

J109 CLASS UNITED KINGDOM 2019

PERFORMANCE UPWIND PACKAGE	MATERIAL	AREA	TWS RANGE (KT)
AP Mainsail	Uni-Titanium	38.70 m ²	0 - 25
J1 Light Headsail	Uni-Titanium	31.30 m ²	0 - 12
J2 Medium Headsail	Uni-Titanium	30.80 m ²	12 - 18
J3 Heavy Headsail	Uni-Titanium	30.50 m ²	18 - 25+

PERFORMANCE UPWIND PACKAGE	MATERIAL	AREA	TWS RANGE (KT)
AP Mainsail	Titanium	38.00 m ²	0 - 25
J1 Light Headsail	Titanium	31.30 m ²	0 - 12
J2 Medium Headsail	Titanium	30.80 m ²	12 - 18
J3 Heavy Headsail	Titanium	30.50 m ²	18 - 25+

PERFORMANCE DOWNWIND PACKAGE	MATERIAL	AREA	TWS RANGE (KT)
A2 Light/Medium Runner	Superkote 75	107.5 m ²	0 - 18
A3 Medium Reacher	Superkote 90	103.0 m ²	8 - 20
A4 Heavy Runner	Superkote 90	107.5 m ²	16 - 25+
Code Zero Package	CZ30/15	70.00 m ²	0 - 25+



J109 CLASS DEVELOPMENT

In grand prix classes throughout the sport it is well known that sheeting angles are becoming tighter and tighter – modern TP52s have jib sheeting angles as close as 4 degrees off the centreline.

The J109 class in Ireland & United Kingdom is a growing and competitive fleet so we felt it necessary to take a fresh look at the sail plan and systems aboard the now nearly fifteen year old design with an aim to improving performance.

The J109 has evolved significantly over the past fourteen years. The most visible change has been the shift to a non-overlapping jib setup for optimum IRC performance. This shift in sailplan has a significant effect on the boat's light air performance due the headsail area reduction.

During the winter of 2018 UK Sailmakers Ireland carried out a Fluid Structure Interaction test cycle to determine the effectiveness of jib inhauling to a sheeting angle of 6°

[Please see our article here for more information.](#)

With the recent rule change the United Kingdom fleet will begin its transition to the non-overlapping headsail sailplan.

As the Irish fleet made this transition several years ago we are well placed to advise the UK fleet on their options to ensure peak performance.

Please contact us for information and advice.



ireland@uksailmakers.com
+353 (0)21 483 1505

Mark Mansfield
mark@uksailmakers.com

Barry Hayes
bhayes@uksailmakers.com

Graham Curran
graham@uksailmakers.com



J109 UPWIND PACKAGES

We offer two non-overlapping upwind packages for the Irish and United Kingdom J109 classes.

The Performance package utilises our Uni-Titanium sailcloth technology. This package is tailored for ultimate performance and power efficiency. Uni-Titanium sails are stiff moulded sails – they will test your sailing skills to their limit – and reward attention and knowledge with unparalleled performance. These are Championship winning sails.

The Regatta package is more forgiving than the Performance package. The Titanium product is more amiable to trim – but provides outstanding performance none the less. In the hands of prudent and skilled trimmers this package provides the speed to compete with the best.

Below we give a brief overview of our Titanium and Uni-Titanium products. More information on both can be found on the UK Sailmakers website.

UNI-TITANIUM

Uni-Titanium sails are the fastest sails UK Sailmakers makes and that claim is backed up by the fact that customers sailing with Uni-Titanium sails have been able to increase their upwind target speeds compared to previous sails.

UNI BENEFITS

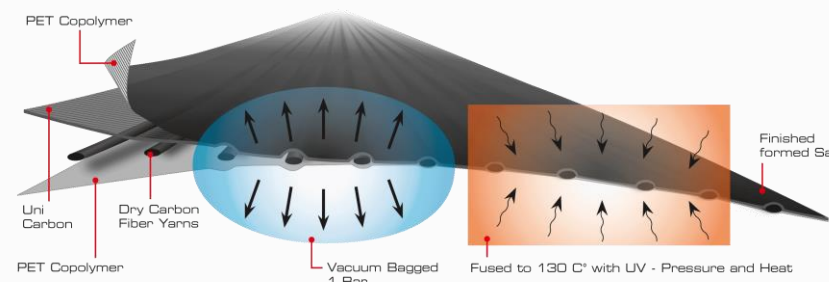
Before the development of Uni-Titanium, all sails suffered from shape instability; in puffs the sail gets deeper and the draft moves aft, when the wind softens the opposite happens. Even with string sails, shape instability comes from the fact that most of the loadpath yarns run parallel to the leech or luff – along the sail's primary loadpaths. There is not enough stability in the pure loadpath design for the sail to compensate fully for secondary and tertiary loads.



