

Replacing Steel Wire for Coring and CTD

Dynlce Fiber solutions

- Lightweight, strong & durable



HAMPIÐJAN GROUP

- One of the largest fibre ropes manufacturers in the world
- 51 subsidiaries, 74 service stations on 4 continents
- 2.000 employees worldwide
- Turnover of around € 300 million
- HQ in Iceland, Icelandic owned, established in 1934
- Central manufacturing and stock facility in Lithuania, EU
- Active in many diversified markets worldwide

DYNICE TERRA PRIMA

HAMPIÐJAN

“Relentless Product Development is the Essence of Our Being”

Quality and Innovation

- Innovation is a key part of company culture
- Inhouse laboratory, two engineering centers and a testing facility
- Over 40 patents filed under US and EU law
- Hampidjan is ISO certified by DNV
 - ISO 9001
 - ISO 14001
 - ISO 18001

What we do?

HAMPIÐJAN ADVANT



HAMPIÐJAN

Winch Ropes

- Tested for 21 years in the most extreme conditions
- Trusted by the worlds most dangerous professions





Winch Ropes

- Hampidjan Offshore has been one of the worlds main supplier of winch ropes for more than a decade
 - Fishing
 - Oceanography
 - Offshore
 - Deep Sea Mining
 - Military
- Extensive experience for over 17 years
- World longest rope made, used in deep sea mining



Benefits Over Steel Wire

- Lifetime is about 3 times longer than in existing applications
- 7 times lighter
 - Employee safety
- Faster change time of ropes
- Much higher visco-elasticity, minimizes abrasion on machine parts
- Almost no wear and tear on machinery
 - Hoist drum and point sheave
- Reduced maintenance
- No rust, no greasing needed



Unique Design

What is the difference between us and “them”?

Warp:

- High lateral stiffness
- Steel-like properties
- Strength member protected
- Optimized for spooling

Standard fibre rope:

- Soft, low lateral stiffness
- Strength member not protected
- Not recommended for spooling under tension



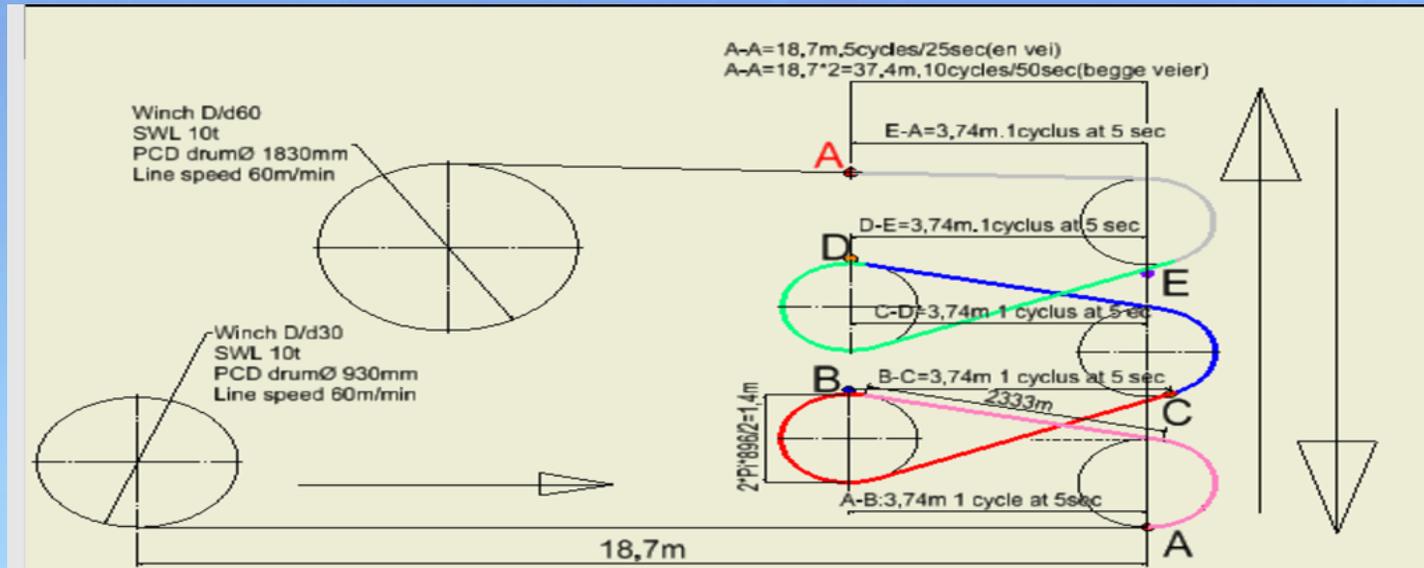
HAMPIDJAN Winch Ropes

- Reverse engineered from steel wire
- Spools, feels and looks like a steel wire on a winch
- Strength member protected at all times from particle ingress from environment
- Best performing fibre rope in multilayer spooling

