

CHALLENGE AIRCLOTH

Sailing, Watersports,
Outdoor Lifestyle



USA

Challenge Sailcloth, Inc.

560 Nutmeg Road North
South Windsor, CT 06074, USA
T: 860-871-8030, 800-962-4499
F: 860-872-0881
us@challengesailcloth.com

Challenge Sailcloth West

711 West 17th Street, E-4
Costa Mesa, CA 92627, USA
T: 949-722-7448, 800-423-6750
F: 949-722-2961
uswest@challengesailcloth.com

EUROPE

Charles-Edouard Broc

ched@challengesailcloth.com
M: +33 (0)6 9839 1010

FRANCE

Soromap Yachting

Rue Maurice Mallet
z.i. de Beligon
17300 Rochefort
T: +33 (0) 5468 78480
F: +33 (0) 5468 78889
contact@vmgsoromap.com

GERMANY

German Warehouse

Gras Transpack GmbH
Rudolf-Diesel-Strasse 29-31
56751 Polch
europe@challengesailcloth.com

GREECE

Kokkotas Ltd.

80 Mezonos str.
10438 Athens
Greece
T: +30 210 5220150
sales@kokkotas.gr

ITALY

Sacloma srl

Via Cisa Sud 125
19037 S. Stefano di Magra (SP)
P.IVA: IT 00188020119
T/F: +390187630603
SDI: 5RUO82D
sacloma@sacloma.com

Boat Rigging srl

Via di Serravalle
13/15 Loc. Molino del Piano
50065 Pontassieve
Florence, Italy
T: +390558071964
M: +393280718464
luca@boatrigging.it

NORWAY

Lorentzen & Lorentzen AS

Gjellebekkstubben 10
3420 Lierskogen
T: +4767102560
post@lorentzen.no

UNITED KINGDOM

Kayospruce, Ltd

2 Cockerell Close
Segensworth West
Fareham, Hampshire
PO 15 5SR
T: +44 (0) 1489 581 696
F: +44 (0) 1489 573 489
kayospruce@sailcloth.co.uk

ECOPAK Technology	2
Marblehead	4
Marblehead REC	
Marblehead AP	
Newport All Purpose	8
Newport Low Aspect	
Newport Pro Radial	
Newport Black	10
Newport Classic	12
Newport Colors	13
Newport Tall Ships	
Fastnet	14
Atlantic	16
Warp-Drive	17
Fibermax.....	18
Laminates	20
Palma.....	22
Palma-Tec.....	24
XRP Race.....	26
Baltic.....	28
Code-Tec.....	30
Sun-Tec	32
Super Series	33
OD-Tec.....	34
Adhesives	36
ECOPAK.....	38
Challenge RBC	39
Kite & Wing	40
Application Charts	42



ECOPAK™ Technology

Groundbreaking Innovations Now Coming to Sailcloth

In 2020, Challenge launched a new company called Challenge Outdoor, spearheaded by world champion sailor and technical textiles expert, Hale Walcoff. Hale had a vision to produce light, durable, and UV resistant materials for the outdoor sports industry using 100% recycled polyester. He wanted to produce fabrics that were best in class for the industry while being environmentally friendly. What outdoor enthusiast doesn't want to protect the outdoors?

Starting in September 2020, we have designed and developed over 100 new products which contain recycled plastic bottles (PET) repurposed into polyester film and fiber. These materials are laminated into composite fabrics, using our proprietary adhesive which does not contain any polluting solvents or VOC's (Volatile Organic Compounds). Others laminate with solvent-based adhesives along with energy-intensive drying ovens. They may claim to be 'carbon neutral' by buying carbon-offsets after polluting; Challenge has taken the progressive step of eliminating harmful chemicals from the start!

As polyester film is the building block for most sailcloth and outdoor laminates, we developed Challenge RUV™ – the first 100% recycled PET film that is 97% UV resistant. Challenge RUV™ lasts 5 times longer in the sun than conventional film used in other fabrics – a big breakthrough in extending performance.

In 2023 we are bringing ECOPAK™ technology to sailcloth.

Hundreds of customers worldwide are currently using and appreciating the benefits of ECOPAK™ fabric as we continue to develop new styles and colors. We have proven the concept, the manufacturing processes are in place, and the critical supply chain of recycled raw materials is nailed down. We are now developing racing and cruising sailcloth using the same environmentally friendly technology, and on-the-water testing has shown superior shape-holding and durability. Challenge is offering ECOPAK™ technology in sailcloth with 100% recycled fiber, film, and taffeta. The only non-recycled component will be our own environmentally friendly adhesive, which has about 30% better bond strength than conventional solvent-based systems. Every yard of Challenge recycled sailcloth will contain about 20 plastic bottles and save about 1 lb. of carbon emissions compared to standard laminates.

As lovers of the outdoors and dreamers riding the wind and the waves, the sailing industry should be at the forefront of Reusing, Repurposing and Recycling.

Until now, sustainable sailcloth options have been somewhere between limited and non-existent. This has changed, and Challenge is leading the way!



Visit challenge-outdoor.com for detailed information.



Marbleh



head



Marblehead gets its name from the East-Coast sailing town of Marblehead, Massachusetts. Challenge was asked to develop the highest quality woven for the most demanding and quality conscious sailors. As many sailors know, a boat is fast when its sail keeps its air-foil shape! When a sail stretches and loses its shape, it starts to luff and flutter and does not sail as fast. As a company, Challenge Sailcloth focuses on woven technology. We have not invested in membrane technology, and have continued our pursuit of the best sailcloth. Our philosophy is to make weaves that rely on the strength of their proprietary fibers and constructions.

What matters most for a strong and durable sailcloth is the number of yarn crossings. In a woven fabric yarns pass over the first fiber and curve under the next, 'locking' them into each other. It is these yarn crossings, or 'Interlockings™', which resist shape distortion. Challenge developed Fiber 104 with the sole intention of creating a fabric with most Fiber Interlockings. When Fiber 104 is woven in both directions of a sailcloth, it leads to a sail that relies on the strength of a tight, dense weave, rather than short-term chemical finishes. It allows sailmakers to design with lighter fabrics in heavier applications. This Interlock technology created Marblehead.



Marblehead

NEW

Marblehead Recycled

Marblehead REC is the world's first sailcloth made from fully recycled fiber. After a comprehensive search of materials across the globe, and a lot of testing, Challenge has developed a proprietary recycled polyester that has equal properties to virgin fiber, which has not been possible in the past. This allows us to launch Marblehead REC with full confidence in terms of performance, durability and UV resistance. There is little excuse now not to use recycled sailcloth in polyester/Dacron cruising sails. Challenge is offering these leading-edge recycled fabrics at the same price point as virgin polyester wovens. At Challenge we believe that real sustainability is using recycled materials, not just purchasing carbon offsets to claim green credentials. This is a breakthrough in woven sailcloth.