UNI-TITANIUM CONSTRUCTION

To overcome these performance-robbing shape distortion issues, UK Sailmakers developed Uni-Titanium moulded membrane sails. Uni-Titanium uses sheets of uni-directional carbon added to the continuous carbon fiber yarn layout in a leach to luff orientation. The uni-directional carbon sheets have the thickness of magnetic tape and are just as light.

The four layers in a Uni-Titanium sail (skin, loadpath yarns, uni-carbon layer and second skin layer) are placed in a variable geometry thermo form mould in which the sail is UV-bonded under vacuum pressure to become a one-piece finished sail.



THE TITANIUM DIFFERENCE

There are several important differences between the Uni-Titanium/Titanium construction methods and other sailmakers' membrane products.

First, all UK Titanium sails are made with yarns that are spread across the sail running continuously between the three corners of the sail without breaks or interruptions.

This array of load-bearing, high-strength yarns is laid dry (without glue) by machine on a 3D shaped skin. Being laid dry keeps the yarns from becoming brittle and reduces the finished weight of the sail. Dry yarns reduce the weight of a sail by 15-30%.

The outer skins are the epidermis of a Titanium sail. They protect and hold all the layers together. Weatherproof on the outside, the black skins are tacky on the inside from the copolymer coating; this holds the yarns in place and under tension until the final lamination has been completed.

Unlike most high tech sails in which structural yarns only run the width of an individual panel, a Uni-Titanium/Titanium sail's continuous yarns eliminate seam loads, load-induced seam distortion, and wrinkles.



