



# MATRIX SPINNAKERS

UK Sailmakers has the spinnakers that will make your boat faster and easier to sail downwind. Our sail development program has been extensive for boats ranging in size from J/70s to America's Cup class 75-footers.

Just like genoas, spinnakers are designed for specific wind ranges, which requires building an inventory of sails. You need to work with your UK Sailmaker to work out the best inventory of spinnakers for your boat to meet your racing needs.



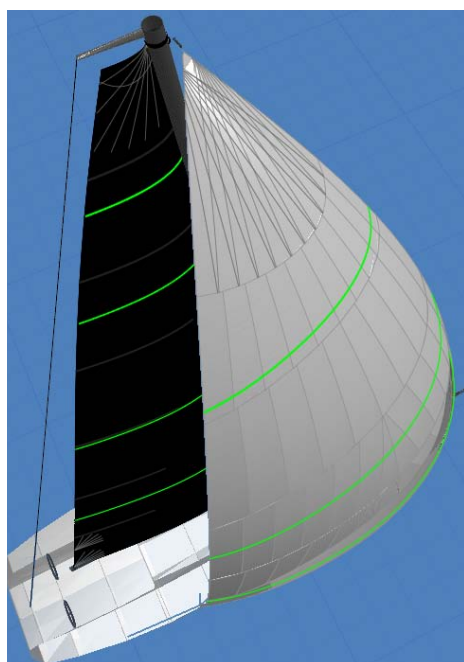
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## SPINNAKER CODING DE-CODED

Most spinnakers fall into five mold shapes to suit different wind speeds and wind angles. In the 1-5 numbering system, the even numbers designate running shapes and the odd numbers are reaching sails. "S" stands for symmetrical, while "A" stands for asymmetrical. Lower numbers designate lighter wind sails and higher numbers are for higher wind speeds. Code Zeros were invented after the original numbering system and they are very flat spinnakers for light air close reaching; they are a must on boats with non-overlapping genoas.



Code Zero Light Air Reaching	S1 or S1.5 Light Air Reacher	S2 Medium Air Runner	S3 Medium Air Reacher	S4 Med/Heavy Runner	S5 Heavy Air Reacher
<b>Description:</b> Light Air asymmetrical reaching sail that meets the minimum definition of a spinnaker. While it is a very small spinnaker, it is nearly 3x the size of a light No.1 on boats with non-overlapping jibs.	<b>Description:</b> Light wind reaching symmetrical spinnaker. In the past it was called a VMG spinnaker. Used in winds too light to sail deeper than 140 degrees TWA.	<b>Description:</b> Light/medium wind running spinnaker. Full size with big shoulders designed to fly at deep angles from 140 to 180 degrees TWA.	<b>Description:</b> Medium wind reaching symmetrical spinnaker. Wider and deeper shape than the S1, yet narrower and flatter than the shape of an S2 and S4. Used for wind angles between 120 to 155 TWA	<b>Description:</b> Medium/Heavy wind running symmetrical spinnaker. Same size or 10% smaller than an S2, yet still designed to fly at deep wind angles -- 140 to 180 TWA.	<b>Description:</b> Heavy air reaching symmetrical spinnaker. Short on the hoist or flown from the hounds instead of the masthead on a fraction rig. Used for wind angles between 130-150 TWA
<b>Wind Speed</b> 0-10 knots	<b>Wind Speed</b> 0-10 knots	<b>Wind Speed</b> 6-18 knots	<b>Wind Speed</b> 10-20 knots	<b>Wind Speed</b> 14-30 knots	<b>Wind Speed</b> 18-35
<b>True Wind Angle</b> 85-120 degrees	<b>True Wind Angle</b> 120-145 degrees	<b>True Wind Angle</b> 130-180 degrees	<b>True Wind Angle</b> 130-150 degrees	<b>True Wind Angle</b> 130-180 degrees	<b>True Wind Angle</b> 130-150 degrees
<b>Material:</b> Light laminate or 1.5 ounce nylon	<b>Material:</b> .5 ounce nylon	<b>Material:</b> .5 to .75 ounce nylon	<b>Material:</b> .9 to 1.5 ounce nylon	<b>Material:</b> .9 to 1.5 ounce nylon	<b>Material:</b> 1.5 to 2.2 ounce nylon



### Better By Design, Better By Build

UK Sailmakers uses powerful computer modeling and analysis programs to design race-winning sails that will hold up to the strains and stresses of the race course. Modern CAD programs allow sail designers to rely more on proven numbers than on old fashion intuition. Our designers have the ability to model a sail's shape and test its performance characteristics on a computer screen, rather than going through time-consuming and expensive process of building two full size sails, each one a little different to test developmental ideas.

The heart of faster spinnakers is the construction method. The panel layout UK Sailmakers uses is called Matrix Cut, which is a full radial layout that features narrow panels, each oriented to better align the threads in the cloth with the primary loadpaths in the spinnaker. This is the most effective way to reduce distortion and make the strongest sail for its weight.

The only way to prevent distortion, without using too heavy a fabric, is to use a coated performance nylon spinnaker cloth. These materials have the same strength and stretch resistance of one weight heavier standard nylon.