

2005-2006



Neil Pryde Sails International
Design and Technical Office

Beneteau U.S.A. Series Overview

First Series

INTERNATIONAL DESIGN AND TECHNICAL OFFICE

Product Overview for Beneteau Dealers / Owners

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Neil Pryde Sails Overview

Neil Pryde Sails proudly uses the best first quality materials available in the marine industry today.

Every Neil Pryde sail is the result of a combination of craftsmanship, technology and efficient manufacturing methods. Our extensive sailing and sailmaking experience, traditional handwork, attention to detail, high-tech tools such as computer aided design and manufacturing (CAD/CAM), laser cutters and special purpose sewing platforms unite to produce the finest of sails for the O.E.M. market in the world today. The materials used in all Neil Pryde Sails are primarily produced in the U.S. by four main sailmaker suppliers; Challenge Sailcloth, Bainbridge Int., Dimension/Polyant and Contender USA. All designs, R&D and O.E.M. details are handled by our office in Milford, Connecticut. We work closely with our OEM clients to ensure manufacturing quality, design consensus, and delivery. With weekly production reports and UPS tracking, we can concisely monitor order progress. This coupled with the use of E-mail keeps the clients posted and up to date.

First Series 2006 Features

Beneteau U.S.A. and Neil Pryde Sails have endeavored to fit the First Series boats with a true performance/cruise set of sails. To this end we have included some of the following feature sets:

- All sails equipped with 3 sets of graduated width, black trim or draft-stripes.
- Mainsails equipped with an 'up and over' leech line to facilitate easy and safe leechline adjustment at the tack of the sail instead of the clew
- Mainsail is full hoist for maximum area and includes both a Cunningham ring for luff tensioning and a flattener ring for heavy air reaching and flattening of the sail.
- Semi-radial in cut utilizing the Challenge Sailcloth fabrics of one weight heavier in the heads and clews of the sails. This feature helps to eliminate bias loading in these high load areas; eliminating speed robbing distortion.
- Genoas equipped with the Neil Pryde Multi-Track™ foam luff system for efficient and precise reefing of the headsail. This is coupled with pre-set reefing marks at the tack of the sail.
- All reinforcement patching is of radial design for light, strong corners.



Up and over leechline detail



Luff Dogbone Rings



Internal Velcro® Batten System



NP Multi-Track Foam Luff System

- Mainsail equipped with standard 'jiffy' reefing. "Dogbones" are fitted at the reef tacks for easy and quick reefing attachment. Reefs are 'banded' to reduce sail distortion while reefed.
- All batten pockets with our internal adjustment system for a clean, non-snagging system.

Design

Sailmaking

As part of the integration of computers and software within the marine industry, we work with many file formats to provide cross-company integration of CAD files. This coupled with our commitment to quality produces documents for each production sail. These are made available in hard copy or on disk to the OEM clients, giving them the ability to crosscheck specifications and final product. With cross-platform products such as *Acrobat*, we can have same day turn-around on specification sheets and/or revisions, for your records, reducing real time production time and future warranty issues. These specification sheets can be and are used on the retail level as well, as a comprehensive sail guide for your customer's records.