MAINSAIL UNI-TITANIUM / TITANIUM

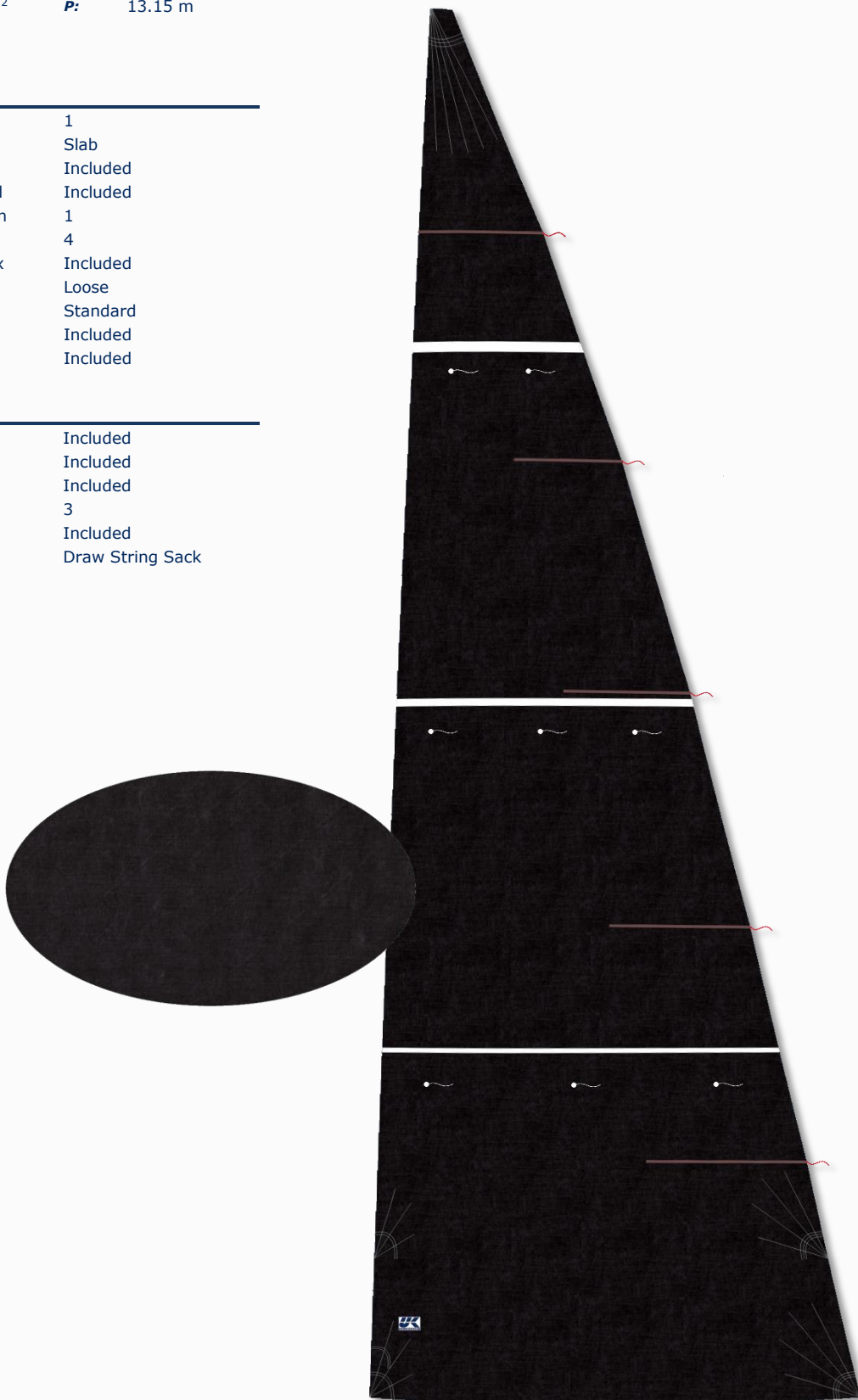
AREA: 38.70 m² **P:** 13.15 m
E: 4.70 m

SPECIFICATION

Number of Reefs	1
Reef Design	Slab
Cunningham	Included
Carbon Headboard	Included
Power Head Batten	1
Leech Battens	4
Carbon Batten Box	Included
Foot Design	Loose
Leech Line	Standard
ISAF Certification	Included
IRC Measurement	Included

DETAILING

Tell Tails	Included
Country Code	Included
Sail Number	Included
Draft Stripes	3
Spreader Patches	Included
Sail Bag	Draw String Sack





