with a main. My new boat didn't have a furling system and I wasn't carrying a sail small enough for the winds.

This leads us to this month's discussion - sails. I pushed my schedule up to install a roller furler and new sail because of the race and while the selection of the furling system wasn't a tough choice, the sail selection was another matter. Even though I had purchased new sails for another boat two years ago, I found that the technology had moved forward yet again. My current headsails were all carbon fiber which are light and wonderful for the hard core racer but they can't be cut down for furling. As a result, a new sail was required.

### *Sail Cloth Terms*

- 1) Laminate - a fabric made of layered material.
- 2) UV Resistance - a measure of the time it takes for a fabric to lose half its strength.
- 3) Flex Strength - the ability of a material to hold its strength after repeated flexing.
- 4) Elongation - the difference between fabric before and after stretching.
- 5) GSM - grams per square meter - a fabric weight
- 6) Film - the covering of the sail fibers.
- 7) Creep - permanent material deformation after being subjected to a load.

So, how do you select a sailcloth? Instead of focussing on specific brands, this piece will go over decision points and basic technology. Price is always a consideration but there are many factors especially if you are going to keep the sails for a long period of time (more than 3-5 years). In this case, cost can be justified over a longer life and thus becomes less of a factor. So what other decisions have to be made after you've given the measurements to your sailmaker?

### Understand Your Need

Start by asking yourself a simple question. Are you a racer or a cruiser or perhaps a bit of both? Racers expect sails to last only a short period of time (1-2 years), are very rough on them (fast tacks and jibes) often use several sails during a race and take them off the rigging at the end of the day. Cruisers use furling sails, stay on tack for greater periods of time, expect longer life and leave sails on the boat. Performance cruisers or club racers are in the middle. Why does this matter? In South Texas, the UV light is so strong that even a sail cover doesn't protect the sail well. As a result, the resistance to UV degradation is a major decision point when selecting a sail material. Storage directly relates to sail life in this case. While this is much less of a factor in the East, LMYC members should take care to consider UV.



Remember that a sail is really a wing. As the point of sail changes so should the shape of the wing. Newer laminated sails sold under an array of trade names go to extensive lengths to build a shape into the sail so that when it is put up the shape is in the memory of the fabric. A typical white Dacron (polyester) sail doesn't have this ability as the fabric is homogeneous in nature across the entire face of the sail. Dacron sails can lose 50% of their strength and shape in just one season due to UV exposure, flogging and strain. This results in a misshapen bed sheet instead of a racing foil powering your boat.

Higher tech sails are very often laminates of several materials - a plywood-like arrangement in some cases wherein kevlar, carbon fiber or other high-strength fibers are sandwiched between facing materials that hold them in place. Kevlar (and other aramids) were the first fibers to be used but suffer poor UV resistance. They were followed by polyethylene (Spectra) which has much greater resistance to fatigue and UV. Finally, there is carbon fiber which is almost immune to UV but is more brittle. Remember here that we are discussing the fibers and not always the laminating material (often Mylar) which has other characteristics. Cost, of course, increases with the newer materials. The fabric shown on the above right (from UK Sails) includes fibers radiating across the face of the sail that are placed to help reduce the load on the sail while maintaining the shape. Each of these layers rely on the other to form a complete load carrying and shaping system.

### Final Decision Points

This gets pretty overwhelming even if you have a good grasp of materials and sail design. The number of factors affecting cloth choices varies so much that after speaking with five different sail makers, I found that I got five different answers. That said, there were some common factors. All agreed that unless I was crossing oceans and repairing the sail on my own that Dacron didn't make much sense. While it was the least expensive option, the UV resistance, high stretch and low abrasion resis-

### SAIL CLOTH FIBER COMPARISON CHART

SAIL CLOTH FIBER	Initial Modulus grams/denier	Tenacity grams/denier	Flex Life % lost after 60 bend cycles	UV-Resistance 50% strength loss (months)	Elongation at Break Percentage
PBO Zylon†	1830	44	27%	2-3 months	2.5%
High Tenacity Carbon Fiber	1350	60	22%	not effected	1.2 - 1.5%
Spectra* / Dyneema*	1250	33.5	no effect	6-7 months	5.0%
Kevlar® Edge*	956	29.4	22%	2-3 months	3.0%
Kevlar® 49*	945	23.9	25%	2-3 months	1.5%
Twaron® 2200 (HMT)*	810	23.5	25%	2-3 months	1.5%
Cetran®	650	15	no effect	6-7 months	4.0%
Technora® Black	540	28.3	7%	3-4 months	4.2%
Vectran®	510	23	15%	1-2 months	2.0%
PEN Fiber (Pentex®)	250	10.2	no effect	6 months	6.0%
High Tenacity Polyester	135	7.9	no effect	6 months	8.0%
Nylon®	45	9.5	no effect	3-4 months	13%

† UV-Resistance tested with Magna Shield cover

\* ASTM 885 (American Standard Testing Method #D885)

**INITIAL MODULUS:** A yarn's ability to resist stretch. Higher numbers indicate less stretch.

**TENACITY:** A yarn's initial breaking strength. Higher numbers indicate that greater load is needed to break the fiber.