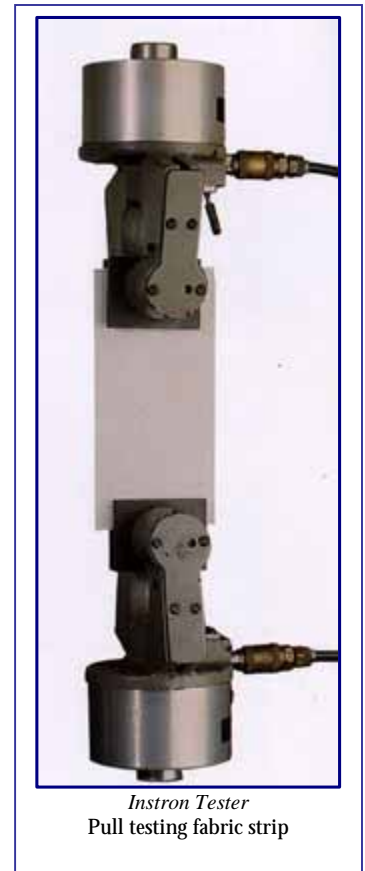
Software

We currently use the Microsoft family of products, including Word, Excel, Outlook and Access in day-to-day work and communications. We also rely heavily on Adobe Acrobat as a 'cross-platform' device to provide formatted, white papers such as this via electronic mail. On the technical side, we use the Autometrix family of sailmaking tools including; SMSW 6.0 design software, Plotterpilot /Patternsmith part editing tools, Gerber/Cutting Edge nesting and cutting software/hardware and in addition we use Patchtool for sail reinforcement details. This coupled with CAD and strong graphic software allows us to handle all facets of sailmaking, design and graphics.

Sailcloth

We work closely with Challenge Sailcloth and Contender USA in developing the fabrics that will represent the best performance, longevity and value to our customers. ALL of our woven fabrics that we use in our sails, with the exception of our 3.8oz, which is manufactured by Teijin in Japan, come from these two suppliers. Through an aggressive manufacturer quality control system, and then through our own in-house testing procedures, which include INSTRON strip testing and visual testing for flatness, the fabric we use day to day is consistently the best we can buy

Challenge Dacron is finished 100% in-house (the largest U.S. based sailcloth manufacturer to do so). The fabric is heat-set, shrinking up to 20%. The Challenge durable Stabilized finish is achieved by immersing the fabric in a bath of suspended resin. The resin is absorbed by the fiber. The cloth is then fed into a long oven where the liquids are driven off, leaving the resin solids bonded to the fibers. The result is the tightest possible weave, lowest bias stretch, and maximum durability.



Cross-Cut Fabrics

Challenge fabrics use almost exclusively Dacron yarns and Type 52 High Tenacity High Modulus Dacron is used wherever possible, as we consider it the best sailcloth yarn in the world, due to its low stretch (for strong cross-cut leeches), and high shrinkage (translates into lowest bias stretch and best durability) Type 52, made for sailcloth, is only available in 220, 350, and 440 deniers. In yarn diameters where high tenacity is unavailable, standard Dacron is used in order to maintain the precisely engineered density ratios necessary to achieve maximum fill yarn efficiency, and lowest stretch.

Warp Fabrics

Woven warp fabrics are intended for use in radial or vertical applications. They are used to minimize bias loading by aligning warp fibers along highest loaded vectors in the stress map of a sail. We utilize these fabrics in the high-load areas of the clew and head of the sails, making them stronger and more resistant to shape distorting stretch.

Composite Fabrics

We use laminated products with Kevlar®, Spectra®, Technora®, polyester and Pentex® yarns. These fabrics are supplied by; Contender, Dimension/Polyant and Bainbridge Int. and each individual yarn type and finished fabric are chosen from the hundreds available from these suppliers. The fabrics are matched precisely with the application and *intended use* by the customer, resulting in the best value product on the market today.

Hardware

We use the industry best stainless steel external rings and hydraulically pressed stainless steel rings, coupled with quality New Zealand lines, and ropes. Importantly the sewing thread, which is an underrated but most important feature of ultimate product longevity, is the very best Hemingway & Bartlett *Dabond 2002 polyester* in various weights/sizes. Hardware is carefully selected for specific use on each sail and selection is

based not only on working load applications but with long-term useful durability as well. Our primary supplier for hardware components is Bainbridge Int.