HEADSAIL UNI-TITANIUM / TITANIUM

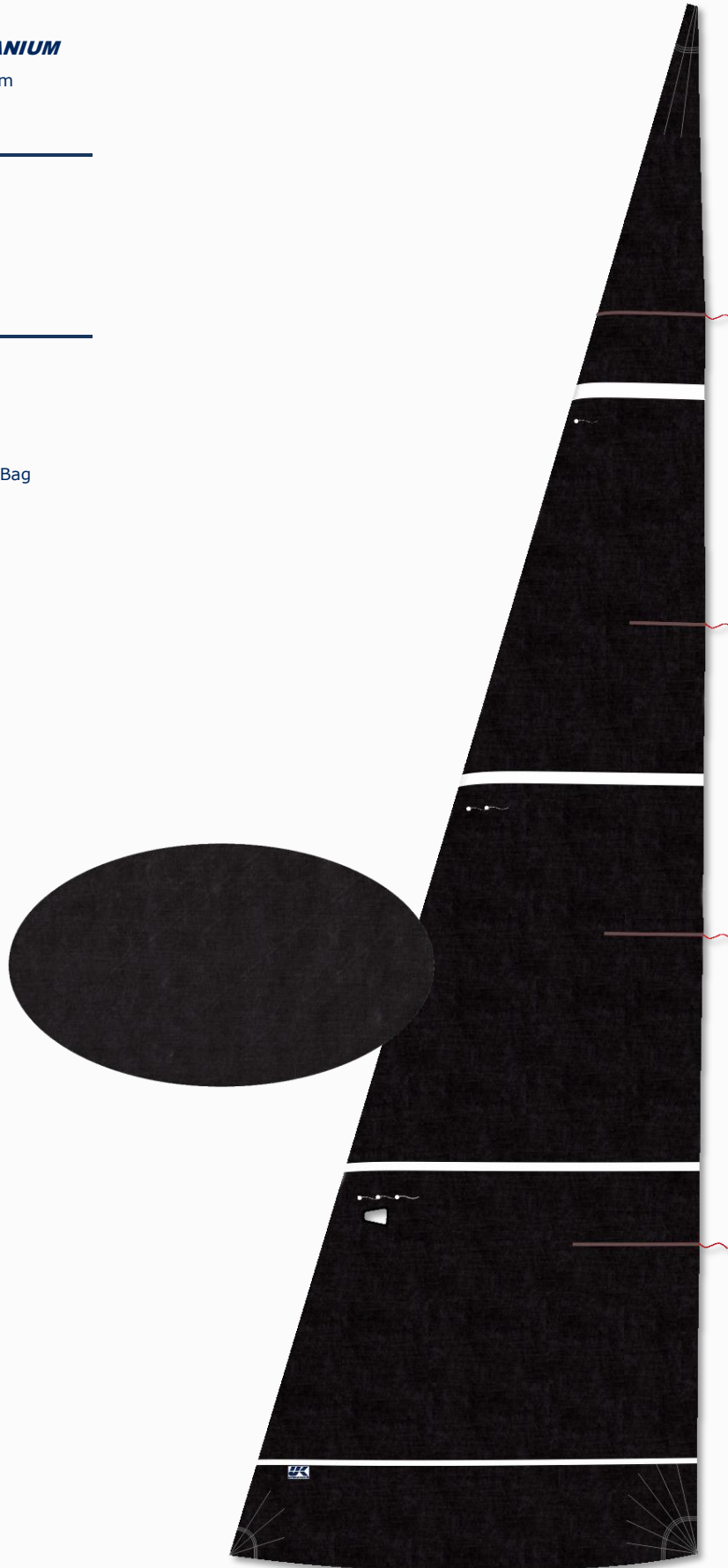
I: 14.17 m J: 4.05 m

SPECIFICATION

Full Top Batten	1
Leech Battens	3
Leech Line	Standard
ISAF Certification	Included
IRC Measurement	Included

DETAILING

Tell Tail Window	Included
Country Code	Included
Sail Number	Included
Draft Stripes	4
Stanchion Patches	Included
Sail Bag	Pro-Race Zip Bag





A2 LIGHT/MEDIUM RUNNER

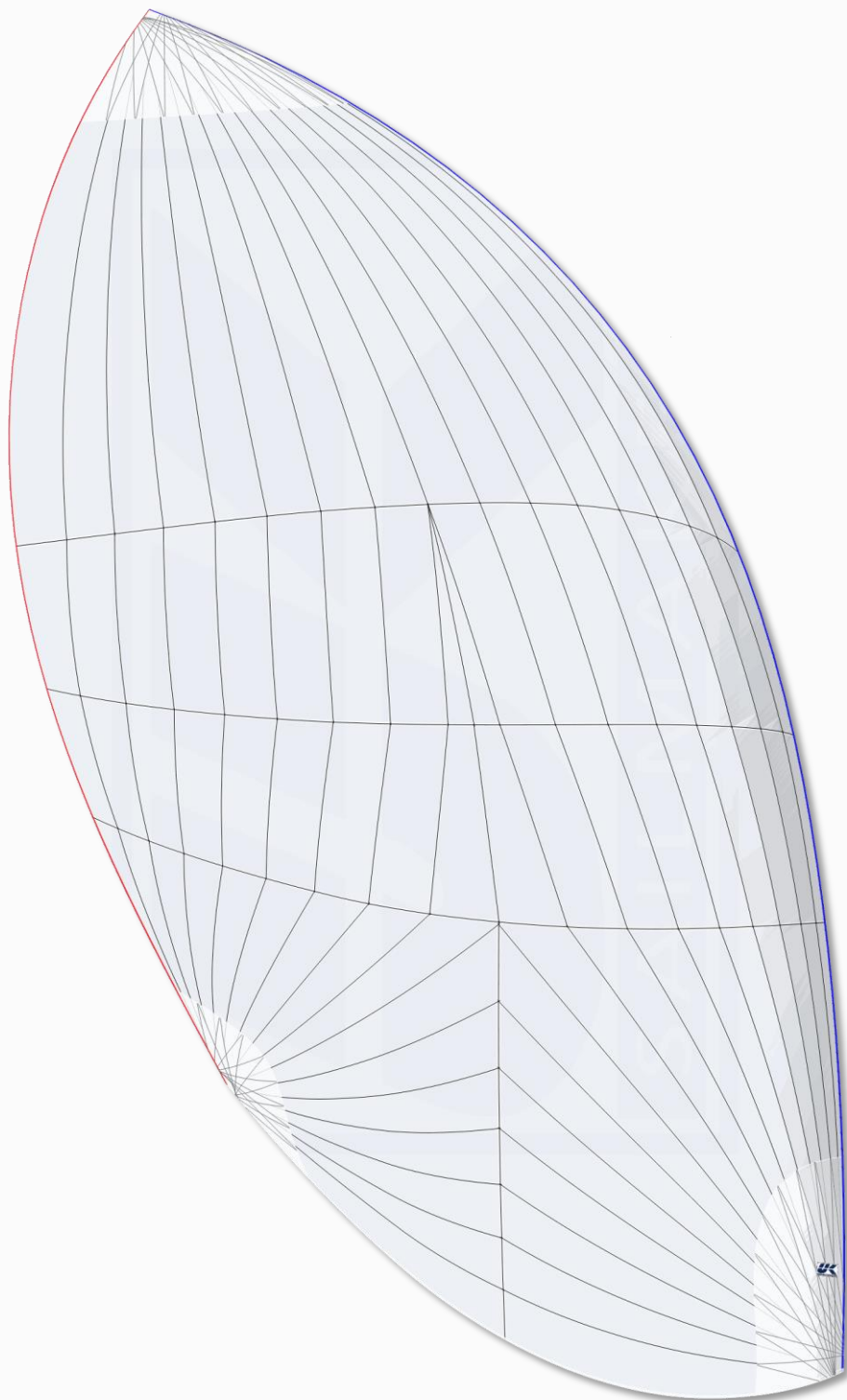
AREA: 107.5 m² **I:** 14.17 m
J: 4.05 m **STL:** 5.37 m

