

INCIDENCE
SAILS

DFi®,
Filament Membrane
Excellence

PERFORMANCE TAILORED
TO YOUR REQUIREMENTS

www.incidence-sails.com
High-tech, custom-crafted



Integrated **expertise.**

Based in La Rochelle, Incidence Technologies and Incidence Sails operate on a single, **unified site**. Two adjacent buildings ensure seamless **production flow** and optimized logistics with a **low carbon footprint**.

With an **in-house design office**, the sail loft manages each project with precision, from initial concept through to final implementation. This organization ensures full production **autonomy** and **complete sail traceability**.







Across more than 1,500 sqm of workshop space, Incidence Technologies relies on modern, high-performance production tools, fully mastered by its teams, in support of consistently high quality standards.



DFi®,
Filament Membrane Excellence

Today, DFi® stands as the benchmark for the most demanding projects—where **performance** must endure and reliability leaves no room for compromise.

The result of over a decade of dedicated research and development, DFi® technology is now recognized as one of the most advanced solutions on the market. Incidence Sails is one of only two sailmakers worldwide to design and manufacture its own filament membrane in-house.

A rare level of **industrial control** that ensures **performance**, drives **innovation**, and guarantees true technological independence.

Engineered for the most ambitious sailing programs—IMOCA, Ultim, Multi 50, superyachts, and bluewater cruising—DFi® sails deliver a **unique balance** of:

- Outstanding shape retention
- Lightweight
- Proven durability in the world's most demanding offshore races
- High-level performance

MADE IN FRANCE

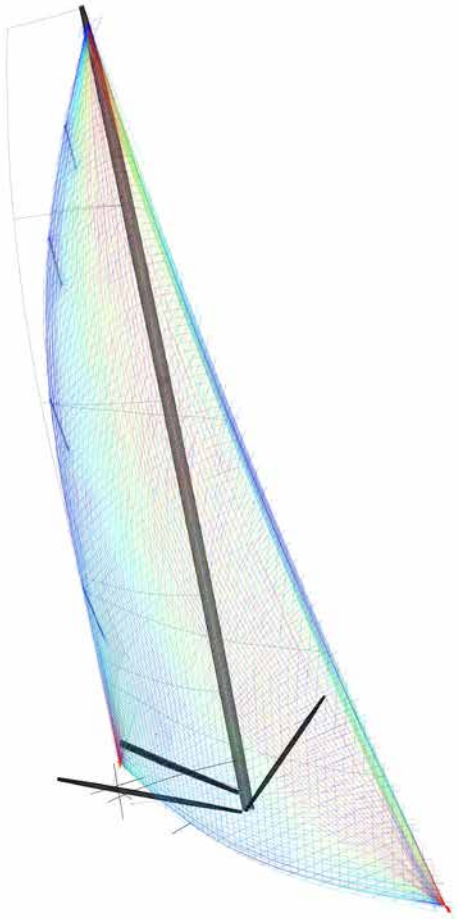
A process
like no other.

DFi® is a membrane built exclusively from **pre-impregnated filament tapes**, using Aramid, Dyneema® or Carbon fibers depending on the application.



With fiber spreads ranging from 4 to 15 g/m², the result is an exceptionally lightweight structure, allowing multiple layers to be combined without increasing overall sail weight.





Each sail,
a one-off design.

The DFi® membrane structure is meticulously developed by our in-house design office. Using **advanced simulation tools**, we precisely model the loads experienced by the sail under real sailing conditions. This enables us to finely engineer the structure and determine the optimal placement of every filament tape.

These calculations also allow us to anticipate the sail's flying shape, ensuring **precise profile control** and delivering **maximum aerodynamic performance.**



High-Performance **Composite Material.**

Filaments are laid with extreme precision using advanced robotic systems, ensuring consistency and exceptional execution quality. Each tape is applied with perfectly controlled orientation, delivering a fully tailored structure while maintaining uniform quality across production.

The absence of film results in significant weight savings, eliminates premature ageing, and removes the risk of delamination.