**CHALLENGE
SAILCLOTH**

DIMENSION / POLYANT
SAILCLOTH TECHNOLOGY

CONTENDER SAILCLOTH

BAINBRIDGE
INTERNATIONAL
www.sailcloth.com



Metal Cleat with Stainless eyes



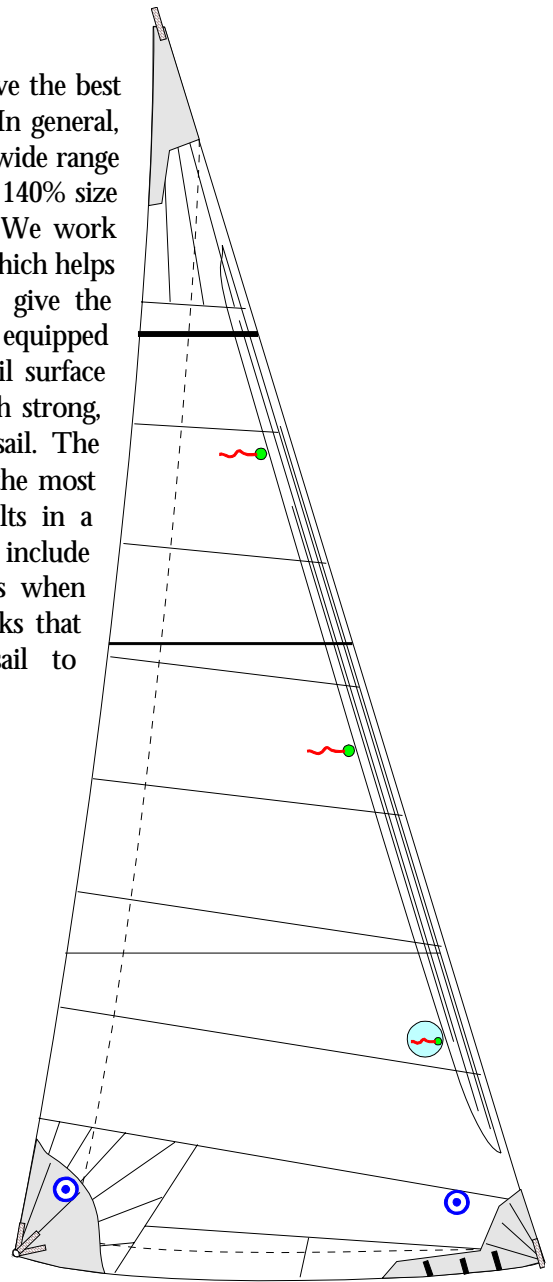
Stainless flattening reef ring with metal cleat and leechline.

First Series 2006

Roller Furling Headsails

Overview

Neil Pryde Sails roller-furling headsails are designed to give the best all-around performance possible in a furling application. In general, the sails are designed to an 'All Purpose' shape to ensure wide range of use, as this is the initial sail for all conditions and the 140% size makes for ease of handling when sailing short handed. We work aggressively to have a powerful entry or angle of attack, which helps to drive the boat in a wide variety of conditions and give the helmsperson an ample 'groove' to steer in. Each headsail is equipped with a lightweight UV cover to protect the exposed sail surface from U.V. when furling. Head and tack are finished with strong, flexible webbing to enhance the furling action of the sail. The exclusive Neil Pryde Multi Track™ foam luff system is the most positive reefing system on the market today and results in a smooth positive reefing action when furling. Patch styles include reefing "buffer" patches that help to disperse sail loads when reefed. The tack buffer patch is fitted with furling marks that allows the user to quickly and easily furl the sail to predetermined settings for the genoa leads.



Typical Finishing Specifications for Beneteau First Series 2006 Roller Furling Headsails	
DETAIL	DESCRIPTION
Fabric	Challenge / Contender Sailcloth
Head/Tack	Heavy duty, flexible doubled webbing
Leechline	Oversize Dacron cord, with aluminum cleats equipped with snubbing eyelets
Luff Tape	Sized to fit furler specifications and also optional Tuff Luff Headfoil
Clew Ring	Heavy Duty stainless steel external ring, webbed to sail and fitted with elk-hide chafe protection
Foam Luff:	Neil Pryde Multi-Track Foam luff system
Miscellaneous	Tell-tails, tell tail window, bag, ditty bag (includes owners manual, warranty information and repair items), reefing marks at tack.

