

DYNICE

OPTICAL DATA

AT THE
SPEED
OF
LIGHT

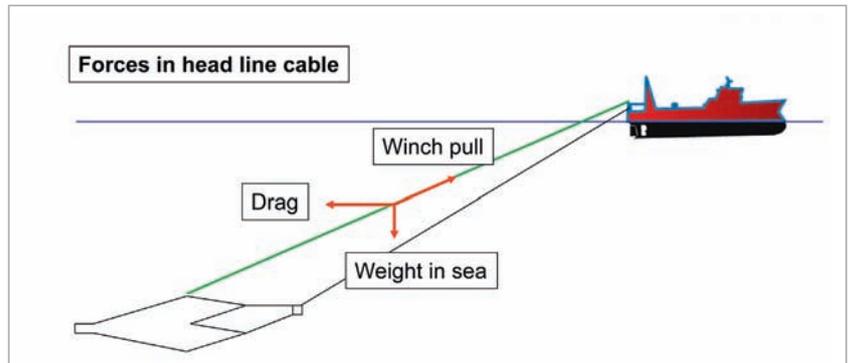
HAMPIDJAN
— a worldwide network

DYNICE OPTICAL DATA

Behaviour of headline cable during towing

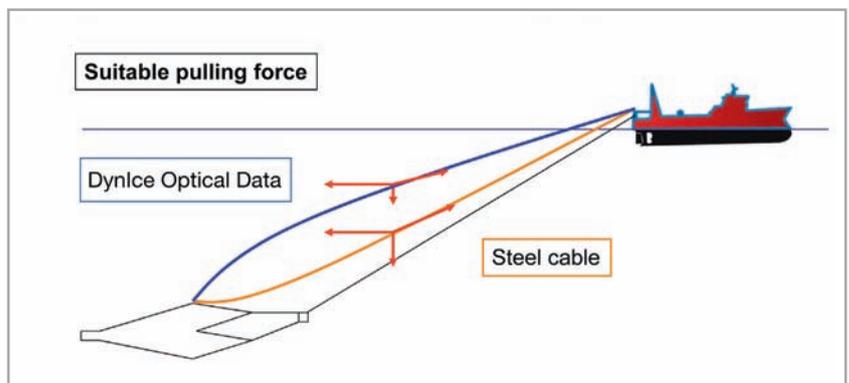
There are three main forces acting on the head line cable.

One is the sinking weight of the cable in sea, another is the drag of the cable itself and the third is the pulling force on the headline sonar which is fixed to the trawl.



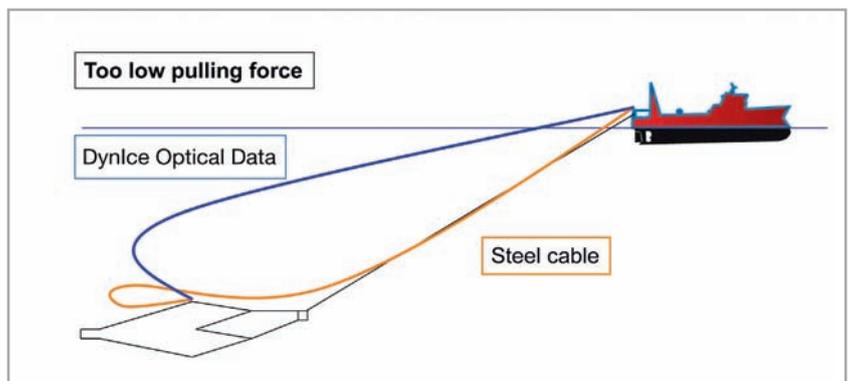
When the pulling force is suitably adjusted the headline cable is taut and if steel wire is used it will slope bit down due to the weight.

DynIce Optical Data will have similar slope but in the opposite and upward direction.