A Fully Controlled, **Exclusive Process.**

All membranes are laminated under **7** bars of pressure.

This exclusive process—mastered solely by Incidence —achieves a level of composite **quality** far beyond what **can be obtained through standard vacuum lamination**.

The **result**: a thinner membrane, a more reliable and durable material, with significantly enhanced mechanical properties and the ability to maintain its optimal shape in all conditions.

High pressure ensures optimal compaction, perfect bonding between layers, and the elimination of residual microbubbles—while fully preserving fiber integrity.

Precision
in Every Detail

Each sail comes to life in our workshops, where membranes are assembled by hand to the highest standards.

From panel assembly to final finishing, every step matters: accuracy of layout, precision stitching, and meticulous craftsmanship.



Our strength lies in complete in-house control of every stage—from R&D through to final finishing. This "home-built" expertise, driven by our specialists, ensures perfect consistency between design and execution.

At every stage, rigorous **quality control** supports the manufacturing process, guaranteeing sails that meet the demands of the most committed sailing programs.

Performance
from the First Hoist



Once assembled, the sail is ready to perform. Our teams provide full support from **start to finish**—from initial advice to first trims, including installation and sea trials. As with production, this support is fully tailored and expertly managed.

Support, like manufacturing, is entirely **bespoke** and **fully controlled**.

Strong Luff Technology

Integrated Reinforced Luff System

trong Luff is an integrated technology developed for DFi® headsails.

It introduces an innovative approach to traditional furling systems. Continuous filaments run along the entire luff—from tack to head—allowing the sail itself to absorb loads typically handled by structural cables.

This technology delivers several key benefits:

- **Reduced forestay sag,** improving aerodynamic stability and overall sail performance
- Enhanced **reliability**
- **Elimination** of conventional cable **weight**
- **Increased cunningham efficiency** (on applicable sails), extending the sail's operating range

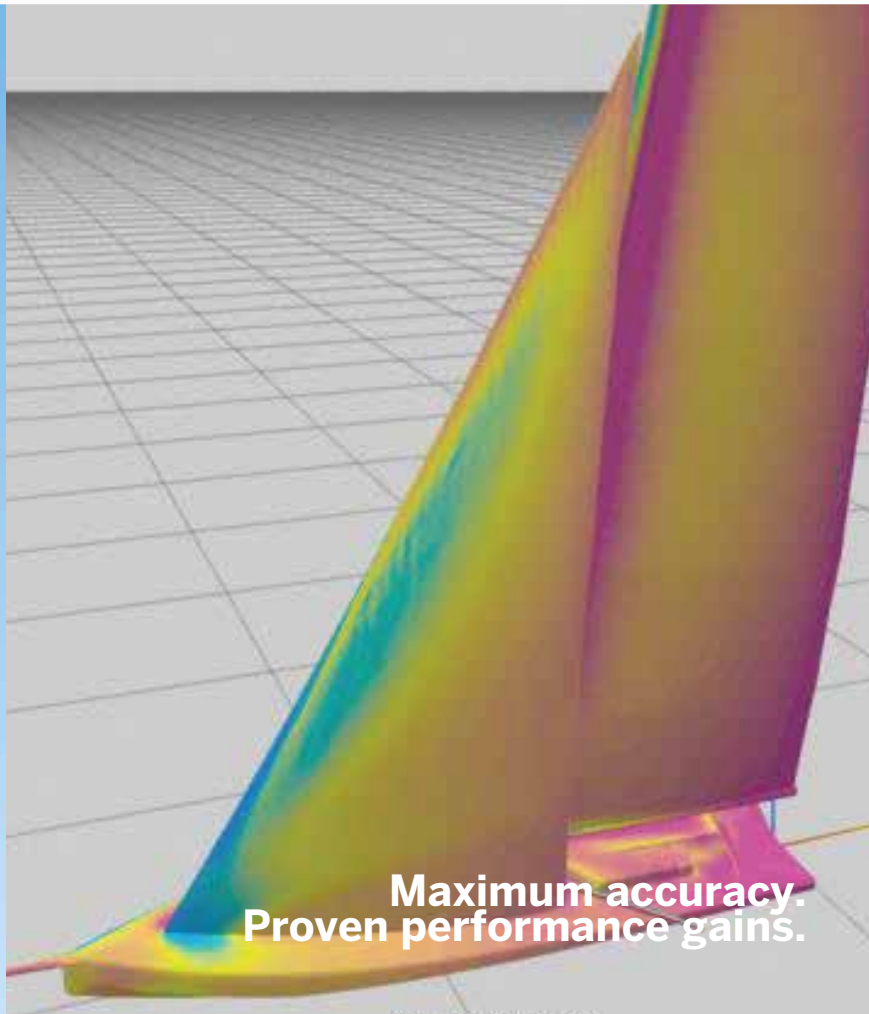
Strong Luff technology is compatible with all sail types, whether designed for upwind or downwind sailing, with structures specifically engineered for each application to maximize performance.

