

# Carbon masts

**The investment in a sophisticated carbon filament winding machine and autoclave at our UK plant has enabled us to produce a new generation of carbon spars.**

**The following steps ensure that Seldén can manufacture the best performing, and most consistent spars on the market.**

## **In-house specialist design team**

Seldén has the design expertise and software to enable us to create a mast to meet exacting performance requirements. During the design process the position and alignment of each fibre is precisely calculated so as to meet the required bend characteristics. This detailed design is then used to program and control our filament winding equipment.

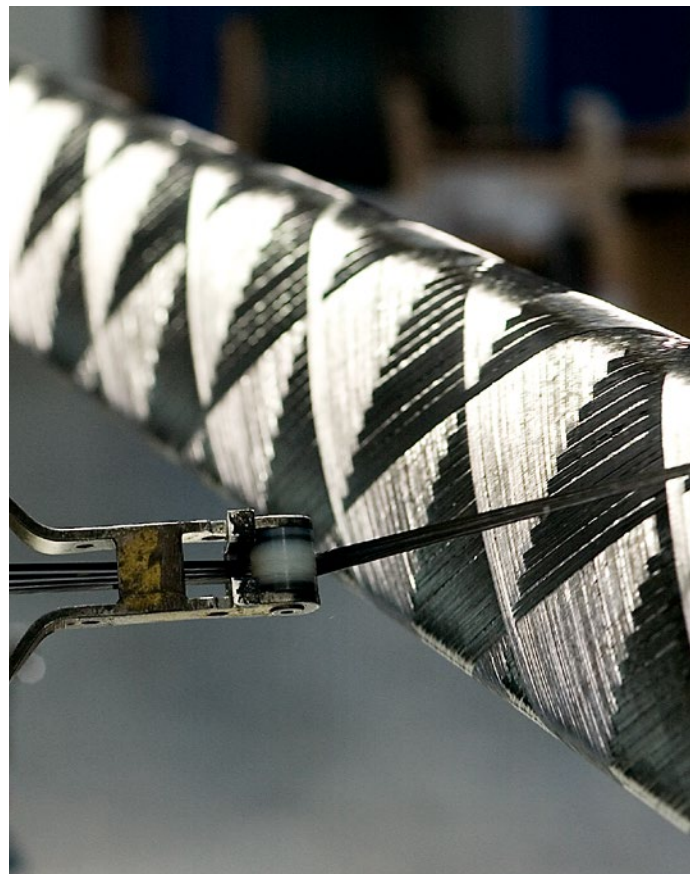
The combination of meticulous care, long experience, and exact specifications enable us to achieve optimum performance for minimum weight.

## **Computer controlled laminate lay-up**

Carbon filaments are wound around a mandrel (male mould), under controlled tension, via a designated winding program supplied by the design team.

Filament winding, a computer-controlled process (CNC), guarantees consistent and accurate filament fibre orientation from spar to spar. Carbon filaments can be laid from 0° (uni-directional) to 90° (hoops) and at all angles between to produce a wide range of bend characteristic requirements. This accurate alignment of composite filaments is vital to the performance characteristics of a carbon spar. Fibres are laid under tension, which means that we can make the most efficient material choice and supply the lightest spars on the market.

This process gives a Seldén spar a level of tube consistency unattainable via any other composite manufacturing technique. Hence, the mast you buy will perform as well for you as it will for a world champion sailor!



### Use of pre-preg carbon

Only the highest grade pre-preg tows of T700 or TZ carbon fibre are used to give sailors the best stiffness-to-weight spar. This, in combination with our filament winding process, enables the highest fibre-to-resin content pre-preg to be used.





The aerospace grade pre-preg has a UV stabiliser in the resin system to give the spars a guaranteed long life, even in the sunniest of climates. More fibres and less resin, mean lighter, stiffer masts.

### Autoclave cured

The consolidation of the material to form a ready-to-assemble carbon tube is completed in our in-house 20-metre long autoclave. The combination of heat and pressure to cure the resin and consolidate the pre-preg material ensures a strong and consistent final product.



### Carbon

	Mast section		Section weight kg/m	Dimension fore/aft mm	Dimension athwart mm	EIY GNmm <sup>2</sup>	EIX GNmm <sup>2</sup>	Suitable for
	Series II	CC054	0.511-1.008	54	54	6-19	6-14	Contender, Merlin Rocket, National 12, Phantom
	Orbis	CC059	0.42-0.64	60	60	8-23	8-23	OK, RS800
	Series III	CC064	0.43-0.65	66	52	10-16	7-13	59er, Contender, FD, Int. Canoe, International 14, Merlin Rocket, Musto Skiff, Phantom
	Series IV	CC077	0.83	81	63	28-31	18-23	Artemis 20, Backman 18, 18ft Skiff, Skud