

Yachting

High-performance adhesive ANTIFOULING film

Recommended for:
all types of boat



Easy
Clean

High
Quality
Product
★★★

Patent
Pending

Eco
friendly

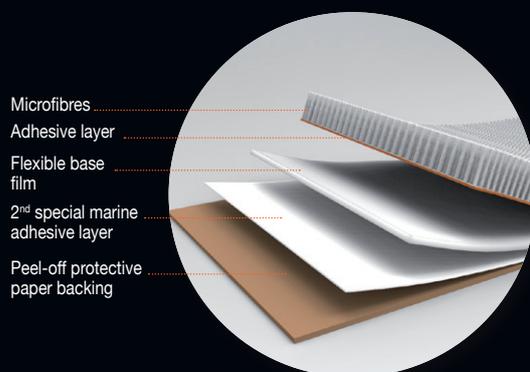
The first, entirely biocide free, adhesive **Antifouling** film

Fouling is a major problem for the performance and maintenance of boats. The rapid accretion of the first biofilm layer (approximately 1 mm) already results in a 20% increase in drag, rising to 60% if molluscs are present.

Uniflow engineers decided to change the rules in dealing with fouling. Paints are very harmful for the oceans and for man, and they are becoming less effective.

The two major innovations (international patent) are

the substitution of a high-performance adhesive film for the paint and replacement of the chemical effects of biocides with the mechanical effects of the continuous movement of synthetic fibres, preventing algae and mollusks from establishing themselves long-term on the hull. Molluscs, the largest contributing factor in drag, no longer have a flat surface on which to attach themselves. Algae cannot establish themselves permanently due to the constant movement of the spiny fibres.



Uniflow Foulting is a high-performance, water-tight, multiple-layer, self-adhesive film with thousands of microfibres covering its outside surface which move with the movement of the boat or of the water.

These flexible fibres act both as spines preventing marine organisms from attaching to the hull (no foothold) and continuous and natural vibrating bodies to which marine flora and fauna are not attracted.

Uniflow Foulting is the result of several years of research by expert engineers and specialists in antifouling. Their thinking has been based on observation of nature and of the biological system and how they can be applied to man-made materials. It is what is known as "biomimetism".



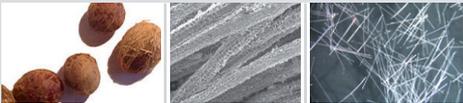
Pioneer of the Vendée Globe round-the-world yacht race
 Single-handed Skipper of the famous "Vendredi 13" (117-foot, three-masted schooner)
 Involved in the protection of the oceans since 2009

"The ecological solution to antifouling"

"Although they now have fewer biocides, modern antifouling paints are still damaging to the environment. With FLOW Fouling, Uniflow offers an ecological solution reflecting a biomimetic approach. It is a self-adhesive film of spikey microfibres which move with the action of the water under the keel.

I have been testing this innovation for two years below the waterline of the "Sea Shepherd Ambassador ship Columbus". Confirmation: Marine organisms show no tendency to establish themselves on this strange surface "which pricks their foot"! A high-pressure water jet when the ship is in dry dock is sufficient to easily remove the algae which tend to proliferate when the ship is at anchor in cold waters.

Once applied by professionals, the self-adhesive FLOW Fouling film is resistant to everything for many years.
 Conclusion: Major savings at the cost of an infinitesimal loss of speed".



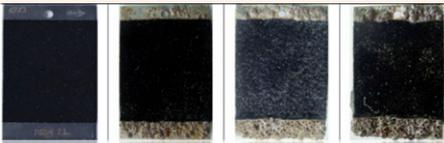
BIOMIMETISM
 is inspired by nature

Researchers examined those phenomena that made it possible for certain natural bodies (palm trees seeds and the Sari Palm) to float on water for long periods of time without fouling.

The secret of this natural antifouling coating: the presence of floating microscopic fibres which inspired Uniflow to perfect its **FLOW Fouling**.

FLOW Fouling

Poseidon Sciences tests – Tuticorin, India



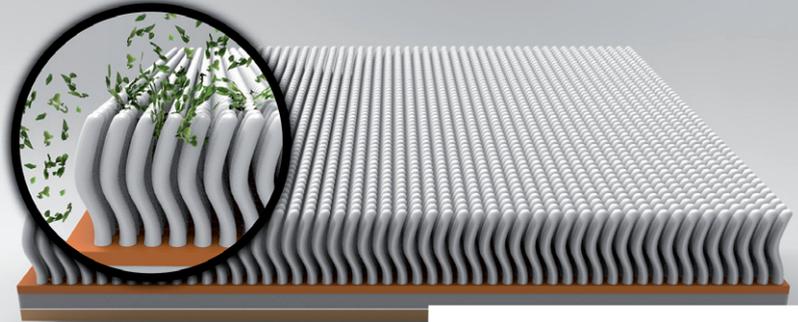
Application Month 0 6 months 12 months 18 months

The most stringent tests were conducted in the Gulf of Mannar in India. **FLOW Fouling** was tested in static and dynamic phases, in a very rich marine environment which included mollusks, mussels, sea anemones, sponges, etc.



FLOW

Fouling



Enlarged view of the moving fibres – a hostile surface for gaining a permanent foothold.

The aim is to create a hostile surface that makes it difficult for organisms to find a foothold and grow. The speed and use of boats help the hull to clean itself since the micro-organisms find it difficult to establish themselves permanently.

Advantages



A single application for years of sailing

The most cost-effective product for dealing with antifouling (acknowledged to be effective for several years - three seasons or more) making it possible to reduce boat maintenance costs significantly. Any annual maintenance that may be required is limited to a simple high-pressure hosing down.



The adhesive replaces paint

The adhesive films of today offer outstanding resistance and exceptional adhesive properties. For several seasons, the film will not only ensure that the fibres continue to be active but will also protect the hull. In addition, it poses no dangers to the health of those applying the film nor to careeners.



Just one product for all seas

FLOW Fouling is suitable for all environments of any kind and whatever the water quality (seas, lakes, rivers, etc.), particularly warmer waters. It also gives good results in still waters (ports) and simple brushing is all the maintenance required.



Prevents osmosis, the film **FLOW Fouling** is water tight and air tight. It acts as a barrier between the various elements which could trigger or increase osmosis.

Protects boat hulls, the film applied is a high-resistance polymer that is sufficiently elastic to reduce the effect of frequent impacts at sea. The upper layer of fibres (1 000 microns) adds to the protection and serves as flexible protective layer around the boat.

Very long lasting: the fibre, which is specifically designed for maritime usage, had its origins in the automobile industry, renowned for the durability of its applications with life spans of ten years or more.

A product not subject to international environmental legislation. With no biocides nor agents harmful to the planet.

Official dealer / Applicator UNIFLOW

