



If you want to make mainsail handling as easy as possible, furling is the answer. And that applies whether you have an in-mast system or one that's fitted behind the mast. A fully-battened conventional sail with lazyjacks and a Packaway will be ideal for many people, but furling provides the ultimate in convenience and control from the cockpit.

Should you decide furling is for you – and that's something we will be happy to discuss, to ensure you're making the best choice – the most suitable type of sail will be determined by your rig, your budget and your style of sailing. So let's consider the factors that will influence your choice.

1. What type of mast do you have?

If you have an in-mast rig by Seldén (or Formula, found only on bigger boats), all the options are open: you can have a sail with full-length battens, short battens or no battens. On the other hand, masts from most of the French and European manufacturers including Sparcraft, Isomat and Z-Spars will give you a more limited choice.

The reason is that Seldén use a mandrel (the furling spar inside the mast) that's tensioned independently of the halyard and has its own top swivel. This keeps the mandrel tighter, leading to a neater furl and making better use of the space inside the mast.

Other manufacturers' mandrels are tensioned by the halyard, whose swivel acts as the top bearing. Consequently the mandrel moves around more within the in-mast cavity, leaving less space for the sail. In addition, Z-Spars have a narrower slot in the back of the mast. What this all means is that, unless you have a Seldén (or Formula) mast, there will no room for battens. You will also need a battenless sail if you have an add-on, behind-the-mast system from, for example, Easyreef, Tabb, Bamar, the old Reefin' by Kemp/Seldén or our favourite, Facnor.

2. What type of battens do you want?

In recent years, furling mainsails with full-length vertical battens have become increasingly popular. Full battens allow the sail to be built with a roach, whereas battenless sails have to have a hollow (concave) leech. The difference can be appreciable, a full-batten sail being up to 6% larger than a hollow-leech alternative and minimising any loss in performance compared with a conventional mainsail.

There are buts, however. One is that you can only have full-length battens with certain types of mast, as discussed above. The other is that these sails cost appreciably more, as we'll discuss below.

Short battens are a compromise between full-length battens and no battens in terms of both performance and price, but they still won't fit into many types of mast.

3. What type of cloth will your budget allow?

Sails with full-length battens cost more because of the battens. They also cost more because they need to be built from a cloth that's stable, most crucially in the leech, to keep the battens in alignment. Only then will they roll in and out smoothly and, importantly, continue to do so. That's why our fully-battened furling mainsails are roughly twice the price of sails without battens.

A short-batten sail also needs a stable leech for smooth and reliable furling, but that doesn't mean you can get away with any old cloth if you have a sail with no battens. Because the chamber inside masts

other than Seldén or Formula gets full more quickly (and behind-the-mast systems have smaller chambers still) you need a thinner cloth. A cloth that's thinner and inexpensive won't last: it will stretch, and the sail will lose its shape. A thinner cloth that's durable and stretch-resistant will last longer, furl more smoothly and give you better performance, though inevitably it will cost more.

We believe that by far the best cloth for furling mainsails is Vektron, which consists of polyester mixed with Vectran (a multi-filament yarn spun from liquid crystal polymer). It's strong, light and durable. The alternative is a finely-woven, high-tenacity polyester that uses a minimal amount of stabilising resin. Cheaper polyesters tend to be woven more coarsely and stabilised with greater quantities of resin, which will break down to leave a highly unstable cloth.

Our logic is simple: we will build you a sail using a cloth that allows it to set well, to furl smoothly to last.

As for laminates – well, they're now almost the norm on racing yachts and becoming more commonly seen on cruisers too. Alas, however, many are unsuitable for furling mainsails. However good it might look, a black carbon furling mainsail simply won't last. Laminates are vulnerable to UV damage, and that's no good when sun can get in through the slot in the back of the mast. They're also prone to mildew, which is a problem when a sail is left rolled up in a confined space. The third factor is delamination – always a risk with laminate sails over time and especially with sails that are partially furled, because of increased chafe.

What else sets a Kemp furling mainsail apart?

We apply all our experience to the manufacture of a furling mainsail. For example, because the mandrel sags inside the mast, the sail needs to be built with luff hollow – just like a headsail on a forestay. The correct amount of hollow will be determined by the profile of the mast and the type of mandrel. Un-tensioned mandrels will sag more readily in lower wind strengths than will Seldén's. We understand this and cut our sails accordingly.

We also know our boats. While some of the big French builders now have Seldén rigs, a lot of

Beneteaus, Jeanneaus, Gib'Seas and so on from the 1990s and early 2000s used French spars, so you will have more limited choices of sail.

On some of their models, British builders such as Moody and Southerly fitted the smallest mast section they could get away with, so the chamber gets full quickly and more of the sail is left outside when furled unless you use the appropriate cloth. This is the sort of knowledge we have gleaned through many years in the business.

Construction details

Building a high quality furling mainsail is about the details of construction as well as the the design and the choice of fabric. Here are some of the features that make a Kemp sail a better sail:

Kevlar foot and leech reinforcement

When a furling sail is fully open, specially shaped reinforcement patches at head and clew help distribute the loads from these highly-stressed areas without adding excessive bulk. As soon as you start to reef, the patches are rolled away and all the weight is taken by the sail cloth itself. To compensate for this we incorporate Kevlar tape along the foot and leech to take the loads. On larger boats we also use Spectra webbing along the foot for greater durability. You won't find many (if any) other sailmakers doing this.

Tough batten pockets

With our full-length battens we use stainless steel sockets at the top and bottom of each pocket to stop the battens wearing their way through. We use the same system with short-batten sails on larger boats.

For smaller short-batten sails, Velcro provides strength while minimising weight and bulk.

Padded clew covers

Big sails need big clew blocks. These can damage anything they come into contact with and they're also susceptible to UV degradation, especially on blue-water cruising yachts. That's why, on our larger furling sails, we protect these blocks with padded covers.

Furling indicators at the tack

Many boats are now fitted with electric winches, which are fine if used carefully. If you keep pressing the button when you should have stopped, something is likely to break. That's why we put marker stripes along the foot near the tack of our larger furling sails: when they start to appear, the sail is nearly fully open and it's time to take your finger off the button!