**FLEX LIFE:** A measure for a yarn's ability to resist flexing & folding. Lower numbers indicate less loss after 60 cycles.

**UV-RESISTANCE:** Amount of time it takes for a yarn to lose 50% of its initial modulus. UV tests are normally conducted with artificial UV exposure.

**ELONGATION:** Elongation at break is a measure of a yarn's ability to resist "shock" loads.

Data Courtesy of Dimension Polyant Sailcloth

tance kept it off my list. The other factor was weight. I had not considered this an issue until I handled a carbon fiber sail on the foredeck in 30+ knot winds. Light weight turns out to be important!

With Dacron off the table, it left an array of laminated fabrics. The bottom line here is that most laminates used in all but major racing boats are very similar in stretch resistance. UV and the flex do differ and help with the decision. The fact that I was going to roller furl meant that kevlar being fragile would not be the best choice either. Carbon fiber can be furled but when used reefed, the forces would be uneven and may affect longevity of the fibers. The final decision was to use Pentax fibers in a reefing headsail. This selection balanced the cost, UV and other factors while providing a high performance sail. Everyone has different needs and a careful review of the option and a good sailmaker who can provide an array of fabrics will result in a great experience.

### Fleet Captain's Comments

Rocky Poovey

Barracuda Cove Experience--May 30th Summerwind and assorted landing craft, Night Magic, Calypso, Adventurer and a low level fly by from Wind Dancer made the trip to Barracuda Cove for a bonfire and general mucking around. The Highlight of the afternoon was watching Balboa Bill doing EXTREME WAVE DINGHY MANEUVERS. Bill rowed the firewood dinghy ashore. He unloaded the firewood and started back out to the anchored boats. I'm not sure what happened next but I think he ended up with only one oar. He was taken a little east by the current and the waves were breaking where he went ashore. He would not be towed or walk the dinghy back up the beach, a small pride issue I think, anyway he persisted and finally, hours later arrived back at the firewood site. The fire was lit about sun-down and then we went back to our boats for the night. Summerwind headed home after the fire, smart folks those Summerwinds! At 05:45 Sunday morning, a squall made it's self known to those of us who were still on the hook. WOW, lightning, thunder, rain and wind, west wind. Night Magic drug her anchor and began to drift into Adventurer, the crew's were quite vocal at this point. When Night Magic got clear of Adventurer she began drifting toward the shallow and rocks, after switching to BOTH batteries the motor was started and my 1st mate cut the anchor line, we motored away from the scene. Adventurer also opted to cut and run. Bill managed to haul his anchor, what a guy! The sin was out by the time we made it back to the marina. The Adventurer's and Night Magic's had breakfast and discussed our thrilling morning of events. The anchors are still there despite 2 attempts to locate them so help yourself if you are a diver! SEA YA

#### Race Results 5/16/09

First: Paper Dragon 77.67  
 Second: Backside 81.71  
 Third: Corps Trip 85.44  
 Fourth: Night Magic 85.84  
 Fifth: Ciclora 98.94  
 Sixth: Wist 104.53  
 Seventh: Calypso 115.13

#### Gulf Race Results 5/17/09

First: Pilgrimage 33.10  
 Second: Night Magic 33.12  
 Third: Paper Dragon 34.52  
 Fourth: Sea Gal 37.75  
 Fifth: Calypso 44:45

Thanks to everyone for all the contributions this month  
 For changes or comments email [bmikiten@idworld.net](mailto:bmikiten@idworld.net)

### Dottie McMillan Memorial Service

On Saturday, May 9<sup>th</sup> a memorial service was held 0830 in Barracuda Cove to spread the remains of Dottie McMillan, Life Member #8, into the Laguna Madre, an area Mac and Dottie loved to sail. Four boats participated in the ceremony to transport the McMillan family: Bill Maples' *Wind Dancer*, Bob Christenson's *Pilgrimage*, Larry Zamponi's *Tucan* and Jim Godfrey's *Summerwind*. Her ashes were committed to the deep by her family members from as far away as New York City and by volunteer members of the Laguna Madre Yacht Club.