Fabric ID	Description	Recycled % of Fiber	Yarn Denier		Fabric Width	
			Warp	Fill	in	cm
D6.47 REC	6.47 Marblehead REC	50%	250	400	54	137
D7.47 REC	7.47 Marblehead REC	100%	300	500	54	137
D8.47 REC	8.47 Marblehead REC	100%	300	720	54	137
D9.47 REC	9.47 Marblehead REC	100%	300	940	54	137



NEW Marblehead

As boat design has evolved and rigs have modernized, it has become obvious that new construction, would best suit today's boats and cruising applications, and make for easier decision making for both salesman and designers. Marblehead maintains the same technology and philosophy of our proven and trusted Marblehead LA and HA materials. What matters most for a strong and durable sailcloth is the number of yarn crossings. In a woven fabric yarns pass over the first fiber and curve under the next, 'locking' them into each other. It is these yarn crossings, or 'Interlockings™', which resist shape distortion. Challenge developed Fiber 104 with the sole intention of creating a fabric with most fiber interlockings. When Fiber 104 is woven in both directions of a sailcloth, it leads to a sail that relies on the strength of a tight, dense weave, rather than short-term chemical finishes. It allows sailmakers to design with lighter fabrics in heavier applications. This Interlock technology created Marblehead.

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D5.42	5.42 Marblehead	150	350	54	137
D6.42	6.42 Marblehead	220	420	54	137
D7.42	7.42 Marblehead	275	570	54	137
D8.42	8.42 Marblehead	350	700	54	137
D9.42	9.42 Marblehead	350	1000	54	137
D10.42	10.42 Marblehead	440	1300	54	137





Newport



Super Premium Woven Sailcloth

Newport All Purpose

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D5.45	5.45 Newport All Purpose	200	350	54	137
D5.93	5.93 Newport All Purpose	150	350	54	137
D6.45	6.45 Newport All Purpose	220	440	54	137
D7.45	7.45 Newport All Purpose	275	500	54	137
D7.95	7.95 Newport All Purpose	275	750	54	137
D8.45	8.45 Newport All Purpose	350	840	54	137
D9.45	9.45 Newport All Purpose	350	1000	54	137
D10.95	10.95 Newport All Purpose	440	1300	54	137
D12.95	12.95 Newport All Purpose	500	1800	54	137

Newport Low Aspect

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D4.93	4.93 Newport Low Aspect	150	250	54	137
D5.53	5.53 Newport Low Aspect	250	300	54	137
D6.53	6.53 Newport Low Aspect	250	370	54	137
D7.03	7.03 Newport Low Aspect	250	420	54	137
D8.03	8.03 Newport Low Aspect	300	500	54	137
D9.03	9.03 Newport Low Aspect	300	700	54	137
D10.53	10.53 Newport Low Aspect	350	840	54	137
D11.93	11.93 Newport Low Aspect	500	1300	54	137

Newport Pro Radial

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D5.1	5.1 Newport Pro Radial	150	250	54	137
D6.1	6.1 Newport Pro Radial	250	350	54	137
D7.1	7.1 Newport Pro Radial	350	440	54	137
D8.1	8.1 Newport Pro Radial	440	520	54	137
D9.1	9.1 Newport Pro Radial	500	750	54	137
D10.1	10.1 Newport Pro Radial	600	840	54	137



Newport Black



Super Premium Woven Sailcloth

Newport Pro Radial Black

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D6.1BK	6.1 Newport Pro Radial Black	250	350	54	137
D7.1BK	7.1 Newport Pro Radial Black	350	440	54	137
D8.1BK	8.1 Newport Pro Radial Black	440	520	54	137
D9.1BK	9.1 Newport Pro Radial Black	500	750	54	137
D10.1BK	10.1 Newport Pro Radial Black	600	840	54	137

Fastnet Black

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D6.68BK	6.68 Fastnet	250	400	54	137
D7.38BK	7.38 Fastnet	300	500	54	137
D7.88BK	7.88 Fastnet	500	650	54	137
D8.88BK	8.88 Fastnet	500	750	54	137
D9.88BK	9.88 Fastnet	500	840	54	137
D10.88BK	10.88 Fastnet	500	1000	54	137

The Black Pearl is the largest sailing yacht ever built. The sails are made with 100% Newport Black fabric.





Newport Classic

Newport Classic styles are the same great fibers and constructions used across the product line. Designed specifically for classic yachts, the rich Tanbark and Cream colors are achieved using an autoclave dyeing process with high pressure and heat. They are one of the foundations in the yachting industry, and demand a very high standard of quality which few have been able to achieve. As a result of the difficult nature of producing these colors, please inquire about special orders with longer lead times.



Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
DT / DC3.8	3.8 Tanbark or Cream	150	250	60	152
DT / DC5.53	5.53 Tanbark or Cream	250	300	54	137
DT / DC6.68	6.68 Tanbark or Cream	250	400	54	137
DT / DC7.88	7.88 Tanbark or Cream	500	650	54	137
DT / DC8.88	8.88 Tanbark or Cream	500	750	54	137
DT / DC9.88	9.88 Tanbark or Cream	500	840	54	137

Newport



Super Premium Woven Sailcloth

Newport Colors

Challenge is the world leader of dyed woven sailcloth. The premium constructions use high tenacity yarns and high mass fiber technologies. Autoclave dyeing with high pressure and heat produce vibrant and long lasting colors. Custom colors can be matched to Pantone shades with 1000 yard MOQs.



Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D3.8	3.8 Newport, Natural	150	250	60	152
D3.8	3.8 Newport, Colors	150	250	60	152
D6.03	6.03 Newport, Natural	250	400	60	152
D6.03	6.03 Newport, Colors	250	400	60	152
D9.88SO	9.88 Newport, Storm Orange	500	840	54	137
D10.88SO	10.88 Newport, Storm Orange	500	1000	54	137

Newport Tall Ships

Designed for demanding large yachts, each Newport Tall Ships construction is woven with tough 1000d warp fibers and rugged fill fibers. This combination gives excellent tearing strength as well as UV and Abrasion Resistance. The standard finish has a softer hand feel specifically designed for ease of sail handling. Challenge also has a wide variety of custom produced Tall Ships styles that have been made for special projects. Please inquire about custom styles for unique boats.

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D11.8	11.8 Newport Tall Ships	1000	1000	54	137
D12.8	12.8 Newport Tall Ships	1000	1300	54	137
D15.8	15.0 Newport Tall Ships	1000	2000	54	137



Leading Offshore & Voyage Sailcloth

Challenge Fastnet is the most durable off-shore cruising style available. Fastnet is the 2018 upgrade from Challenge's successful High Mass Fiber Weaves product line. The result of now 15 years of development, Fastnet combines all of the technology and lessons learned from the past six Clipper Around the World Races. Unlike a professional race, Clipper Around the World is crewed by ambitious amateurs. The sails must perform and last for over 60,000 miles, without professional maintenance crews or paid sailors. Challenge Sailcloth has supplied Clipper for two decades, and is excited to launch Fastnet to allow sailors who need bulletproof durability and UV resistance!

Fastnet achieves the high level of durability and UV resistance by using massive high tenacity warp fibers. The low aspect constructions and High Mass Fiber Technology are the most efficient and cost effective way of extending a sail life.



Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D6.68	6.68 Fastnet	250	400	54	137
D7.38	7.38 Fastnet	300	500	54	137
D7.88	7.88 Fastnet	500	650	54	137
D8.88	8.88 Fastnet	500	750	54	137
D9.88	9.88 Fastnet	500	840	54	137
D10.88	10.88 Fastnet	500	1000	54	137
D11.88	11.88 Fastnet	500	1300	54	137



Atlantic



Premium Cruising Fabric

Atlantic styles are tightly woven constructions using high tenacity yarns. Challenge sought to develop a new cruising style utilizing a medium firm stabilized finish for durable cruising sails. High production volumes ensure consistency and low cost for a high value product line.

Fabric ID	Description	Yarn Denier		Fabric Width	
		Warp	Fill	in	cm
D4.38	4.38 Atlantic	150	250	54	137
D5.38	5.38 Atlantic	250	300	54	137
D6.38	6.38 Atlantic	250	400	54	137
D7.48	7.48 Atlantic	300	500	54	137
D8.38	8.38 Atlantic	300	750	54	137
D9.38	9.38 Atlantic	440	840	54	137
D10.38	10.38 Atlantic	440	1000	54	137

Warp-Drive



Super Premium Radial Sailcloth

Warp-Drive styles are the best choice for sailors who want the performance of a laminate, but the durability of a woven. Warp-Drive styles have very high Warp load path strength, but unlike a laminate, will not mildew, delaminate or crack over time. It will last as long as a traditional crosscut sail, and hold its shape very well. This fast growing style has become very popular with sailmakers who have performance cruising and club racing customers who demand performance, but are really not a good fit for a laminate or membrane sails.

These styles are made using Challenge's patented process for weaving straight warp yarns in heavy fabrics. The specialized fill yarns take the crimp during weaving and encapsulate the loaded bearing Warps. Warp-Drive styles have won races against laminates and membranes, and have also been used in fantastic offshore voyages.

Warp-Drive has six styles with true zero crimp for ultimate performance. 4.11, 5.11, 6.11, 8.11, 10.11 and 12.11 are woven with absolutely zero crimp. Warp-Drive has four styles that are woven with our famous High Mass Fiber Technology. In these styles, we use larger fill yarns for enhanced UV and Abrasion resistance.



Fabric ID	Description	Warp DPI	Fabric Width	
			in	cm
D4.11WD	4.11 Warp-Drive Race	19,000	54	137
D5.11WD	5.11 Warp-Drive Race	22,400	54	137
D6.11WD	6.11 Warp-Drive Race	27,000	54	137
D8.11WD	8.11 Warp-Drive Race	33,600	54	137
D10.11WD	10.11 Warp-Drive Race	51,000	54	137
D12.11WD	12.11 Warp-Drive Race	62,400	54	137
D7.11WD	7.11 Warp-Drive Cruise	27,000	54	137
D9.11WD	9.11 Warp-Drive Cruise	33,600	54	137
D11.11WD	11.11 Warp-Drive Cruise	51,000	54	137
D13.11WD	13.11 Warp-Drive Cruise	62,400	54	137



Super Durable Spinnaker Fabric

Challenge is excited to announce its next generation coated cruising spinnaker fabric. Proven in the Clipper Cup Around the World Race, spinnakers made of FiberMax were used without replacement on boats sailing over 50,000 miles. All but one person on the many boats are amateurs, so the chutes are used and abused over and over again. No spinnaker cloth but Challenge has been used on the Clipper Cup sails for the last 20 years.



- Coated finish for easy cutting on vacuum tables.
- High tenacity nylon fibers provide excellent breaking and tear strength, and abrasion resistance.
- Very tight weave, dense constructions.
- Durable coating has excellent adhesion, with no crazing or white-out common on lesser fabrics.
- Firm finish provides low stretch and high performance for big boat or dinghy racing.
- Available in 94, 144, and even 184 weights for use on Super Yachts.
- Dyed bright white finish offers superior UV resistance to natural.
- Fluorescent colors are special order.
- Fabric width is 60" / 150 cm.

Fabric ID	Product	Style	Weight		Construction	Colors
			SM oz	gsm		
N-FS44	Fibermax 44	0.75 oz	1.08	46	30 x 40	All
N-FS64	Fibermax 64	1.5 oz	1.63	69	70 x 70	All
N-FS94	Fibermax 94	2.2 oz	2.61	117	140 x 140	W, R, B
N-FS144	Fibermax 144	3.4 oz	3.33	142	210 x 210	W, R, B
N-FS184	Fibermax 184	4.4 oz	5.10	218	420 x 420	White
N-EL33W	Elite 33	—	0.83	35	30 x 30	White



Laminates

Laminated sailcloth is making a comeback on boats below 50' LOA (15.2m) for several good reasons, and we at Challenge Sailcloth are leading the charge with fresh ideas and new thinking.

While so called string and membrane sails make sense on bigger boats, there is a growing realization that for boats under 50' LOA laminate sailcloth can be a better option for many. Due to the construction methodologies and constraints in the manufacturing of membrane/string sails they tend to come out heavier and use less fiber than an equivalent paneled laminate sail. Less fiber means more stretch, and at a heavier weight as membrane sails tend to need a lot of adhesive. This is not a great result for the racing sailor, as it means lower performance. And just as important paneled laminate sails are much better laminated and plainly last longer than do film to film string/membrane sails, where cracks in the mylar film along the leech often start appearing by the end of the first season's racing. For your clients who want to use mylar laminate sails for 3 to 5 seasons racing, laminate paneled sails are clearly the better option.

While continuing to offer our high value Club Race range of styles, we are now developing lines of premium race and cruise laminates. Our new Super Series GP line and Palma Carbon Cruise Laminates offer equal or better performance to any materials on the market today, and as always with Challenge they come at a better price point than our competition can offer.



Baltic

IMPROVED: Our well known, high value, CZ race line is improved this year with the addition of UPE Fiber.

XRP Race

This very popular mid-market line continues to offer the best value for money of any film based warp insert laminate.

XRP Ultra Aramid

NEW: Three new XRP styles this year use high performance UPE and Aramid fiber, which will allow our popular XRP line to now be used on larger boats.

Super Series GP

NEW: Our new line of high-end race laminates designed for the most demanding clients and applications. No compromise, just the best race laminate available today.

Palma

Introduced in 2022 Palma is an all-white cruising fabric made with polyester and UPE fiber.

Palma Tec

The renamed XRP CL UPE from last year, also made with polyester and UPE fiber using black fiber.

Palma Carbon Cruise

NEW: New sophisticated high performance UPE/Carbon cruising laminate combining our Code-Tec technology with our expertise in adhesives and warp insert construction. Two separate warp insert layers using small denier fibers either side of X insert core make this product unique and leading edge, and very tough. Our global reach and supply chain allow us to offer this super robust material at a killer price point. Talk to your Challenge Sailcloth rep to learn more, or stop by our stand at METS.



Ultra PE Enhanced Cruising Laminates

IMPROVED

All styles now UPE reinforced!

Our new Palma Cruise Laminate line are cutting edge, UPE enhanced fabrics specifically designed for modern cruising boats and sailors who are interested in performance and good sail shape while enjoying their leisure time on the water. Cruisers like to go fast as well!