First Series 2006 Dacron Mainsails

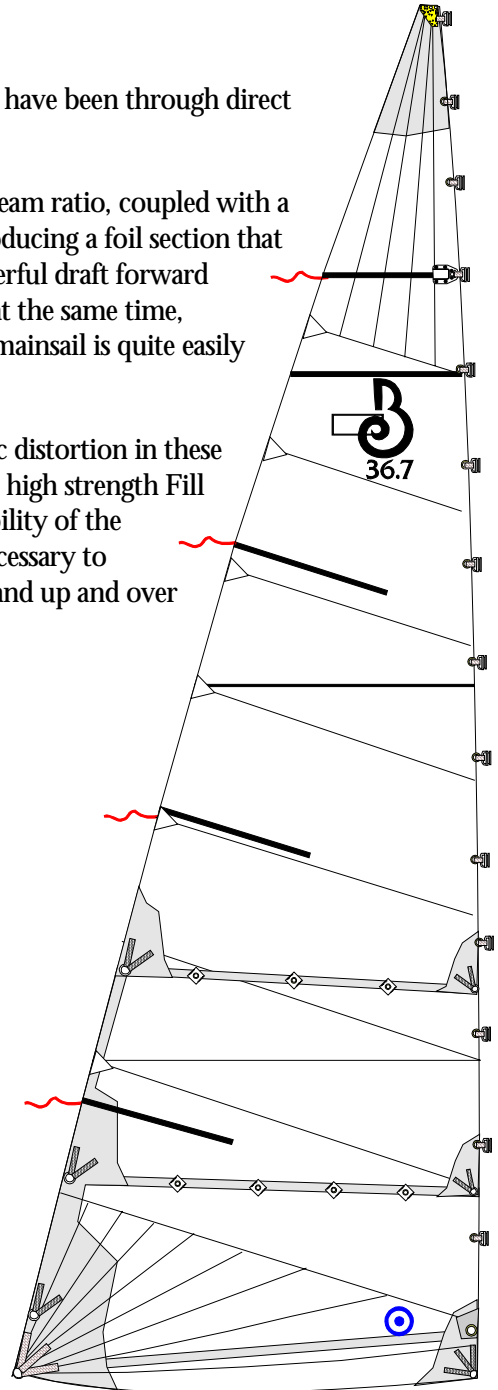
Overview

The latest refinements of our IMS/ One Design mainsail shapes have been through direct work with a variety of fractionally rigged boats of this type.

Our mainsails now incorporate a very high mastbend to broadseam ratio, coupled with a leech twist percentage that fractional mains need, effectively producing a foil section that is flat and smooth as the mainsail is de-powered but with a powerful draft forward profile to work in concert with the overlapping headsails. Yet, at the same time, through judicious use of the outhaul and backstay controls the mainsail is quite easily powered up in light air and off the wind conditions.

The use of large radial layouts in the head and clew reduce fabric distortion in these areas keeping the fast designed shape intact. This coupled with a high strength Fill Yarn and a firm finish ensure that the stretch resistance and stability of the Dacron is long lasting. We equip the sail with all the features necessary to make it 'race ready', such as Cunningham, flattener, loose foot and up and over leechline.

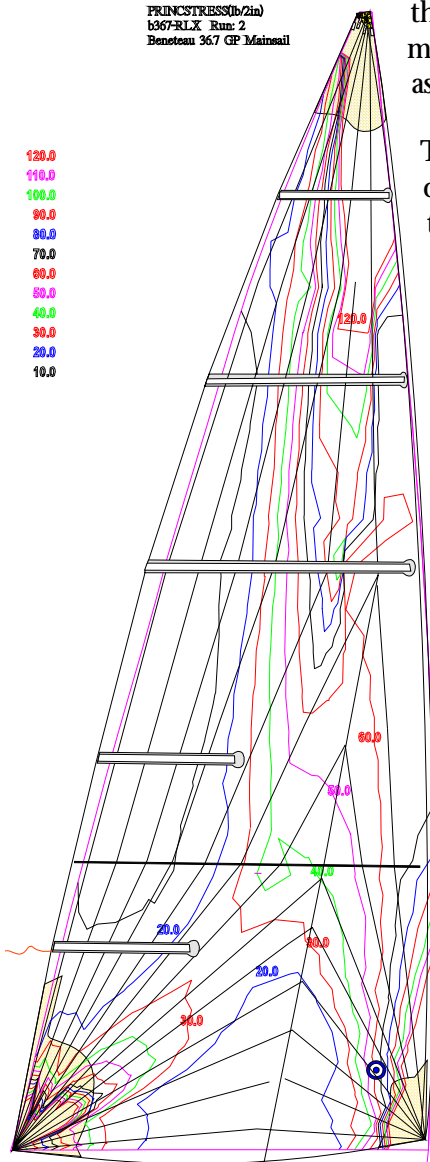
Typical Specifications for Beneteau First Series 2006 Mainsails	
DETAIL	DESCRIPTION
Fabric	Challenge / Contender Sailcloth
Head	Heavy-duty aluminum headboard with S.S. Liners and slide.
Leechline	Up and Over leech line with Kevlar cord, and aluminum cleats at each reef
Tack / Clew	Stainless steel external rings, webbed in place
Reefs	Banded to reduce distortion while reefed and fitted with SR Stainless Steel pressed rings with luff 'dogbones'
Miscellaneous	Tell-tails, bag, ditty bag (includes owners manual, warranty information and repair items), Beneteau Insignia and battens.