The Importance of Construction

Extensive testing proves that our construction works

- Protects the all-important fibre
- Increases the lifetime of the rope



Standard HMPE SK78

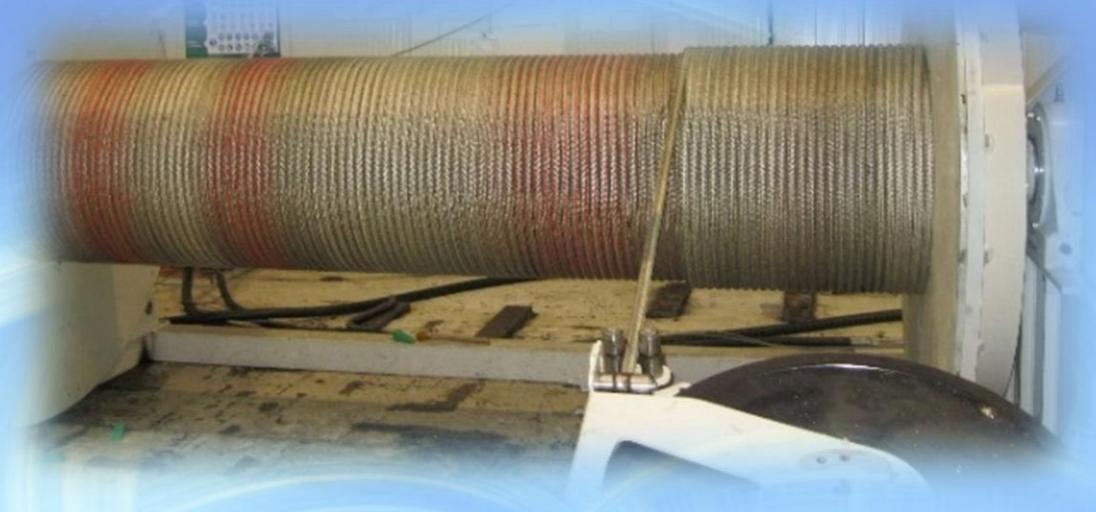


DYNICE Winch Warp



DYNICE Warps

- Around 2.400 kilometers in use worldwide
- By far the most sold fibre rope for winches in the world
- Clausthal University in Germany; rope proven to spool similar to steel wire, closest to any steel wire rope tested
- In use up to 21 layers
- Bending radius similar to steel wire



M/V Kamei

- 24,8mm **DYNICE** Winch Warp
- 16.000mtr EWL
- Rapp Hydema winch system
- Japan Agency for Marine-Earth Science and Technology
- Generic Oceanographic vessel



M/V Meteor IV

- 24,8mm **DYNICE** Winch Warp
- Kongsberg winch system
- 12.000mtr EWL
- German Federal Ministry of Education and Research
- Generic Oceanographic vessel



KONGSBERG



DYNICE TERRA PRIMA

HAMPIÐJAN

M/V REV Ocean – One Healthy Ocean

- Privately owned oceanographic vessel, available for rent!
- REV – Research & Expedition vessel
- 30mm **DYNICE** Winch Warp
- 6.000 mtr EWL



HAMPIÐJAN

Seabed Worker - Swire

- 44mm **DYNICE** Winch Warp
- Rapp Hydema winch system
- Original delivery of 4.000mtr
- 2.000mtr extension added to the rope 4 years later
- Recovery of moon rocket Apollo 6 motors by Jeff Bezos



Other interesting projects

- **Airseas – Seawing**
 - Channeling wind energy
 - Automated Kite System
- **Magellan**
 - Salvage and recovery
 - **DYNICE** winch warp
- **Markey Machinery**
 - Korean Oceanographic vessel
 - **DYNICE** winch warp