SPECIFICATION

Cloth	SK75
Luff Rope	Dyneema
Spin Stop Velcros	Included
Rope Catcher	Included
Tack Batten	Included
ISAF Certification	Included
IRC Measurement	Included

DETAILING

Tell Tails	Included
Country Code	Included
Sail Number	Included
Sail Bag	Pro-Race Launcher





A3 MEDIUM REACHER

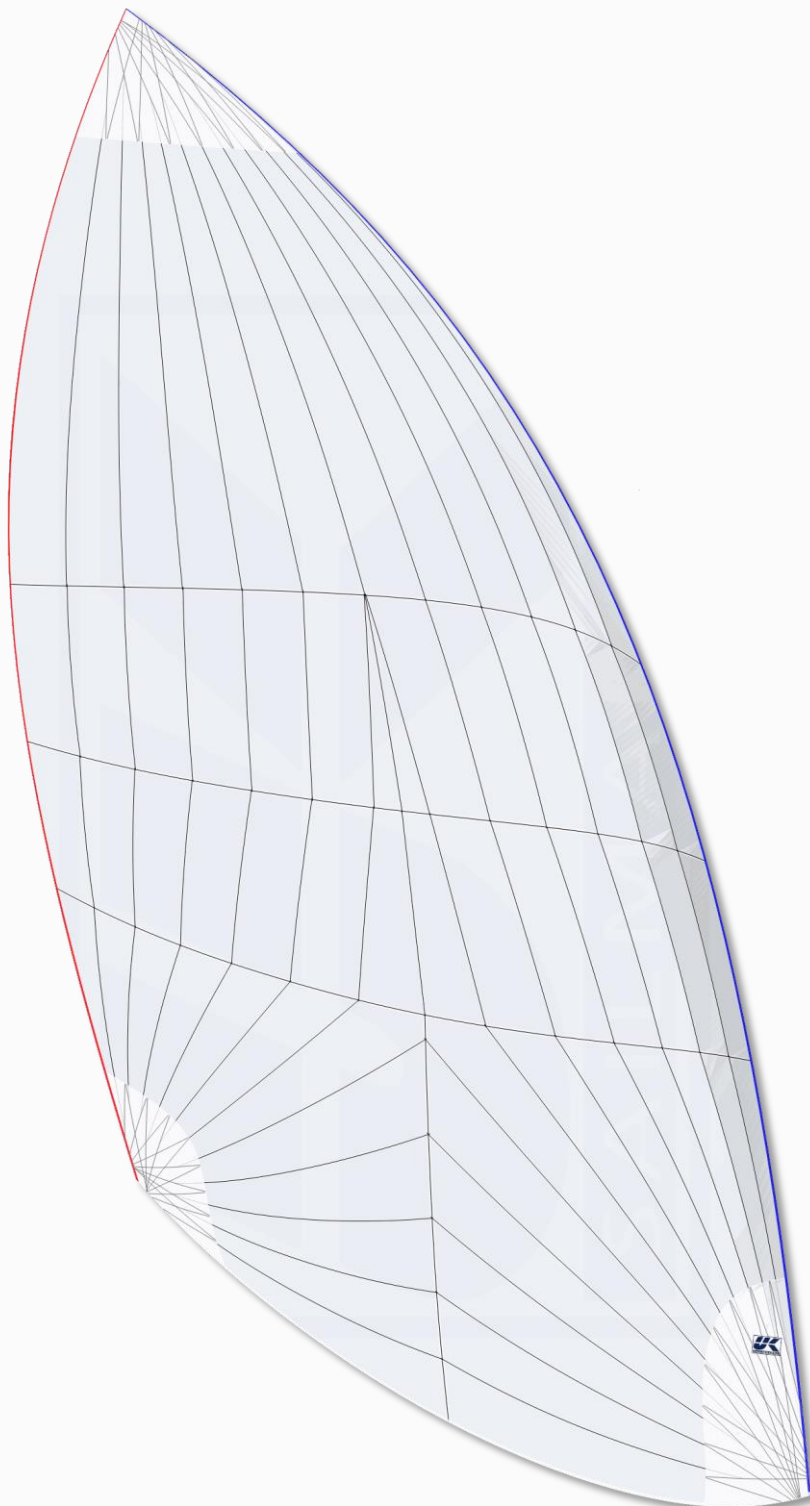
AREA: 103 m² I: 14.17 m
J: 4.05 m STL: 5.37 m