UPE is short for UHMWPE, which is an acronym for the chemical name of branded fibers like Spectra and Dyneema. UPE is a high modulus fiber like aramid (Kevlar) and carbon fiber. This means the fiber is very low stretch, which is important for good shaping holding, the key to boat speed. But unlike Aramid and carbon, UPE fiber is very tough and durable. It is exceptional in UV (much better than Dacron), hydrophobic (does not absorb water), and all but impossible to cut or tear, making it the perfect high modulus fiber for cruising sailcloth. The result is a high performance sail able to carry high loads without sail shape distortion, and at the same time being extremely durable and long lasting.

Environmentally, Palma sets the standard by which all other laminate sailcloth will be judged. 100% recycled polyester fiber and recycled film. Challenge uses a proprietary adhesive system that contains no PFAS's or solvents to bond all the materials together. Our adhesive system also leads the industry in both adhesion and weathering. At Challenge we focus on maximizing the use of recycled materials, eliminating forever chemicals, and building the most sustainable products.

- Five styles with increasing density of warp fiber inserts.
- Polyester taffetas on both sides, which increase in weight on the heavier styles, for better abrasion and UV resistance.
- Low stretch.
- High durability.
- High percentage of re-cycled materials
- No solvents or PFAS chemicals

Fabric ID	Insert DPI		Taffeta	Film	Weight		Width	
	Total	X 45"/1.5"			SM oz	gsm	in	cm
Palma 6	6000	1000	Light	1.00	5.86	251	60	150
Palma 9	9000	1000	Light	1.00	6.47	277	60	150
Palma 13	12000	1000	Medium	1.25	7.94	340	60	150
Palma 18	18000	1000	Medium	1.25	9.80	420	60	150
Palma 24	24000	1000	Medium	1.50	10.50	450	60	150



Palma-Tec



Ultra PE Enhanced Cruising Laminates

IMPROVED

Formerly XRP Cruise. All styles now UPE reinforced!

These modern cruise laminates use all inlaid fiber without scrims for highest performance and efficiency. Sandwiched between taffetas, they are soft and strong with tremendous lamination adhesion for excellent durability. Using large and tough black polyester high tenacity fibers in several directions, they both handle off angle loads, and are untearable.



- The combination of black fibers between white taffetas produces a light grey color.
- All styles are available with increasing density of warp fiber inserts.
- Special UV resistant recycled film is used.
- Both sides are bonded with polyester taffetas which increase in density on the heavier styles, for better abrasion and UV resistance.

Fabric ID	Insert DPI		Taffeta Color	Film	Weight		Width	
	Total	X 60°/.75"			SM oz	gsm	in	cm
Palma-Tec 6	6000	1000	White	1.00	6.21	266	60	150
Palma-Tec 9	9000	1000	White	1.00	6.51	279	60	150
Palma-Tec 13	12000	1000	White	1.50	8.17	350	60	150
Palma-Tec 18	18000	1000	White	1.50	9.39	402	60	150
Palma-Tec 24	24000	1000	White	1.50	10.09	432	60	150

* All fiber is black.



Race Laminates

XRP

These durable and high value sailcloth polyester styles are a great choice for classes that restrict the use of exotic fibers. XRP styles were designed with high strength to weight ratios. They use efficient fiber inlays without square scrims for reduced weight and increased off angle load bearing capacity. XRP uses high tenacity black coated fibers that have good UV and tear resistance. Constructions are black high tenacity polyester warp, substantial bias X inserts, precision laminated. XRP fabrics are perfect for racing and club racing headsails and mainsails, multihull screechers, various reinforcements, and large yacht code zeros.



Fabric ID	Insert DPI		Film	Weight		Width	
	Total	X 60°/.75"		SM oz	gsm	in	cm
XRP6	6000	3000	1.50	3.04	130	60	150
XRP9	9000	3000	1.50	3.74	160	60	150
XRP13	12000	3000	1.50	4.44	190	60	150
XRP18	18000	3000	1.50	5.14	220	60	150
XRP24	24000	3000	2.00	6.14	263	60	150

NEW

XRP Ultra Aramid

This year we introduce our new high modulus line of XRP for bigger boats and higher load cases that require more sail shape holding ability for your more performance orientated sailors. This line employs 100% high performance warp fibers, both aramid and UPE, for superior stretch resistance which translates to boat speed as the wind and loads increase. The UPE component adds toughness and extra breaking strength over the long haul. All fibers are black across both the polyester and Ultra Aramid lines, hence different materials can be used on the same boat for different sails, or for stepped constructions within individual sails.

Fabric ID	Insert DPI				Film	Weight		Width	
	Total	Aramid	UPE	X 60°/.75"		SM oz	gsm	in	cm
XPR Ultra Aramid 15	15000	5000	10000	1000	1.50	5.02	215	60	150
XPR Ultra Aramid 19	20000	10000	10000	1000	1.50	5.49	235	60	150
XPR Ultra Aramid 25	24000	12000	12000	1000	1.50	6.23	267	60	150

Reaching for the Sky

Challenge Sailcloth allocates tremendous resources to Research and Development. We have brought together the best minds in the industry, combining the skills of a robust team of sailor-engineers. Diversity of experience powers great teams. At Challenge, we focus the skill sets of extraordinary individuals on developing the best materials in the world.



Ultra Code Zero Race Laminates

IMPROVED

Baltic Code Zero laminates are ultra-high value performance laminates for code zero racing applications. The Baltic range was designed with light weight taffeta and high modulus aramid and UPE fiber for high performance. Five styles are available to suit a wide range of boats all of which use an efficient 22° inlaid X fiber.

Baltic Code Zero Race is for medium to large racing boats that require both durability and performance. Baltic combines the strength and power of several materials into one durable product at a great price point. It contains precision laminated light weight taffeta and 0.5 mil film with hybrid UPE/aramid warp inserts. Baltic is treated with Ultrafresh anti-mildew.



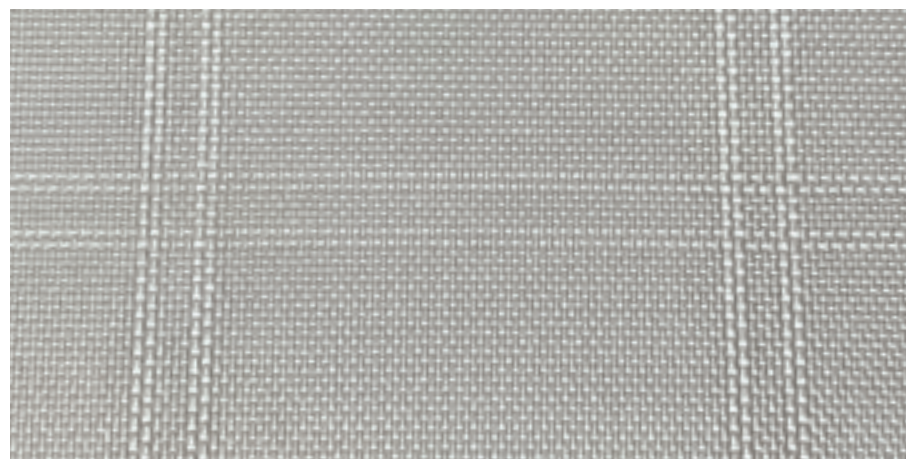
- Baltic Code 6p remains with polyester warp fiber for OD classes and small boat applications.
- Heavier weights now combine UPE with the aramid fiber for increased durability and toughness.
- All fibers are black for a consistent look and feel with earlier generation product.

