

# DYNICE

## DATA



**HAMPIDJAN**  
– a worldwide network

## 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.

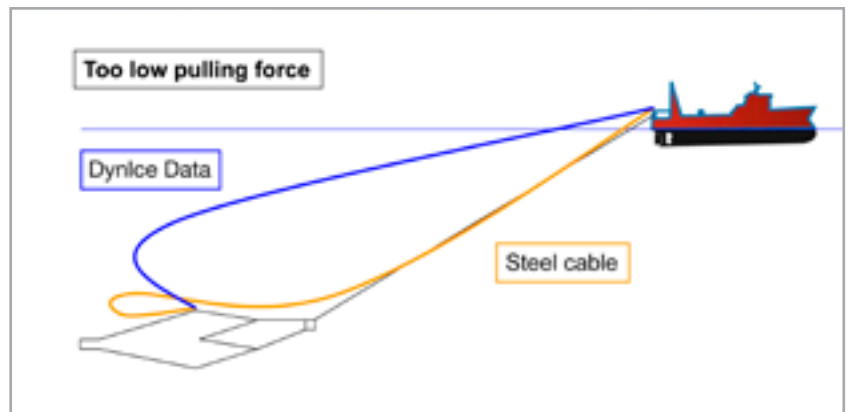
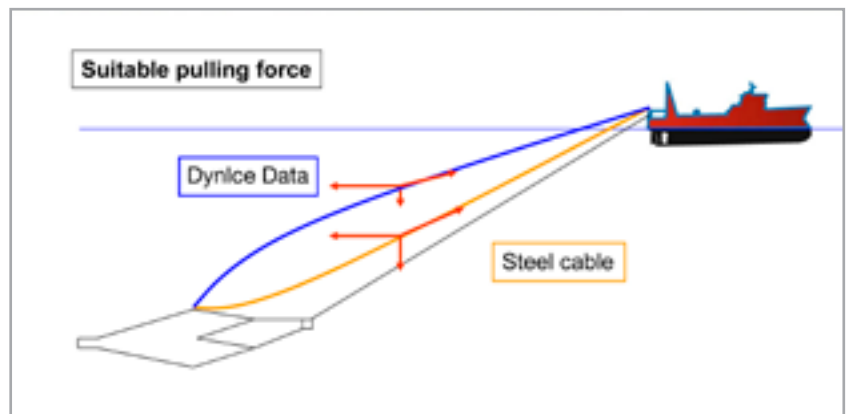
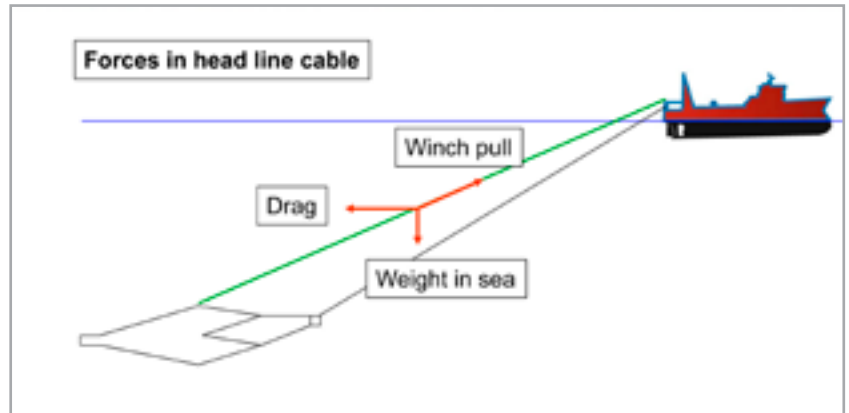
When the pulling force is suitably adjusted the headline cable is taut and if steel wire is used it will slope bit down due to the weight.

Dynlce 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.

Dynlce 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.



Dynlce Data was first taken into use by the Faroese trawler Trondur i Gøta.

The length of the cable on the headline cable winch is 2.700 m.

According to captain Frits Thomsen the picture on the screen is sharp and the quality of the signal excellent.



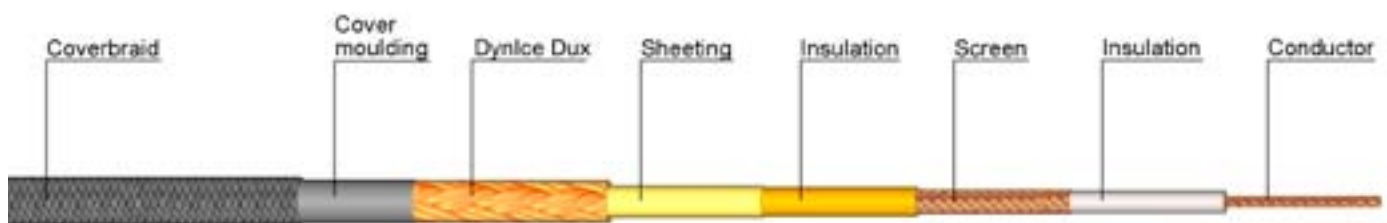
## Lightweight data transfer cable for deep sea operations

A coaxial data transfer cable with central copper conductor and screen enclosed in a Dynlce Dux rope. Specially designed for data transfer from trawl headline sonars where high loads are on the cable while signal is sent or data retrieved.

The cable is also very suitable for deep sea research vessels using drum winches.

The production process is unique and patent pending.

The construction is based on copper centre conductor with dense screen of copper filaments to protect from electromagnetic waves. The data cable can also be used as high strength single phase conductor.



| Dynlce Data      |                             |            |                    |                        |                        |
|------------------|-----------------------------|------------|--------------------|------------------------|------------------------|
| Overall diameter | Breaking strength unspliced | SWL at 5:1 | Density            | Weight of cable in air | Weight of cable in sea |
| mm               | ton                         | ton        | kg/dm <sup>3</sup> | kg/m                   | kg/m                   |
| 12.4             | 7.5                         | 1.4        | 1.35               | 0.163                  | 0.038                  |
| 13.6             | 9.5                         | 1.7        | 1.25               | 0.181                  | 0.030                  |

|                                  |                      |
|----------------------------------|----------------------|
| Copper conductor                 | 2,19 mm <sup>2</sup> |
| Copper screen with >95% coverage | 4,17 mm <sup>2</sup> |
| Resistance of conductor          | 11,0 ohm/km          |
| Resistance of screen             | 5,7 ohm/km           |
| Impedance                        | 41 ohm               |
| Capacitance                      | 151 pF/m             |
| Attenuation at 40 kHz            | 0,023 dB/km          |

The Dynlce Data cable has been in use on the trawler Gudmundur VE 29 .

The length installed is 1.000 meters.

Captain Sturla Einarsson tells that the cable is a brilliant product and during trawling near the surface the Dynlce Data stayed above the surface until few meters in front of the sonar and did therefore not disturb the fish coming in.



# DYNICE DATA vs. STEEL CABLE

## Comparison of Properties

### Steel cable:

- corrodes
- hard to splice if broken
- 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

### Dynlce Data:

- + no corrosion
- + spliceable
- + 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

