

SAILS

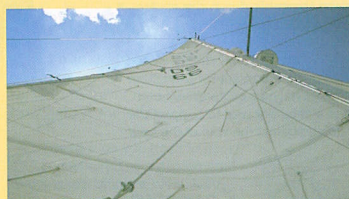
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Computer design

Q If sailmakers can simply use a computer program to design their sails, shouldn't they all be the same shape?

A No! The computer is just a tool which the designer must be able to manipulate in order to produce the best shapes. Obviously, the fabric choice is very important, but the advantages of having the best fabric are lost if the designer does not have the skill and experience to use the tools at his disposal. The advent of Computer Aided Design (CAD) technology has meant that the difference between a bad sail and a good sail is not as obvious as it once was, which is why it is even more important to err on the side of quality and reputation. Believing that all sails are the same because all the sailmakers use computers to design them is akin to saying that all tailors use tailors' dummies, so all suits are the same. As we all know, this is most definitely not the case!



▲ Fully battened mainsail

Fully battened sails

Q What are the advantages and disadvantages of fully battened sails?

A Fully battened sails will generally last longer and be less susceptible to flogging than the short battened alternative. They will also be easier to raise and lower, assuming that suitable luff hardware is fitted, and may have a smoother shape. The downside is that they are difficult to de-power, so are generally better suited to offshore sailing rather than sailing in confined waters, and of course they are more expensive!

Which spinnaker?

Q What is best: an asymmetric or symmetric spinnaker?

A Each is suited to different situations. A symmetric spinnaker must be used with a pole so that it can be projected away from the mainsail and can be used dead downwind with the pole squared aft. An asymmetric can be designed in many ways to suit various wind angles. It is normally tacked on the centreline from the stem area and doesn't need a pole, thus saving hassle and expense. Set in this way, however, you are limited in how low you can sail before the sail collapses behind the mainsail. The asymmetric could also be set on a pole, though, and this would increase its range of wind angles.



▲ Asymmetric spinnaker



▲ Symmetric spinnaker

Value for money

Q Why do prices vary so much between sailmakers?

A Not an easy question to answer quickly! Essentially, as you spend more money you should expect the sailmaker to be more selective in choosing the cloth for your specific sail and its intended use. More time and care will be spent designing the sail to ensure the perfect fit, together with a good flying shape. In short, it will be better engineered with greater attention to detail.

New sail life

Q How long should my new sails last?

A Broadly speaking, it will depend on the quality of the cloth, how well they are made, how good the design is aerodynamically, how much they are used, and how well they are looked after.

Cross or radial?

Q Should my new furling genoa be cross-cut or radial-cut?

A Cross-cut sails are easier to make and hence cheaper than their radial-cut cousins. Most woven Dacrons are stronger in the fill direction than the warp direction, and are generally suited to cross-cut sails. Some Dacrons have a more balanced construction and are more suitable for use in radial-cut sails where the panels can be oriented towards the primary stress paths in the sail. Radial sails will generally offer better shape retention and hence performance than cross-cut sails and this in turn will mean that the sail (and boat) is easier to handle.



▲ Radial-cut furling genoa



▲ Cross-cut furling genoa

Different Dacron

Q There seem to be many different types of Dacron available. Which should I choose for my sails?

A In the first instance you should seek the advice of your sailmaker. You are quite right: all Dacrons are not created equal, and some sailmakers are more stringent in determining which to use than others. There is Dacron that will make great sails, and Dacron that will disappoint. Fibre type, fibre density, finishing, and manufacturing all combine to determine the overall quality of the fabric. The best, most durable, Dacron sails are made from the higher quality and more expensive raw materials with better levels of finishing and manufacture.

Mildewed sails

Q How can I prevent mildew from getting to my sails?

A The best thing to do is use them regularly so that the sail is well aired. The longer a sail sits folded or rolled, particularly if wet, the more readily mildew will develop. Woven materials such as Dacron are less susceptible to mildew than composite fabrics – which are more likely to trap moisture and encourage growth.

Modern composites have fungicides added during lamination but they are not 100% foolproof. If mildew occurs, treat it as soon as possible. Mildew can be removed if it's on the surface and relatively new. If it's deep into the material, or between layers, it will not come out.

Loose-footed

Q Should my new mainsail be loose-footed or have a more traditional shelf foot with a bolt rope running along it?

A There is no real benefit in having the sail attached to the boom, but there are several advantages in having a loose-footed sail. First, the sail is easier to bend on and off. Second, the loose foot makes it easier to power up and de-power the mainsail simply by adjusting the outhaul. Bolt rope or slides along the foot increase friction and make it more difficult to change the shape.



▲ Laminated sails are more efficient than woven sails

Laminated sails

Q What determines the choice between woven or laminate sails?

A Modern cruising laminates allow sailmakers to build more efficient sails than those that are made from woven Dacron, which begin to distort fairly quickly. Composite sails won't usually stay in one piece as long as the Dacron equivalents, but they will be in much better shape aerodynamically for more of their life. Composite sails should be given serious consideration on any boat bigger than around 35ft.



▲ Loose footed



▲ Shelf foot with bolt rope