First Series 2006 Laminate Mainsails

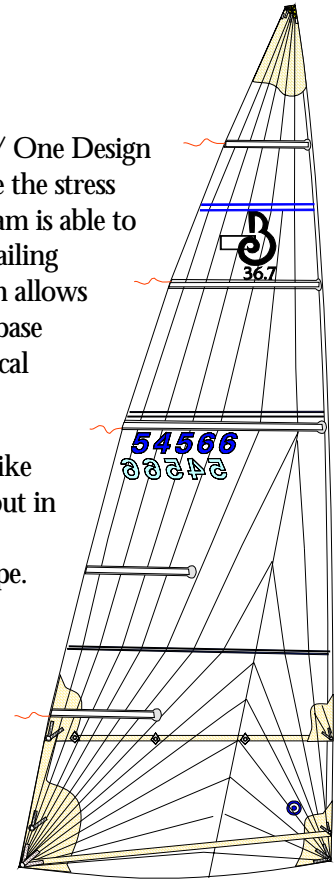
Overview

Our Grand Prix mainsails incorporate the latest refinements of our IMS/ One Design mainsail shapes and in the case of a class design such as the 36.7 we utilize the stress analysis program RELAX to further help the design process. This program is able to calculate loads and stretch for given fabrics throughout the body of the sailing during simulated sailing/load conditions. This system allows the designers to couple the panel configuration with base material to maximize both strength and weight...critical aspects for racing yachts.



The design theory that governs this design is much like our woven mainsails found on the preceding page, but in the laminate structure we have the freedom of eliminating stretch, the long time enemy of sail shape. This allows us to design a sail that is more effective over a broader range of conditions.

The panel layout (to left) is a "luff loaded" Tri-Radial type, that promotes bias stability throughout the sail helping to maintain its designed shape over a broad range of conditions. This panel layout has been overlaid on top of the RELAX "principle stress" chart to illustrate the mating of panel and fabrics to expected loads in the sail at about 17knots apparent and with 100mm of cunningham applied. Note: Units are in lbs.



Specifications for Beneteau First Series 2006 Laminate Mainsails

DETAIL	DESCRIPTION
Fabric	D-P Carbon or Contender Smoke Kevlar
Head	Heavy-duty aluminum headboard with S.S. Liners and slide.
Leechline	Up and Over leech line with Kevlar cord, and aluminum cleats at each reef
Girths	Optimized to IMS max without penalty.
Reefs	Banded to reduce distortion while reefed and fitted with SR Stainless Steel pressed rings with luff 'dogbones'
Miscellaneous	Tell-tails, bag, ditty bag (includes owners manual, warranty information and repair items), Beneteau Insignia, battens and long zipper bag..