SPECIFICATION

Cloth	SK90
Luff Rope	Dyneema
Spin Stop Velcros	Included
Rope Catcher	Included
Tack Batten	Included
ISAF Certification	Included
IRC Measurement	Included

DETAILING

Tell Tails	Included
Country Code	Included
Sail Number	Included
Sail Bag	Pro-Race Launcher





A4 HEAVY RUNNER

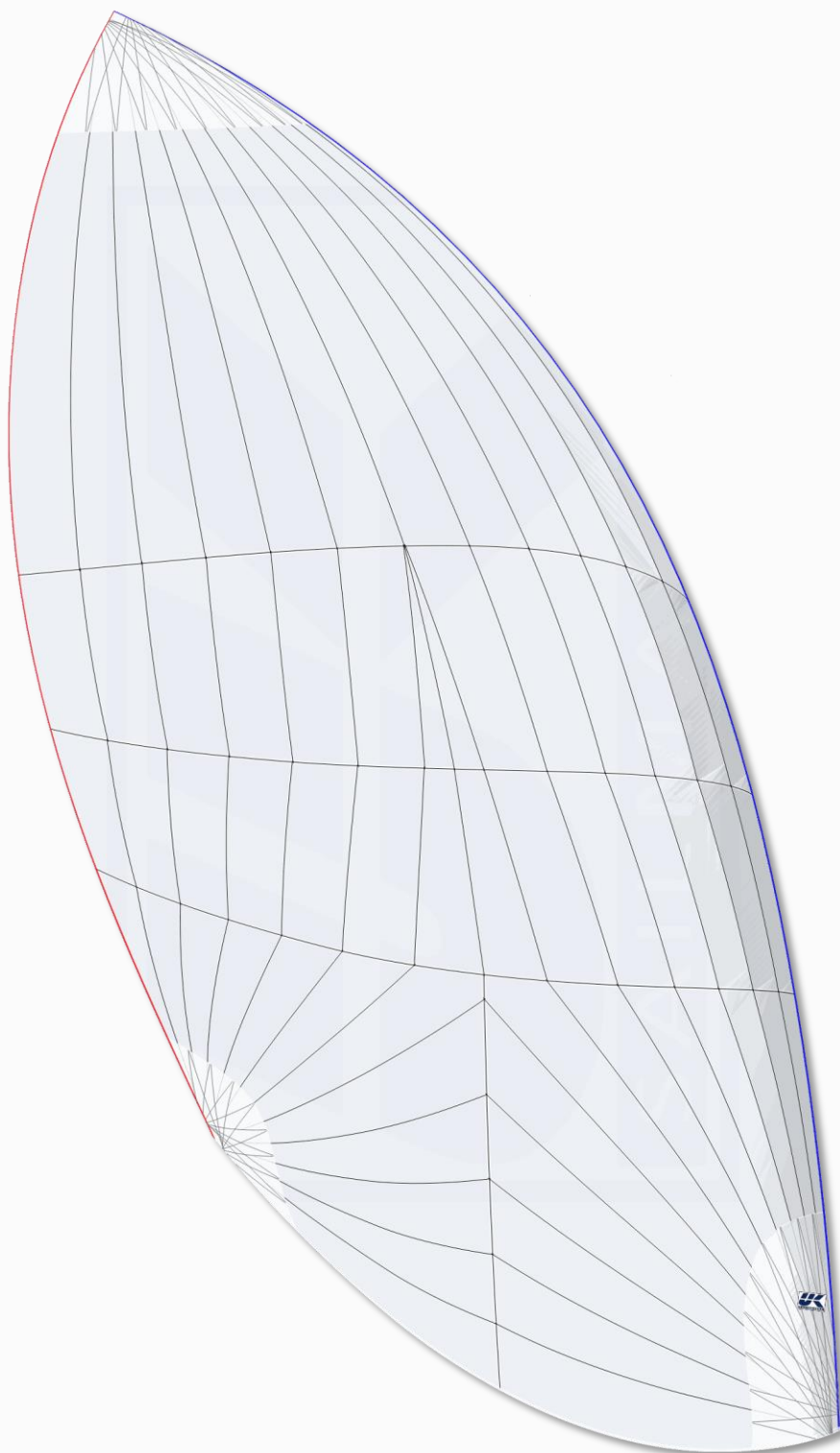
AREA: 107.5 m² **I:** 14.17 m
J: 4.05 m **STL:** 5.37 m

