

CASE STUDY: ROV ILLUMINATED TETHER, NUCLEAR APPLICATION

As a trusted provider to defence and nuclear energy projects across the globe, Hydro Group has over 35 years of experience in engineering, manufacturing and supplying cutting-edge subsea products.

From its purpose-built engineering headquarters in Aberdeen, Scotland, Hydro Group enhances the productivity and reliability of your business by providing products designed with years of research and development in mind.

PROJECT

All Hydro Group products are designed to exceed customer expectations, with electrical and optical connectors, hull penetrators, cable assemblies and terminations available in the defence and nuclear services range.

When a client in the nuclear industry encountered issues operating their ROVs in murky shallow water conditions, they asked Hydro Cable Systems - a subsidiary of Hydro Group - to engineer a dependable solution to prevent them becoming entangled in their own tethers.

SOLUTION

After a full research, development and testing programme, the company engineered an illuminated LED tether specifically for inspection duties, using electroluminescent (EL) wire from the customer's favoured supplier.

The finished tether bundles electrical power, control elements and high density polyethylene insulation with a filler buoyancy layer for underwater use. Illumination of the 2.3mm wire is achieved when electricity is fed through a strand of phosphor-coated copper.

This wire offers 360-degree illumination and is controlled by a 35W EL Inverter with gradient and flash illumination options. These options can be further customised by controlling the luminance and speed of illumination, allowing visibility settings to be tailored to the customer's requirements.

The cable's four cores benefit from a load-bearing Vectran strength member and are protected by a polyurethane sheath. This allows operators to physically berth the ROV via the cable when operations have ceased, as well as protecting it from water ingress.

BENEFITS

As the tether reused the customer's existing specifications with the addition of LED capability, Hydro Group was able to rapidly engineer and arrange delivery of the illuminated cable.

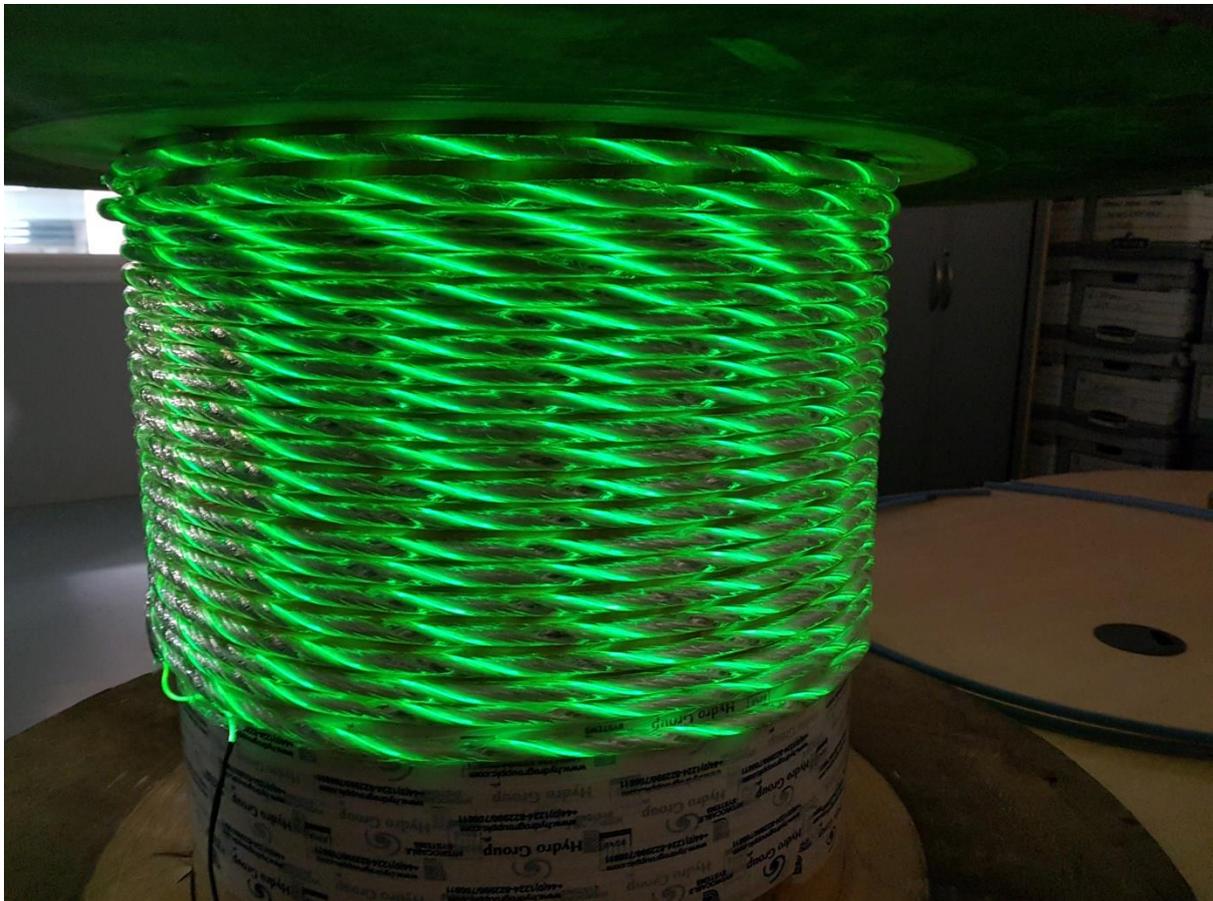
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Team: Sales

The end product is fully-compliant with the client's existing electrical and signal transmission needs, as well as their buoyancy and size requirements. Durability is assured through the use of EL wire, which uses less electricity and is more reliable than string lighting as it has no moving parts.

Hydro Group can create a range of ROV umbilicals and tethers to suit standard and specific requirements. Offerings include neutral, negative or positive buoyancy capability, data, power and signal transmission or multiple elements including fibre optics, Ethernet or coax cables.

Get in touch with us to create your custom tether cable today.



The lightweight illuminated LED ROV tether in action before deployment.

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