First Series 2006 Laminate Genoa

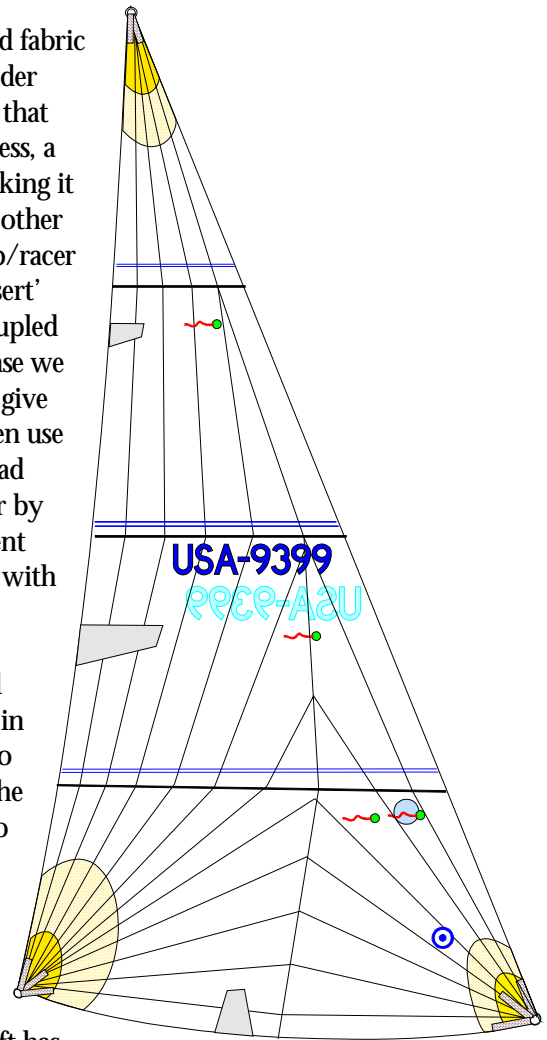
Overview

Our Premier 155% headsails incorporate the latest laminated fabric from Contender USA or Dimension/Polyant. The Contender product, AKS “smoke” Kevlar is a Grand Prix racing fabric that incorporates the latest in warp tension uniformity and flatness, a 350 Dyneema off-angle grid, and a tell tail gray UV tint, making it the most advanced racing product in the marketplace. The other option is the D/P Sport Fabric 3, which is aimed at the club/racer market place. This product features the patented Kevlar ‘insert’ technology, a Technora X-Ply and a Spectra fill yarn, all coupled with a polyester taffeta for long-term durability. In either case we utilize these fabrics in the head, clew and mid-leech areas to give maximum stability of shape in these high load areas. We then use a lighter Pentex laminate in the mid-section and luff (low-load areas) of the sail to make the sail more responsive in light air by reducing the overall weight. Our genoa designs reflect current trends of narrow rig profiles, which in this case are coupled with a fractional configuration. The genoas have a much flatter

overall vertical profile in order to bring the sail into the rig and at the same time the draft has

been moved forward to maintain a powerful angle of attack. The genoas exhibit powerful round entries and open straight exits for tight sheeting, low

Typical Finishing Specifications for Beneteau First Series 2006 Racing Headsails	
DETAIL	DESCRIPTION
Fabric	D.P. or Contender Sailcloth
Head/Tack	Stainless externally webbed rings
Leechline	Kevlar cord, with internal Velcro cleats equipped with snubbing eyelets
Luff Tape	Sized to fit furler specifications and also optional Tuff Luff Headfoil
Clew Ring	Heavy Duty stainless steel external ring, webbed to sail
Miscellaneous	Tell-tails, tell tail window, long zipper sausage bag, draft-stripes, sail numbers and spreader/stanchion patches, ditty bag (includes owners manual, warranty information and repair items)