The family was invited to the Saturday evening social and found much comfort in the members who were there, especially from those who knew their parents. The McMillan family had expressed a desire to donate \$500 to the club to be used for a perpetual trophy for a Memorial Race held once a year in honor of their parents and for support to Sea Scout activities as the club sees fit. Our Commodore graciously received their check and spoke on behalf of all members thanking them for not only their gift but their cordiality and graciousness while at the social.

The club has received several messages from the family. We would like to share one of those messages with you as all of you were represented at the ceremony.

*Dear friends,*

*The entire family of Mac & Dotty McMillan wish to express our sincere appreciation for your efforts to honor the memory of a couple who loved their 20+ years of sailing and hanging out with such a wonderful group of friends. Although many of you never had the privilege of working with or sailing with Mac & Dotty, it is apparent that their spirit lives on within the Yacht Club family.*

*We are all grateful for your love and support at this transitional time in our family. It is the end of an era for us, but the traditions being established within your Yacht Club will help the memories stay strong of a couple who loved their Yacht Club and everyone associated with it.*

*Thanks again, and happy sailing to all.*

*With love and appreciation,*

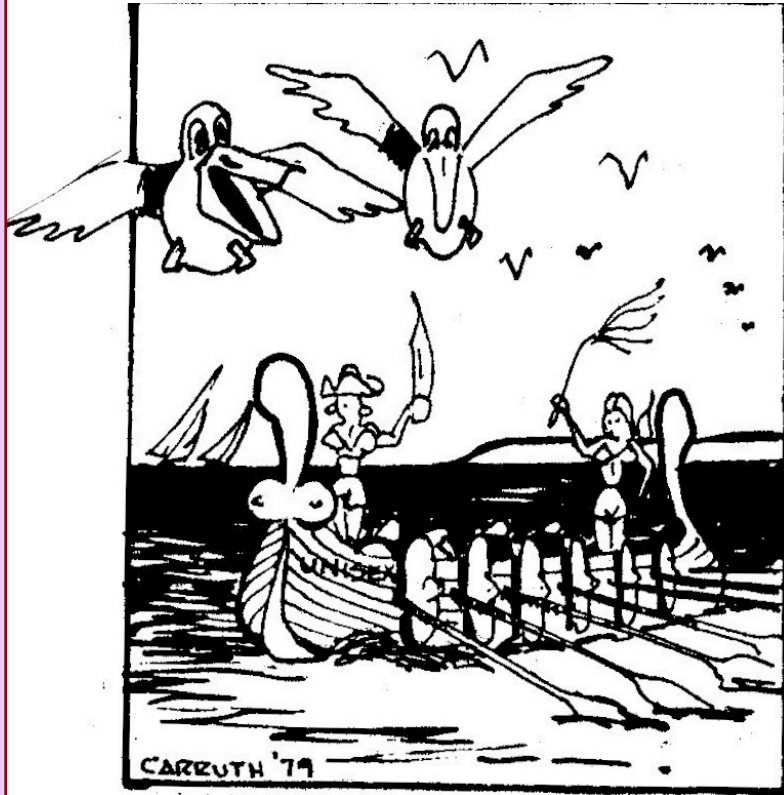
*Diane, and all the family*

It was a day that will be remembered by all participants.

[www.lagunamadreyachtclub.org](http://www.lagunamadreyachtclub.org)

This bit of LMYC cartoon history was drawn and presented by Tommy Carruth, he offers this background:

“One year, the incoming Commodore was newly married to a much younger woman. As a budding feminist, she decided it would be a good thing if all the other officer positions were filled by couples, thereby making her Commodore. The outgoing commodore made an announcement in *The Light* that this decision was made by a “vote”. They say controversy is good and this created quite a bit. I felt that women should have the right to become Commodore on their own merit. This cartoon was my contribution to the controversy. The past Commodore plaque in the club house shows things returned to normal after several years. ”.....TC



IT'S CALLED LAGUNA MADRE YACHT CLUB.  
THEY HAVE OFFICERESSES & OFFICERASSES!!

## 2009 Race and Cruise Schedule

- June 7, Boat Parade
- June 28, Barracuda Cove Beach Party
- July 4, Raft up in the bay for fireworks
- September 19, Fall Series Gulf Race
- September 20, Fall Series Bay Race
- October 17, Fall Series Gulf Race
- October 18, Fall Series Bay Race
- November 21, Fall Series Gulf Race
- November 22, Fall Series Bay Race

Remember, you don't have to own a racing boat to race. Everyone is welcome under our handicapping rules where the best sailed boat and not the fastest wins.

## 2009 Flag Officers

### **Commodore**

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Port Isabel, Laguna Madre, Texas

June 2009