SPECIFICATION

Cloth	SK90
Luff Rope	Dyneema
Spin Stop Velcros	Included
Rope Catcher	Included
Tack Batten	Included
ISAF Certification	Included
IRC Measurement	Included

DETAILING

Tell Tails	Included
Country Code	Included
Sail Number	Included
Sail Bag	Pro-Race Launcher





CODE ZERO

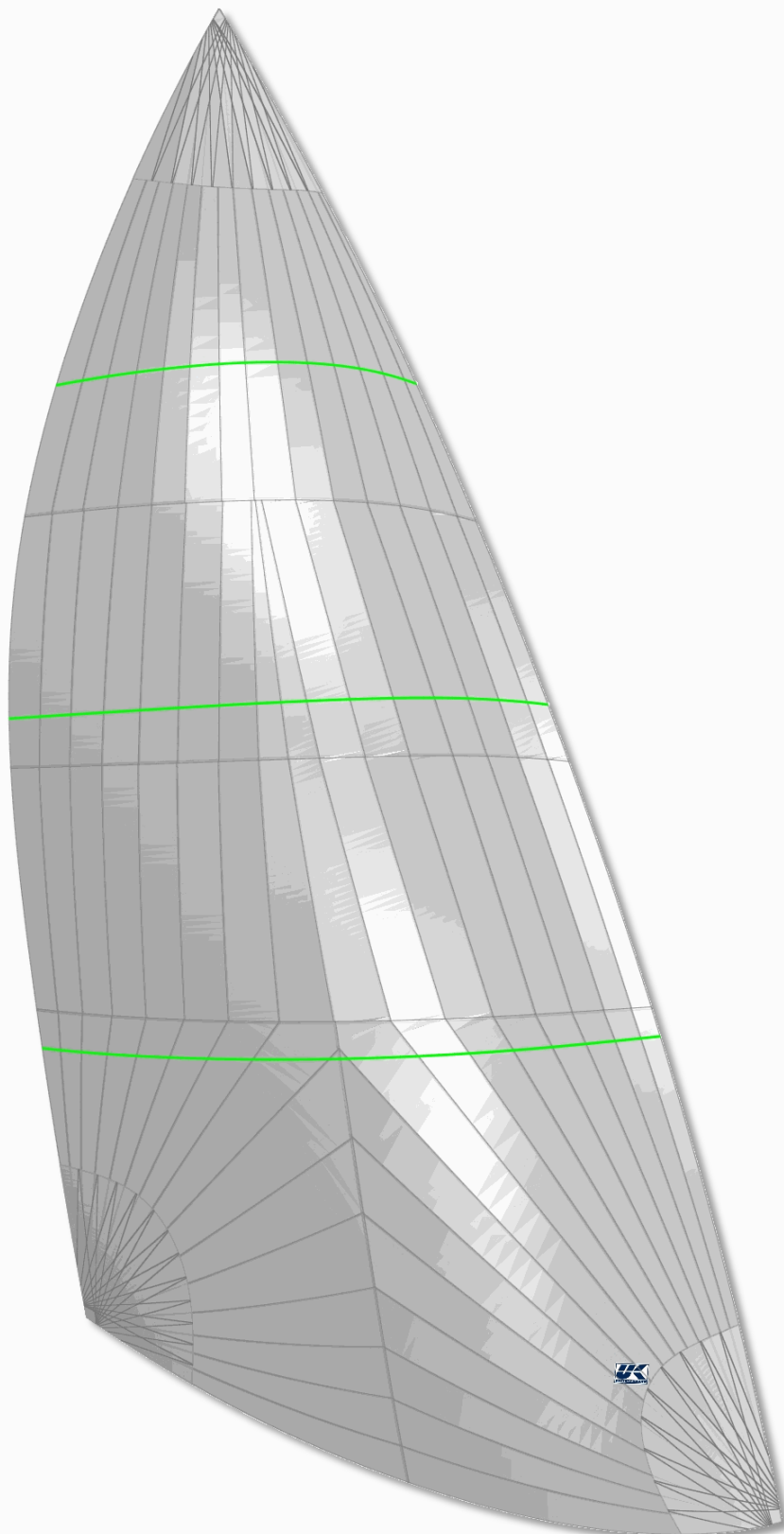
AREA: 70.00 m² I: 14.17 m
J: 4.05 m

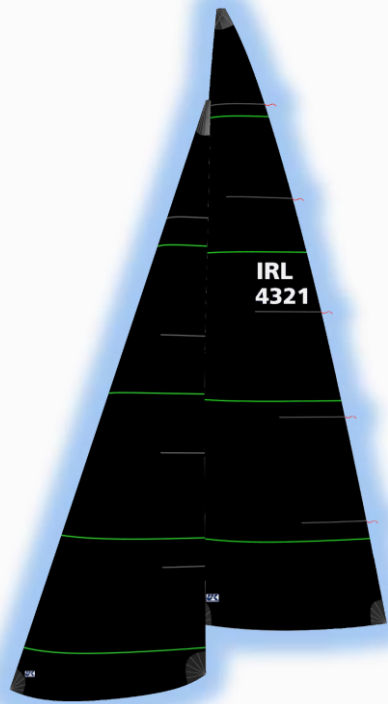
SPECIFICATION

Furler	Ubi Maior FR125RWm
Cloth	CZ30/15
Webbing Clew	Included
Rope Catcher	Standard
ISAF Certification	Included
IRC Measurement	Included

DETAILING

Tell Tails	Included