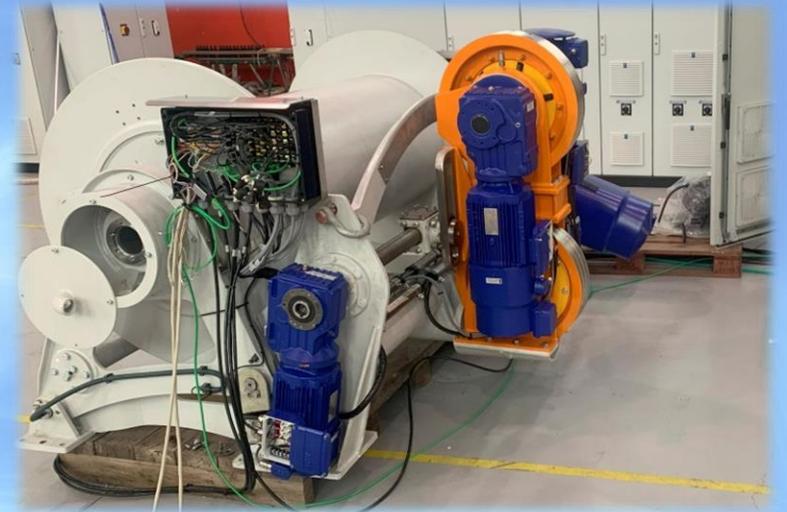
CTD Fibre Cables

- **DYNICE** Data – Decades in the fishing industry
- Coax data transfer
- Max length of 3.000mtr

Dynice Data					
Overall diameter	Breaking strength unspliced	SWL at 5:1	Density	Weight of cable in air	Weight of cable in sea
<i>mm</i>	<i>ton</i>	<i>ton</i>	<i>kg/dm³</i>	<i>kg/m</i>	<i>kg/m</i>
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 ²
Copper screen with >95% coverage					4,17 mm ²
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

CTD - The Future?

- **DYNICE** Optical Data
- Up to 30 Gb/s – 200.000 times more than coax
- Specially designed winch system
- Max length of 3.000 mtr



HAMPIÐJAN

Comprehensive Certification

DNV·GL

DESIGN VERIFICATION REPORT DVR-P261.1H-J-5907 Rev.: 0

Particulars of Design

Manufacturer: UAB Hampidjan Baltic
Location: Siauliai, LITHUANIA
Purchase order no: SAIPEM S.p.A. ref 1083804 / SWRP
Installation: Offset Installation System for Subsea Well Response Project
Project no: PP165295 act 30
NCert no: A0349430

This is to verify that the design of:

Ropes for Offset In:
Quantities: 1 x 150

has been reviewed an

[1] Offshore Standard

DNV·GL

SURVEY REPORT
FOR FIBRE ROPE

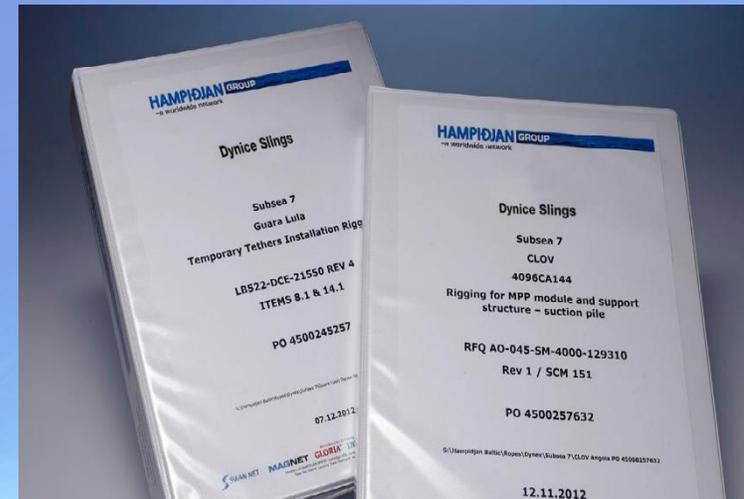
Report No:
N1422V6V

Particulars of Product

Product Name: Dynice Warp
Type designation: 56 mm
Application/context: Sample (spliced at both ends) for testing
Serial/Tag no: coil no. WA520 / Test no.S23045

The product is intended for: Palfinger A-frame project

Requirements are based on: ISO 2307:2010



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Thank you

Questions?

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