Fabric ID	Description	Insert DPI		Taffeta Color	Film	Weight		Width	
		Warp	X 22°/1.5"			SM oz	gsm	in	cm
Baltic6P	Baltic 6P Code Zero	6000	1000	Grey	0.50	3.01	129	60	150
Baltic4A	Baltic 4 CZ Aramid	2000	1000	Grey	0.50	2.57	110	60	150
Baltic6A	Baltic 6 CZ Aramid	4000	1000	Grey	0.50	2.76	118	60	150
Baltic8A	Baltic 8 CZ Aramid	6000	1000	Grey	0.50	2.99	128	60	150



Innovative Code Sail & Gennaker Fabric

Challenge is excited to announce Code-Tec, a series of new fabrics specifically designed for the new generation of asymmetric and reaching sails used on modern racing and cruising designs. As off-the-wind sails designed for tighter sailing angles continue to evolve with the new structured luff and cableless Code sail designs, Challenge has developed this unique new range of fabrics to meet the performance requirements for this new generation of sails. Code-Tec uses high tenacity fibers and proprietary immersion coating chemistry to make a high performance but durable Code sail fabric which boasts low stretch, high tear strength and the ability to withstand repeated furls on modern roller furling storage systems. Code-Tec has tear and breaking strength not seen to date in polyester spinnaker fabrics.



- A breakthrough in asymmetric fabric technology.
- Double-beam matrix ripstop pattern for rugged durability.
- Leading edge kitesurf finish, with outstanding adhesion and life performance compared to spinnaker cloth or traditional dacron.
- Code-Tec has tear and breaking strength not seen to date in polyester spinnaker fabrics.
- New immersion-coating technology.
- Proprietary chemistry for high performance and durability.
- Sun-Tec UV roller furling available for UV resistance comparable to much heavier fabrics.

Fabric ID	Insert DPI		Taffeta	Film	Weight		Width	
	Warp	X 22°/1.5"			Color	SM oz	gsm	in
WOVENS								
CODE55P	--	--	White or Grey	--	1.2	51	60	150
CODE95P	--	--	White or Grey	--	1.9	81	60	150
CODE135P	--	--	White or Grey	--	3.1	132	60	150
CODE155P	--	--	White or Grey	--	3.4	146	60	150
LAMINATES								
CODE170PX	--	1000	White	0.50	3.9	170	60	150
CODE195UPE	6000	1000	White	0.50	4.5	195	60	150
CODE245UPE	12000	1000	White	0.50	5.7	245	60	150

Wovens and laminates will stretch and shrink at different rates as they age. Please consider this before using both in the same sail.

Ultra Lite UV Protection for Performance Sails

Challenge is excited to announce Sun-Tec, a new concept in UV roller furling covers. Using high tenacity fibers and an innovative UV coating formula, this is the best fabric to cover the leech panels of Code Zeros, downwind sails, and other roller furling sails. At 133 grams per square meter, **Sun-Tec is light enough to fly in light air**, but rivals much heavier fabrics in UV resistance and abrasion. Challenge designed Sun-Tec with rugged double beam ripstops in both directions of the cloth, with a sailcloth finish inside for increased stability. Sun-Tec is based on the Code-Tec 135 taffeta, so it has the same feel and strength as Code-Tec asymmetrical fabric, meaning your UV cover will stretch the same as the base sail material, making for smoother transitions between UV cover and the body of the sail.



- High tenacity fibers developed out of kitesurf fabric technology: excellent breaking, tear strength, UV resistance.
- Double-beam matrix ripstop pattern for rugged durability.
- New chemistry technology UV coating.
- Coated one side only.
- Sun-Tec coating alone greatly increases life of underlying substrate.
- Sun-Tec provides as good UV protection as other commonly used cover fabrics over twice its weight.
- Sun-Tec has equal modulus and strength to Code-Tec 135.
- Sun-Tec coating is excellent for printing and outdoor light weight banner use.

Fabric ID	Description	Weight		Width		Rolls
		SM oz	gsm	in	cm	
SUNTEC	Sun-Tec	3.09	133	60	150	50
SUNTECPSA	Sun-Tec PSA	3.30	141	60	150	50

Super Series GP

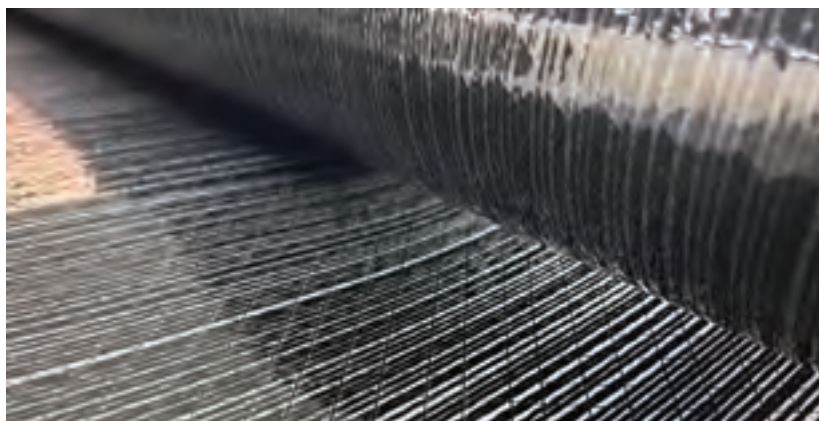


Ultra-Light Grand Prix Race and Code Zero

NEW

Super Series GP is a new line of Challenge high-end race fabrics designed for the most demanding clients and applications. The only consideration when designing this line is that it would be the best material in its category, designed for light, high-modulus Code Sails across a range of boat types and sizes, and additionally for up-wind sails on boats below 50 feet LOA.

Since the advent of the membrane sail era some 15 years ago, laminate sails became a product that most sailmakers considered low-end, as it was thought that “serious” racers would spend more money on the latest and greatest membrane or string product. Certain sailcloth suppliers even went into the string sail business. At this point development of laminate sailcloth basically stopped. If you look through sailcloth catalogs today, the materials available are the same that were available a decade ago. However, we can all see clearly now the limitations of membrane sails, so there is a clear need for improvement in laminated racing sailcloth.



- The lightest components for each weight and DPI stage. No cost cutting, or compromises made. Just the best product possible from existing materials.
- Less film weight, because of our extensive use .25 mil films, and the changing of film gauge at each DPI step. Mylar film while a necessary component is basically parasitic weight because it doesn't add to performance. The less weight in film and adhesive, the better the performance to weight ratio of the material.
- Better fiber coverage across the surface of the laminate by extensive use of smaller denier fibers. The more fiber in a sail, the higher the performance of the laminate.
- Straighter filaments are a feature of smaller denier fibers, which means more even loading and better stretch resistance.
- The better modulus/weight ratio of Super Series GP means more performance at a reduced weight compared to other available materials.
- While at the same time adhering to the Challenge ethos of having the most competitive price points, for equal or better preference.