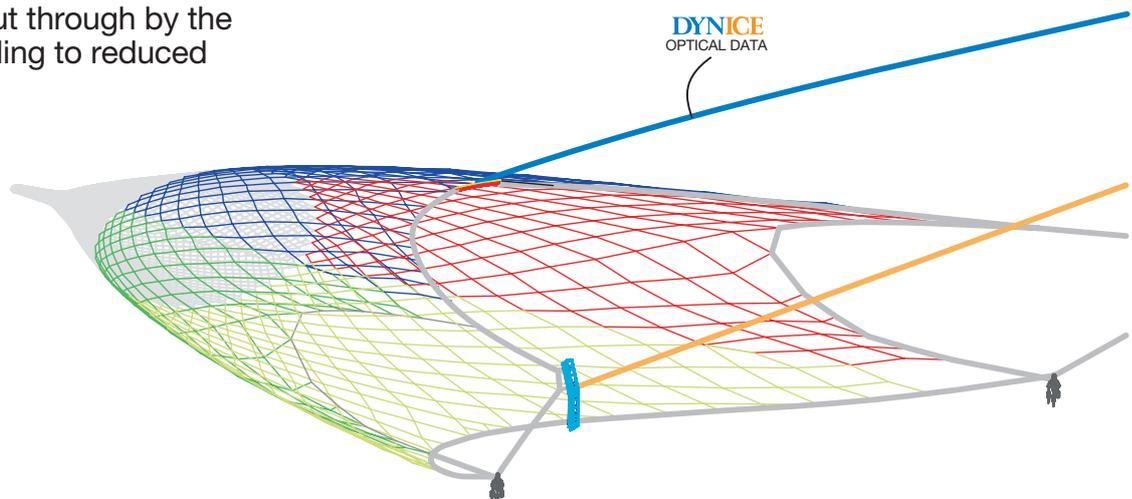


If there is a slack in the headline cable the steel wire falls down, it can touch the warps during turning and even fall into or below the trawl and damage it the warps.

DynIce Optical Data, due to its lightness will be pushed upwards by the drag and stay above the warps and the trawl.



Schools of fish in front of the trawl are therefore not cut through by the headline cable leading to reduced catch.



DYNICE OPTICAL DATA

Data at the speed of light



Unlimited data transfer cable for deep sea operations

Hampidjan has revolutionized data transfer from trawl to vessel by developing DynIce Optical Data, a cable with optical fiber inside capable of transferring high definition videos and all other data at the speed of light.

DynIce Optical Data is made with 3 optical fibers and electrical power cable to connect instruments and equipment's.

DynIce Optical Data opens up endless new possibilities.

Development of new technology and use of current technology that could not be used on trawls today due to data transfer limitations.

It allows data transfer from high-resolution multibeam headline sonars, high definition video cameras, fish identification systems and fish sorting systems all at once.

Each fiber can transfer data in both directions and theoretically up to 10 Gb/s or up to 200.000 times more data than current co-axial technology.

Cinema movie is up to 2 GB and it takes only 1,6 seconds to transfer it through one of the three fibers in the cable.

DynIce Optical Data cable construction is based on the proven technology from DynIce Data adding optical fibers positioned at optimized location and pitch to allow light to travel with minimum losses and at maximum fiber strength.

It's made with Dyneema® strength members and weights only approximately 0,029 kg/m in seawater.

Overall diameter	Breaking strength unspliced	SWL 5:1	Density	Weight of cable in air	Weight of cable in sea
mm	ton	ton	kg/dm ³	kg/m	kg/m
15,5	7,5	1,4	1,31	0,250	0,029

3 x optical fiber	3x10 Gb/s
Copper conductor	2,19 mm ²
Copper screen with >95% coverage	4,17 mm ²
Resistance of conductor	11,0 ohm/km
Resistance of screen	5,7 ohm/km
Max Voltage	400 V
Max Current	1.5 A @ 20°C ambient 1.0 A @ 40°C ambient
Mode	Single mode
Wavelengths	1310–1550 nm

DynIce Optical Data is patent protected by several patent applications.

The development is supported by the Icelandic Technology Development Fund.



DYNICE DATA & OPTICAL DATA vs. STEEL CABLE

Comparison of Properties

Steel cable:	Dynlce Data:	Dynlce Optical Data:
<ul style="list-style-type: none">- corrodes- weight of 2.000 m in air is 880 kg- weight of 2.000 m in sea is 676 kg- density 4,47- can damage trawls and Dynlce Warps- lifetime about 1-2 years- hard to splice if broken	<ul style="list-style-type: none">+ no corrosion+ weight 2.000 m in air is 326 kg+ weight 2.000 m in sea is 76 kg+ density 1,35+ will not harm trawls or Dynlce Warps+ lifetime + 4 years+ spliceable	<ul style="list-style-type: none">+ no corrosion+ weight 2.000 m in air is 500 kg+ weight 2.000 m in sea is 58 kg+ density 1,31+ will not harm trawls or Dynlce Warps+ lifetime + 4 years