Numerical Analysis

Fluid-Structure Interaction (FSI)

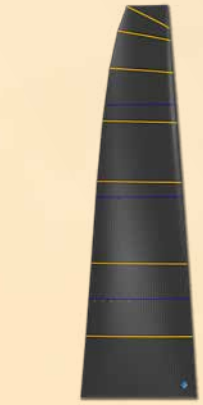
Incidence Sails performs advanced **FSI numerical simulations** (panel methods and RANS) to optimize sail shapes, rig loads, and aerodynamic matrices.

These tools provide offshore racing teams and naval architects with the data required to design **high-performance** sails from the outset, refine VPPs, and determine the fastest routing strategies.



Maximum accuracy.
Proven performance gains.

DFi® range,
a solution for every program



HORN MAINSAIL



MAINSAIL



FURLING GENOA



CODE 0



GENNAKER

	Fibers*	Application	Sails type	
DFi® Race	Aramide / Dyneema® Carbone Option	Regattas, IRC events	Flat sails	Lightness Shape hold Durability Colors
DFi® Offshore	Aramide / Dyneema® Carbone Option	Offshore racing Cruises and travels	Flat sails	Lightness Shape hold Durability Colors
DFi® Explore*	Aramide / Dyneema®	Cruises and travels Offshore racing	Flat sails	Lightness Shape hold Durability Colors
DFi® Aero	Aramide / Dyneema® Carbone Option	Regattas, offshore racing, Cruises, travels	Downwind sails	Colors

Dyneema® : UHMWPE (Ultra High Molecular Weight Polyethylene)

*he DFi® Explore features an outer protective layer of non-woven fabric, weighing 40 g/m² per side. It provides a smoother surface finish and enhanced protection against snagging..

Proven
by results

Our technologies are trusted by leading skippers and consistently deliver top-level performance in the most demanding races—without compromise on reliability.

Vendée Globe 2024–2025: 2nd, 3rd and 5th places
CIC Normandy Channel Race: 8 boats in the top 10
Rolex Fastnet Race: Overall IRC winner + victories in IRC 1, 2, 3, 4 and IRC Double
The Ocean Race: victory by Biotherm (skipper Paul Meilhat)
La Solitaire du Figaro: 1st place, Groupe Réel (skipper Alexis Loison)
TF35 Trophy: 2024 & 2025 season winners (Sails of Change)
Transat Café L'Or: 1st and 2nd in Class40
Globe40: 1st and 2nd places
24h distance record in Class40 by Belgium Ocean Racing (skipper Jonas Gerckens)
24h distance record in IMOCA by Groupe Dubreuil (skipper Sébastien Simon)
Westbound round-the-world record by Guirec Soudée (Ultim MACSF)
Equipment supplied for the VELA commercial sailing trimaran

Performance Proven in Real Conditions

At Incidence Sails, performance is not a promise.
It is demonstrated.

Reliability.
Precision.
Performance.

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