Fabric ID	Insert DPI		Film	Weight		Width	
	Warp	X 45°/.5"		SM oz	gsm	in	cm
Super Series GP 04	4800	200	0.50	1.6	70	60	150
Super Series GP 06	7600	200	0.50	1.8	78	60	150
Super Series GP 09	9600	200	1.0	2.7	117	60	150
Super Series GP 12	12000	200	1.25	3.5	151	60	150
Super Series GP 18	18000	500	1.5	4.5	195	60	150
Super Series GP 24	24000	500	1.5	5.1	221	60	150



Innovative Light Weight Dacron One Design Fabrics

NEW

Challenge is excited to announce OD-Tec, our nascent line of new One Design fabrics designed to challenge the long term status quo in dingy racing sailcloth. Specifically conceived as the next generation of OD materials with a woven structure designed with our superior coating technology in mind. Challenge has developed this unique new range of fabrics to meet not only performance requirements for high level racing, but also to vastly improve durability of the sails. OD-Tec uses high tenacity fibers and proprietary immersion coating chemistry to make a high performance but durable OD sail fabric which has low stretch, superior tear strength and the ability to withstand flogging and abuse on the start line without having the coating white out after a couple regattas.

- OD-Tec fabrics are firm bias, low crimp, and low stretch.
- Prominent Double-Beam matrix ripstop pattern for rugged durability.
- New immersion-coating technology.
- Proprietary chemistry for high performance and superior durability.
- No coating white-out, excellent adhesion. Probably the best coating durability available.
- OD-Tec has tear and breaking strength not seen to date in light weight Dacron fabrics.
- High tenacity fibers and woven construction developed for Kitesurf and Wing-Foiling fabric technology.

Fabric ID	Description	Bias	Weight		Width	
			SM oz	gsm	in	cm
OD-Tec 2.5	Very light crosscut/radial; Opti class thickness	Medium	3.11	133	60	150
OD-Tec 2.85	Balanced w/crosscut tilt; High strength/weight	Firm	3.40	146	60	150
OD-Tec 3.75	More crosscut oriented than lighter weights	Firm	4.07	174	60	150

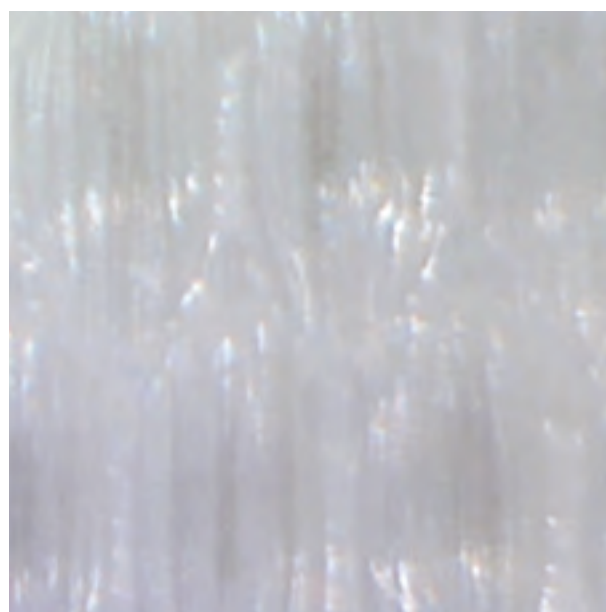


Adhesives



Insignia & PSA Fabrics

Challenge Polyester Insignia is used extensively worldwide for sails, windsurfers, kites, numbers, and other uses. Challenge PSA fabrics use an acrylic based pressure sensitive adhesive that bonds aggressively to woven and laminated sailcloth.



Fabric ID	Description	Weight		Width	
		SM oz	gsm	in	cm
IN	Polyester Insignia Fabric	3.3	141	56.75	144
IUV54*	TiO2 Coated Polyester Taffeta with PSA	3.5	150	54	137

* Available in USA warehouse only.

** Special order. Please inquire.



ECOPAK™

by **CHALLENGE SAILCLOTH**

The only durable and waterproof pack fabric made from 100% recycled polyester! Every yard of ECOPAK™ contains over 20 plastic bottles, and saves over 1 lb. of carbon emissions compared to standard pack fabric.



Challenge Sailcloth, the world's leading supplier of woven polyester for sailing and kite boarding, is excited to introduce ECOPAK™, the only durable and waterproof pack fabric made from 100% recycled polyester fiber and film. The ECOPAK™ line of EPX (multi-ply construction with woven backing) and EPLX (multi-ply construction with film backing) is now available worldwide for outdoor brands, designers and factories.

Based on 35 years of weaving, coating and laminating experience, Challenge's ECOPAK™ fabric lasts longer, absorbs 80% less moisture, and has better UV resistance and color retention than traditional laminated nylon. Just like our sailcloth that has been tested around the world, ECOPAK™ performs in the harshest conditions.

challenge-outdoor.com

ECOPAK™ is Environmentally Friendly

- Every yard of ECOPAK™ saves over one pound of CO₂, compared to virgin nylon or polyester pack fabric.
- ECOPAK™ contains no harmful TPU, PVC, DWR or other coatings. The DWR is C0 with no fluorocarbons.
- CO₂ emissions from manufacturing our recycled polyester are:
 - 50% lower than Nylon
 - 38% lower than virgin polyester film
 - Comparable to organic cotton

ECOPAK™ has no VOC's

- Unlike other fabric companies that use solvent-based adhesive, our proprietary adhesive system contains no Volatile Organic Compounds to pollute the air, land or sea.

ECOPAK™ Reduces Waste

- Our signature 45 degree Blue recycled CrossPly yarn improves pattern orientation and reduces cutting waste by about 10%.
- ECOPAK™ recycled polyester lies flat; no time wasted wrestling with nylon curling on the cutting table.

ECOPAK™ is Energy Efficient and Costs Less

- Our innovative manufacturing system eliminates expensive and energy intensive drying ovens, hot rooms for curing, and many other processes needed to laminate Nylon and Polyester with solvent-based adhesive.
- And, Challenge passes the savings on to our customers.

ECOPAK™ is Certified Recycled

- Woven components are 100% Repreve recycled polyester.
- The special Challenge RUV recycled film is 100% recycled and 97% UV resistant.
- Bluesign approval is in process.

Recycled Bag Cloth

Challenge Sailcloth, the leading supplier of woven polyester for sailing and kite boarding, is excited to introduce Challenge RBC: recycled polyester bag cloth. Challenge RBC is single-ply woven recycled polyester with environmentally friendly C0 DWR on the outside, and a water-resistant PU coating on the inside. Each yard saves about one pound of carbon emissions, compared to standard nylon or polyester bag fabric.



BLACK
KNIGHT*



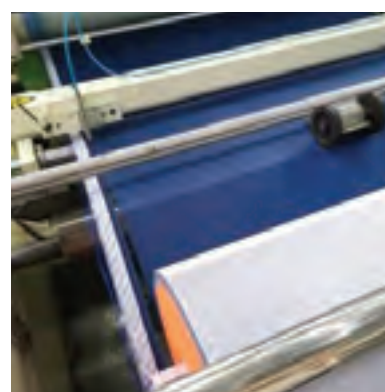
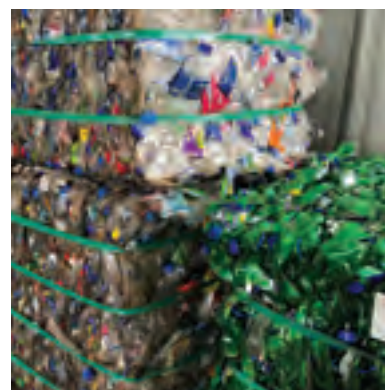
MISSION
GREY*



REVEL
RED*



BRIGHT
BLUE*



- RBC450RS: 58" wide
- 6.5 oz/yd², 220 gsm
- 450d Ripstop weave
- C0 DWR / PU backing

* Stocked in German warehouse,
other colors available from USA
warehouse or by special order.