Country Code	Included
Sail Number	Included
Draft Stripes	3
Sail Bag	Code Zero Launcher





RACE
TITANIUM

STABILITY

★★★★★

PERFORMANCE

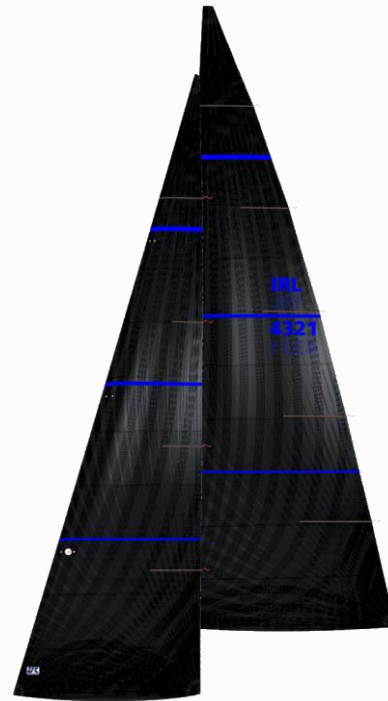
★★★★★

LONGEVITY

★★★

VALUE : PERFORMANCE

★★★★★



REGATTA
X-DRIVE CARBON

STABILITY

★★★★

PERFORMANCE

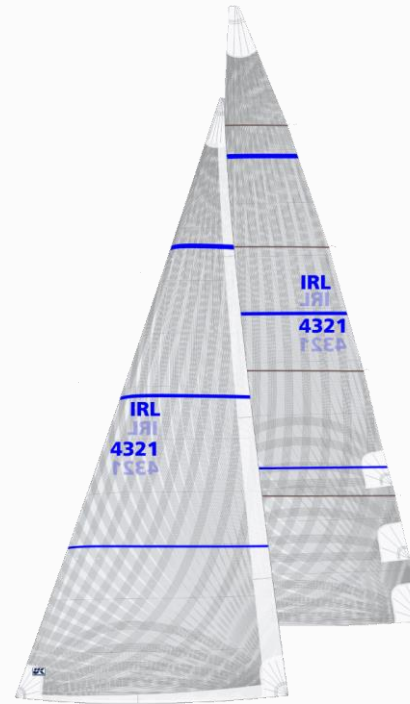
★★★★

LONGEVITY

★★★

VALUE : PERFORMANCE

★★★★



PERFORMANCE CRUISE
X-DRIVE ENDURE

STABILITY

★★★

PERFORMANCE

★★★

LONGEVITY

★★★★

VALUE : PERFORMANCE

★★★★



CRUISE
PREMIUM DACRON

STABILITY

★★

PERFORMANCE

★★

LONGEVITY

★★★★

VALUE : PERFORMANCE

★★