DYNICE WARPS Revolution in trawling

Patent pending



High-Tech Warps replace steel warps



DYNICE[®] **WARPS** *Revolution in trawling*

Meet the World's Strongest Rope

Dynlce Warps are a revolution in trawling. They are a proven way in pelagic fisheries to reduce weight, increase trawl opening, improve handling and decrease oil consumption during trawling. Dynice Warps are the most advanced rope used in fisheries today, incorporating the newest synthetic high-performance fibres available and patent pending manufacturing technology and designs.

Unique Design

Dynice Warps enhance trawl control, saves oil and last many times longer than steel warps.

A set of DynIce Warps in a 40mm diameter weigh only 4000kg, compared to the 29 tonnes a set of comparable steel warps weigh.

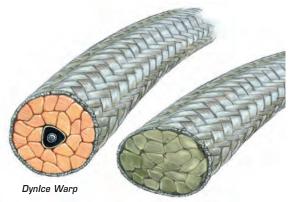
The Dynlce Warps are made with a thread of lead inside a plastic core, which is heat sealed. When heated it is forced outwards and bonds with the Dynlce Warp it-self. To protect from abrasion the Dynlce Warps are overbraided with a thick and durable cover of Dyneema*.

Unique Production

Dynlce Warps differ from all other high-tech ropes in their design and construction. The design is innovative and patent pending. The equipment used in some of the production steps for Dynlce Warp is specially constructed. The result is a high strength rope with extremely low elongation and high crosssectional stability – much like a wire but many times lighter.

The drawing to the right shows the cross-sectional stability of Dynlce Warp compared to con-ventional overbraided rope. Dynice Warps are heatset and stretched with a specially moulded core making it very compact and stiff so the circular form is well preserved, even on a drum under heavy load.

Regular overbraided rope is softer and has higher elongation, and when wound on a winch drum it will flatten out and the cross-sectional shape will become elliptical, resulting in the cover and the main rope behaving differently, i.e. not working together properly.



Regular overbraided Dyneema rope



DYNICE® WARPS Advantages:

Advantages over steel warps are manifold and crucial:

More catch

Full trawl spread is achieved sooner as the doors do not have to square out the weight of the wire.

Easier trawling at the surface as the sinking effect of wire is absent.

Longer warps in shallow water.

Warp length close to the surface or when pelagic trawling can be longer, minimising effects on sensitive species such as herring and mackerel.

Trawl tendency to collapse during turning is avoided.

Fast reaction to changed towing direction.

It is faster and easier to pull the trawl up to avoid rough bottom or to catch schools seen higher in the water.

Higher towing speed.

Stern load is less giving better seakeeping qualities and speed.

Oil savings

Less energy is needed to tow light weight DynIce warps.

Same spread can be achieved with smaller doors or less angle of doors.

Less weight keeps the trawler higher in the water and towing and steaming resistance is less.

Increased safety

Backlash is greatly reduced compared to wire.

No steel threads sticking out from the DynIce warps.

Less maintenance

Less abrasion on blocks.

Less abrasion on wire guiders.

Less scratching of inner winch drum flanges. No lubrication of warp needed.

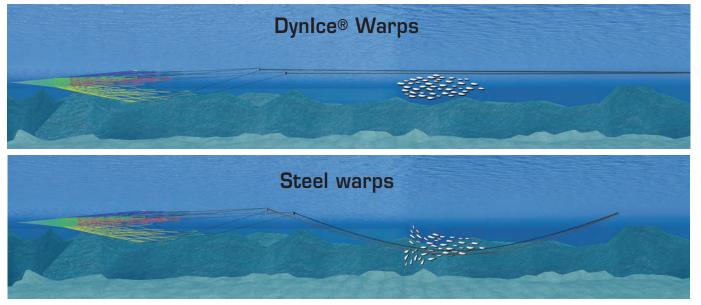
DynIce Warps are spliceable and easy to handle.

More longevity

Last many times longer than steel warps.

Will not rust or degrade.





-Experience is the best Teacher!

"Easy to keep the trawl high in the water"



"It was easy to keep the trawl high in the water to fish on herring marks that were only 10 metres from the surface at night. We were able to shoot more Dynice Warps than usual with a considerably better trawl spread. There were no problems in fishing Herring at greater depths during daylight hours. I believe that it is possible to reduce door size by as much as 20% with this approach.'

Skipper Gudmundur Huginn Gudmundsson of pelagic trawler Huginn VE.

"I have seen how well this material lasts"



Skipper Birgir Thor Sverrisson of demersialtrawler Vestmannaey VE.

"I have seen how well this material lasts - it's unbelievable how long it can be used for sweeplines.

Dynice Warps have been designed specifically for this role and I don't expect anything less than it lasting at least twice as long as steel warps. Dynice Warps should last longer as there is nothing in it that is going to rust or degrade."

"We save at least 10% fuel using Dynlce Warps. We are able to use 350 fathoms of warps instead of 200 fathoms when fishing around 50 fathoms (most common fishing depth for Alaska Pollack), with 10 fathoms more trawl opening. Trawl shape is more consistent while turning, fishing around

currents and when the bag fills up."

"Trawl shape is more consistent while turning"



Skipper Charles Bronson (Jack) of catcher boat "Great Pacific" in Alaska.

"Dynlce Warps don't spook the fish"



Bogi Jacobsen and Andri Hansen, skippers of pelagic trawler Finnur Fridi.

"Dynice Warps lie direct from the stern down to the doors and we find that this means the fish aren't frightened away before the doors and the trawl reach them. This can happen with steel warps, as they lie in a curve down from the stern of the ship to the doors,



GREAT PACIFIC

"Dynlce Warps are lighter to tow"



Gudlaugur Jónsson, skipper of Ingunn AK.



Hampidjan is certified ISO 9001:2000, ISO14001, OHSAS1801. by DNV

and we're certain that this is the reason we are seeing improved results with the marks finding their way into the trawl better than they did before."

www.hampidian.com

"It has been shown convincingly that DynIce Warps are lighter to tow than steel warps. Our comparisons show a 7.5% reduction in consumption, which translates into a 360,000 litre saving over the 300 days we spend at sea every year. Fitting out with Dynlce Warps last year has been very worthwhile."

HAMPIÐJAN GROUP



Dvneema