The Leading Edge

In the last few years, Challenge has emerged the market leader in the Kite and Wing sector. Traditionally this sporting arena has been seen as distinct from traditional sails and sailmaking. However, as the Wing foiling format is developing quickly, sailmaking technology becomes more relevant since the Wings load and operate more like sails, than kites do. Designers and brands are pushing the envelope daily, and the need for higher performing materials is growing. Challenge Sailcloth is at the sharp end of the development curve, actively participate in the sport, and are engaged with most of the designers and brands.



Powering Next Generation Foil Wing Technology

For 2023 Challenge has decided to organize our growing range of fabrics along both functional and material lines.

- Our **Airframe** range of styles is primarily for Leading Edge and Strut applications, ie the inflated airframes that provide structure for these “sails”. These materials are designed for the highest load applications which demand premium performance from the materials. The Airframe range is comprised of tight woven polyester in four different weights, as well as the new more orientated high modulus materials such as Hoopika, our new 200 denier UPE LE material. This material has been specifically designed for the leading edges for the highest preforming kites and wings.
- Our **Load Path** range, which is still under development, are high preforming woven canopy fabrics and laminates designed for performance/racing applications with Wings in mind. These fabrics are/will be orientated, and designed to be used when aligning the fiber orientations in the materials, with the load path mapping in the canopy membrane.
- Our **Balanced** range are tightly woven polyester fabric styles that are well optimized warp and fill, and therefore good on the bias by design. This is critical since most of canopy loading is on the bias in today’s kite and wing designs. These materials are modified versions of high performance spinnaker fabrics.

For use across the entire range, Challenge has developed a bespoke coating polymer using a different chemistry to that being used in the rest of the sailcloth industry. This breakthrough ultra-durable coating has superior adhesion, with no crazing or white-out common on lesser fabrics. These materials have tear and breaking strength numbers not seen to date in light weight wovens such polyester spinnaker fabrics and kite/wing materials. The coating will stay intact longer as the materials age, providing longer term performance benefit and good value for money.

All kite products are custom, and ordered by brands in partnership with Challenge. Please inquire about our 2023 production capacity.

Fabric ID	Warp	Fill	X	Fiber	Film	Weight gsm
AIRFRAME						
UPE 200 Hookipa*	200	200	–	UPE	0.5	115
DLE160	150	250	–	Poly	–	160
DLE140	150	150	–	Poly	–	140
LOAD PATH						
DLE80	100	100	–	Poly	–	85
DTRS-75	50	50	–	Poly	0.75	82
XRP6	6000	–	3000 x 1.5"	Poly	1.5	130
BALANCED						
DK50	50	50	–	Poly	–	50
DX50**	50	50	–	Poly	–	50

* UPE uses recycled film and polyester fiber. ** DK50 with a woven in X.

Dacron Applications

Boat	Sail	Marblehead	Marblehead REC	Newport AP	Newport LA
10 – 15	Main				4.93
	LT #1				4.93
	#1				
	#2				
	#3				
15 – 20	Main	5.42		5.45 / 5.93	4.93 / 5.53
	LT #1	5.42		5.93	4.93
	#1				
	#2	5.42		5.45 / 5.93	4.93 / 5.53
	#3				
20 – 25	Main	5.42 / 6.42	6.47	5.93 / 6.45	6.53
	LT #1	6.42	6.47	6.45	
	#1				4.93
	#2	5.42 / 6.42	6.47	5.45 / 5.93 / 6.45	5.53
	#3	5.42 / 6.42	6.47	5.45 / 5.93 / 6.45	5.53 / 6.53
25 – 30	Main	6.42 / 8.42	6.47 / 7.47	5.93 / 6.45 / 7.45	6.53 / 7.03
	LT #1				
	#1	6.42	6.47	5.45 / 5.93 / 6.45	4.93 / 5.53
	#2	6.42	6.47	5.45 / 6.45	5.53 / 6.53
	#3	7.42	7.47	6.45 / 7.45	6.53 / 7.03
30 – 35	Main	7.42	7.47	7.45	7.03 / 8.03
	LT #1			5.45	4.93 / 5.53
	#1	6.42	6.47	6.45	5.53 / 6.53
	#2	6.42 / 7.42	6.47 / 7.47	6.45 / 7.45	6.53 / 7.03
	#3	7.42	7.47	7.45	7.03 / 8.03
35 – 40	Main	8.42	8.47	7.95 / 8.45	8.03 / 9.03
	LT #1			5.45 / 5.93	5.53
	#1	7.42	7.47	5.45 / 6.45 / 7.45	5.53 / 6.53
	#2	7.42 / 8.42	7.47 / 8.47	7.45 / 7.95 / 8.45	6.53 / 7.03 / 8.03
	#3	8.42 / 9.42	8.47 / 9.47	7.95 / 8.45 / 9.45	8.03 / 9.03
40 – 45	Main	9.42	9.47	8.45 / 9.45 / 10.95	9.03
	LT #1	6.42 / 7.42	6.47 / 7.47	5.45 / 6.45 / 7.45	5.53 / 6.53
	#1	7.42 / 8.42	7.47 / 8.47	6.45 / 7.45 / 7.95	6.53 / 7.03
	#2	8.42	8.47	7.95 / 8.45	7.03 / 8.03 / 9.03
	#3	9.42	9.47	8.45 / 9.45 / 10.95	9.03 / 10.53
45 – 50	Main	9.42	9.47	9.45 / 10.95	9.03 / 10.53
	LT #1	7.42	7.47	6.45 / 7.45	6.53 / 7.03
	#1	7.42 / 8.42 / 9.42	7.47 / 8.47 / 9.47	7.45 / 7.95 / 8.45 / 9.45	7.03 / 8.03 / 9.03
	#2	9.42	9.47	8.45 / 9.45 / 10.95	7.03 / 8.03 / 9.03
	#3	9.42	9.47	9.45 / 10.95	9.03 / 10.53
50 – 55	Main	9.42	9.47	9.45 / 10.95	11.93
	LT #1	8.42	7.47	7.45	7.03 / 8.03
	#1	8.42 / 9.42	8.47 / 9.47	7.95 / 8.45 / 9.45	8.03 / 9.03 / 10.95
	#2	9.42	9.47	9.45 / 10.95	10.53 / 11.93
	#3	9.42	9.47	9.45 / 10.95 / 12.95	11.93
55 – 60	Main			12.95	11.93
	LT #1	8.42	8.47	7.95 / 8.45	8.03
	#1	9.42	9.47	8.45 / 9.45 / 10.95	9.03 / 10.53 / 11.93
	#2			10.95 / 12.95	11.93
	#3			12.95	11.93
60 – 70	Main			12.95	
	LT #1			9.45 / 10.95	9.03
	#1			10.95	10.53 / 11.93
	#2			10.95 / 12.95	11.93
	#3			12.95	

APPLICATION CHARTS FOR MONOHULL ONLY. FOR MULTIHULL APPLICATIONS ADD 10-15 FEET.