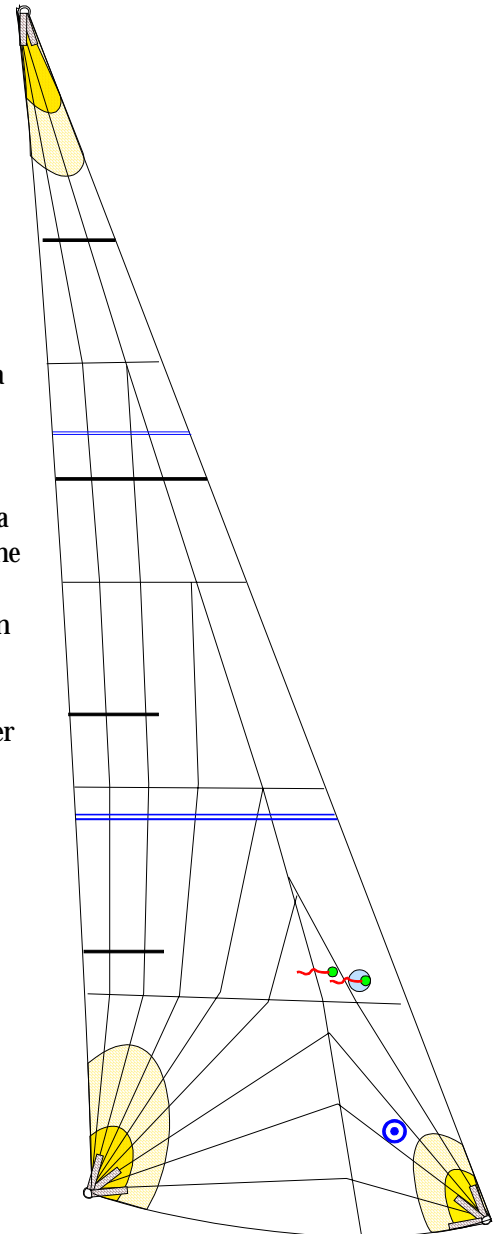


First Series 2006 Laminate Blade Overview

Overview

Our 100% No. 3 Blades also incorporates the latest laminated fabrics from Contender as outlined in previous pages. This sail must be an ALL Kevlar Taffeta construction.

The goal of our No 3 is to take advantage of the narrow inboard sheeting angle, which induces tight upwind sailing angles. The leech profile is designed to sheet inside all of the spreaders, ensuring that the overall vertical profile of the genoa is as close to the centerline (rig) as possible. This coupled with the full-length hoist and powerful entry angles of the cross-sections allow this sail perform in over 22 knots apparent, keeping the boat on her feet and pointing high. The blade has a very flat overall vertical profile in order to bring the sail into the rig and at the same time the draft has been moved forward to maintain a powerful angle of attack, via round entries and open straight exits for tight sheeting, low drag performance. The leech exits angles that are so crucial to 'on the feet' performance is enhanced by the use of tapered full-length upper battens and long intermediate leech battens.



Typical Finishing Specifications for Beneteau First Series 2006 Racing Blades	
DETAIL	DESCRIPTION
Fabric	Contender AKS Kevlar with Taffeta
Head/Tack	Stainless externally webbed rings
Leechline	Kevlar cord, with internal Velcro cleats equipped with snubbing eyelets
Luff Tape	Sized to fit furler specifications and also optional Tuff Luff Headfoil
Clew Ring	Heavy Duty stainless steel external ring, webbed to sail
Miscellaneous	Two full battens, two leech battens, tell-tails, tell tail window, long zipper sausage bag, draft-stripes, and stanchion patches, ditty bag (includes owners manual, warranty information and repair items)

First Series 2006 Class Spinnakers

Overview

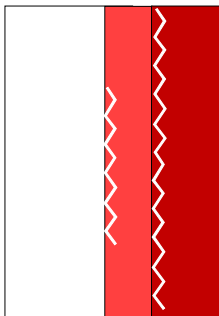
Our new VECTOR all-purpose spinnakers have been optimized for use in a variety of conditions. By incorporating the latest in software technology and cutting equipment, we have been able to create shapes that demonstrate superb off the wind sailing characteristics while at the same time being able to sail well when pressed at tighter angles. The Vector spinnakers achieve this through careful optimization of the vertical and horizontal cambers, which produces a head shape that is both stable and projects well at lower angles.

We carefully construct the spinnaker with 3-step stitching coupled with taped seams to produce a smooth sail. Our Neil Pryde Integrated patching system in the corner reinforcements are color