Radial Dacron Applications

Boat	Sail	Fastnet	Atlantic	WD Race	WD Cruise	Newport PR
10 – 15	Main		3.8 / 4.38	4.11		5.1
	LT #1			4.11		
	#1		3.8 / 4.38			
	#2					
	#3					
15 – 20	Main		4.38 / 5.38	5.11		6.1
	LT #1			4.11		5.1
	#1		3.8 / 4.38			
	#2		4.38 / 5.38	5.11		
	#3					
20 – 25	Main	6.68	5.38 / 6.38	6.11		6.1
	LT #1	6.68		5.11		5.1
	#1	6.68	3.8 / 4.38 / 5.38			5.1
	#2	6.68	5.38 / 6.38	6.11		5.1
	#3		6.38	6.11		6.1
25 – 30	Main	7.38	6.38 / 7.48	6.11 / 8.11	7.11	6.1 / 7.1
	LT #1			5.11		5.1
	#1	6.68	5.38 / 6.38			
	#2	6.68 / 7.38	6.38	6.11	7.11	6.1
	#3	6.68 / 7.38	6.38 / 7.48	6.11 / 8.11	7.11 / 9.11	7.1
30 – 35	Main	7.38 / 7.8	7.48 / 8.38	8.11	9.11	7.1 / 8.1
	LT #1		5.38 / 6.38	5.11	7.11	5.1
	#1	6.68	6.38 / 7.48	6.11	7.11	6.1
	#2	6.68	6.38 / 7.48 / 8.38	6.11 / 8.11	7.11	7.1
	#3	7.38 / 7.88	7.48 / 8.38	8.11	9.11	8.1
35 – 40	Main	7.88 / 8.88 / 9.88	8.38 / 9.38 / 10.38	8.11	9.11	8.1 / 9.1 / 10.1
	LT #1	6.68	6.38 / 7.48	6.11	7.11	6.1
	#1	6.68 / 7.38	7.48 / 8.38	6.11 / 8.11	7.11 / 9.11	7.1 / 8.1
	#2	7.38 / 7.88 / 8.88	7.48 / 8.38 / 9.38	8.11	9.11	8.1 / 9.1
	#3	7.88, 8.88	8.38 / 9.38 / 10.38	8.11	9.11	9.1 / 10.1
40 – 45	Main	9.88 / 10.88	8.38 / 9.38 / 10.38	8.11 / 10.11	9.11 / 11.11	
	LT #1	6.68	6.38	6.11	7.11	6.1
	#1	7.38 / 7.88 / 8.88	6.38 / 7.48 / 8.38 / 9.38	8.11	9.11	7.1 / 8.1 / 9.1 / 10.1
	#2	7.88 / 8.88 / 9.88	8.38 / 9.38	8.11	9.11	9.1 / 10.1
	#3	8.88 / 9.88 / 10.88	9.38 / 10.38	8.11 / 10.11	11.11	
45 – 50	Main	10.88 / 11.88	10.38	8.11 / 10.11	11.11	
	LT #1	7.38 / 7.88	7.48	6.11	9.11	6.1 / 7.1
	#1	7.88 / 8.88 / 9.88	8.38 / 9.38 / 10.38	8.11 / 10.11	9.11 / 11.11	8.1 / 9.1
	#2	8.88 / 9.88 / 10.88	9.38 / 10.38	10.11	11.11	10.1
	#3	10.88 / 11.88	10.38	10.11	11.11	
50 – 55	Main	11.88	10.38	10.11 / 12.11	11.11 / 13.11	
	LT #1	7.38, 7.88	7.48 / 8.38	6.11 / 8.11	9.11	8.1
	#1	7.88 / 8.88 / 9.88	8.38 / 9.38 / 10.38	8.11 / 10.11	11.11	9.1
	#2	9.88	10.38	10.11	11.11	10.1
	#3	11.88	10.38	10.11 / 12.11	13.11	
55 – 60	Main	11.88 / 13.88		12.11	11.11 / 13.11	
	LT #1	7.88 / 8.88	7.48 / 8.38	8.11 / 10.11		8.1 / 9.1
	#1	8.88 / 9.88 / 10.88	9.38 / 10.38	10.11	9.11	10.1
	#2	10.88 / 11.88		10.11	11.11 / 13.11	
	#3	11.88 / 13.88		12.11	11.11 / 13.11	
60 – 70	Main	13.88 / 15.88			13.11	
	LT #1	8.88 / 9.88	9.38	10.11	11.11	9.1
	#1	10.88 / 11.88 / 13.88	9.38 / 10.38	10.11 / 12.11	11.11 / 13.11	10.1
	#2	11.88 / 13.88		12.11	11.11 / 13.11	
	#3	13.88 / 15.88		12.11	13.11	

APPLICATION CHARTS FOR MONOHULL ONLY. FOR MULTIHULL APPLICATIONS ADD 10-15 FEET.

Laminate Applications

Boat	Sail	XRP	XRP UA	Palma / Palma Tec
20 – 25	Main	6 / 9		6 / 9
	LT #1			
	#1	6		6
	#2	6 / 9		6 / 9
	#3	9		9
25 – 30	Main	9 / 13		9 / 13
	LT #1	6		6
	#1	6 / 9		6 / 9
	#2	9 / 13		9 / 13
	#3	13		13
30 – 35	Main	13 / 18	15 / 19	13 / 18
	LT #1	6 / 9		6 / 9
	#1	6 / 9		9 / 13
	#2	13 / 18	15	13 / 18
	#3	18 / 24	19	18 / 24
35 – 40	Main	18 / 24	19 / 25	18 / 24
	LT #1	9		9
	#1	13 / 18	15	13 / 18
	#2	18 / 24	15 / 19	18 / 24
	#3	24	19 / 25	24
40 – 45	Main	24	19 / 25	24
	LT #1			
	#1		15	
	#2		19	
	#3		25	
45 – 50	Main		25	
	LT #1		15	
	#1		15 / 19	
	#2		19	
	#3		25	
50 – 55	Main			
	LT #1		15	
	#1		15 / 19	
	#2			
	#3			

Reaching Applications

Boat	Code-Tec	Baltic	FiberMax – Down Wind
20 – 25	55P		44 / 64
25 – 30	55P / 95P	6P	44 / 64
30 – 35	55P / 95P / 135P / 155P	6P / 4A	44 / 64
35 – 40	95P / 135P / 155P	6P / 4A	44 / 64
40 – 45	95P / 135P / 155P	6P / 4A	44 / 64 / 94
45 – 50	135P / 155P	4A / 6A	64 / 94
50 – 55	155P	6A / 8A	64 / 94
55 – 60		6A / 8A	64 / 94 / 144

APPLICATION CHARTS FOR MONOHULL ONLY. FOR MULTIHULL APPLICATIONS ADD 10-15 FEET.