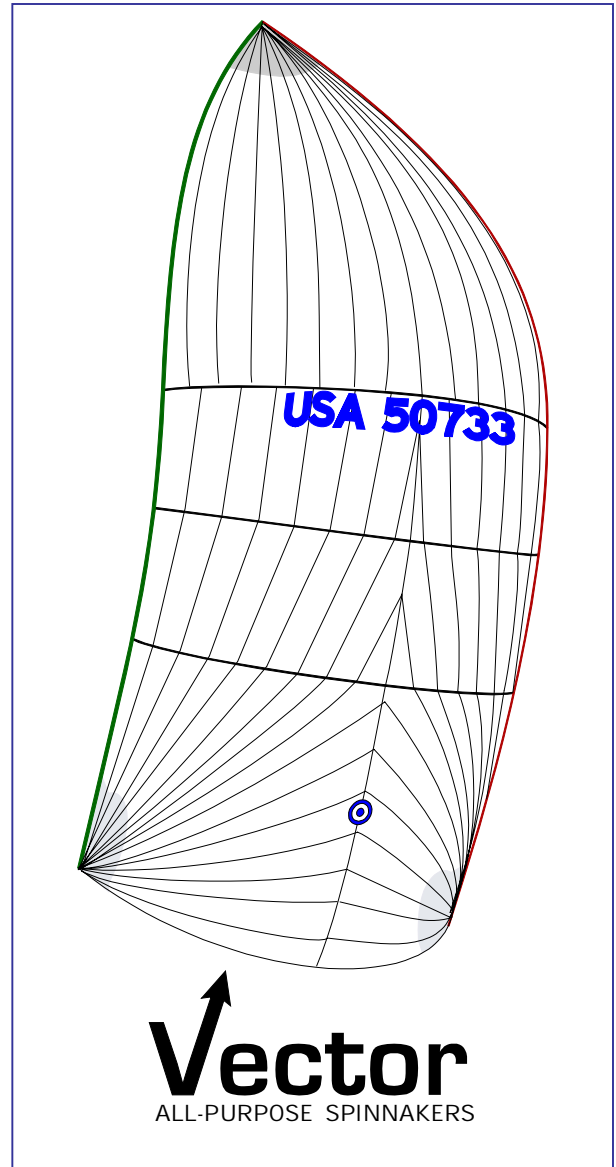
matched with the panels for a seamless look and in addition they produce a strong and light structure, free of distortion.

Typical Specifications for Beneteau First Series 2006 Class Spinnakers

DETAIL	DESCRIPTION
Fabric	.75oz or .5oz Nylon, depending on model with our True-Radial construction
Corners	Stainless steel external rings webbed in place
Finishing	Color coded tapes on luff and leech
Launch Bag	A sophisticated rectangular bag designed to facilitate easy packing and launching.



Staggered tape finishing eliminates "stacking" of stitching and produces a stronger, smoother edge

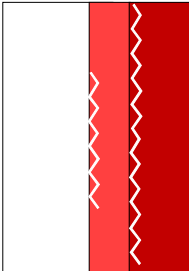


First Series 2006 PHRF Spinnakers

Overview

For those that are outfitting the boats to fly the new PHRF Masthead spinnaker configuration, we have taken our new VECTOR all-purpose spinnakers and optimized them for use with a 10% penalty pole and the masthead configuration. Increasing both the IC and JC dimensions keeps the aspect ratio at a close to optimum point for design and sailing and increases the area by a whopping 19% or about 179sqm/16.6sqm! for use in a variety of conditions. By incorporating the latest in software technology and cutting equipment, we have been able to create shapes that demonstrate superb off the wind sailing characteristics while at the same time being able to sail well when pressed at tighter angles. The Vector spinnakers achieve this through careful optimization of the vertical and horizontal cambers, which produces a head shape that is both stable and projects well at lower angles.

We carefully construct the spinnakers with 3-step stitching coupled with taped seams to produce a smooth sail. Our Neil Pryde Integrated patching system in the corner reinforcements are color matched with the panels for a seamless look and in addition they produce a strong and light structure, free of distortion.

Typical Specifications for Beneteau First Series 2006 PHRF Spinnakers	
DETAIL	DESCRIPTION
Fabric	.75oz or .5oz Nylon, depending on model with our True-Radial construction
Corners	Stainless steel external rings webbed in place
Finishing	Color coded tapes on luff and leech
Launch Bag	A sophisticated rectangular bag designed to facilitate easy packing and launching.
	
<p><i>Staggered tape finishing eliminates "stacking" of stitching and produces a stronger, smoother edge</i></p>	

