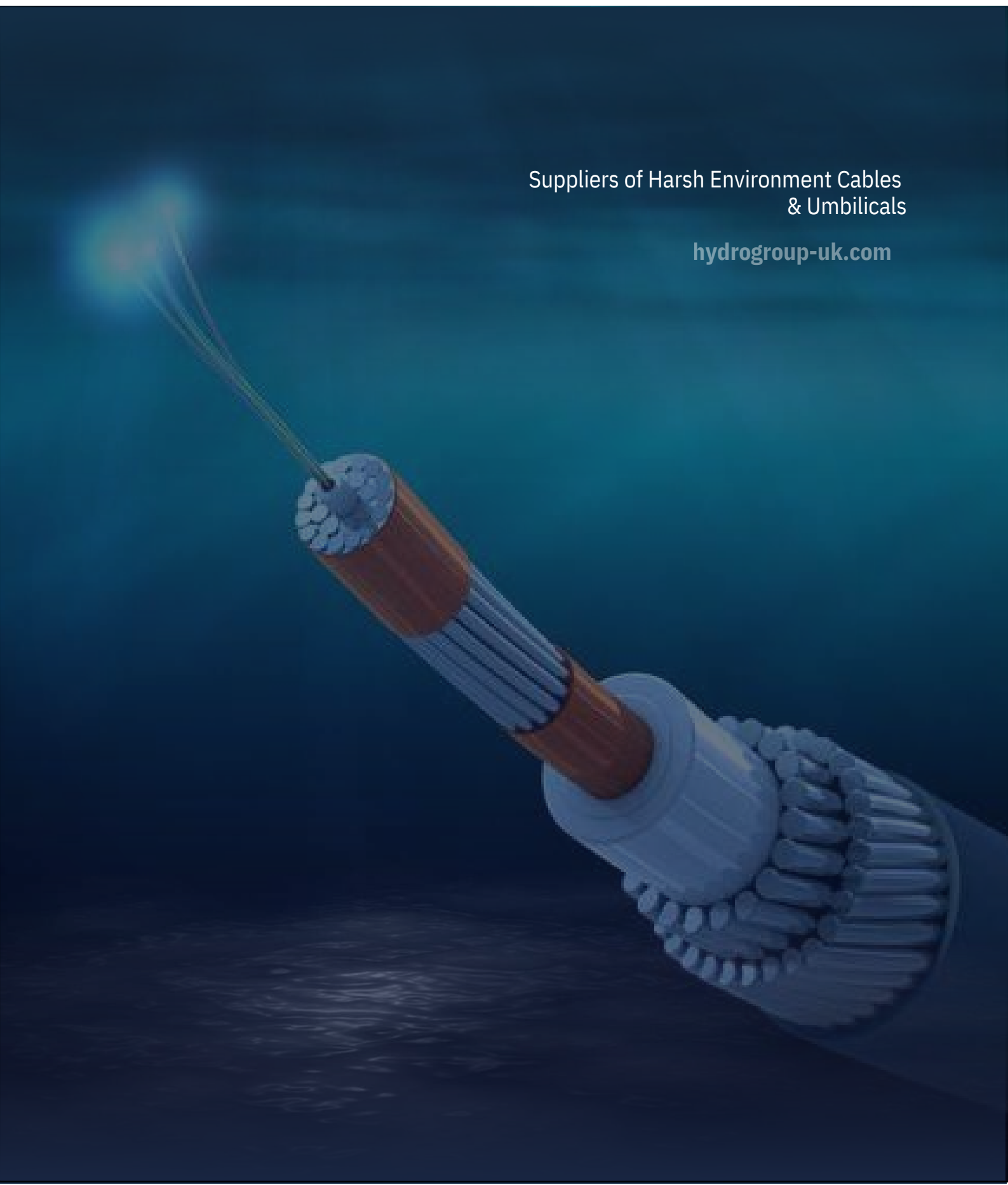
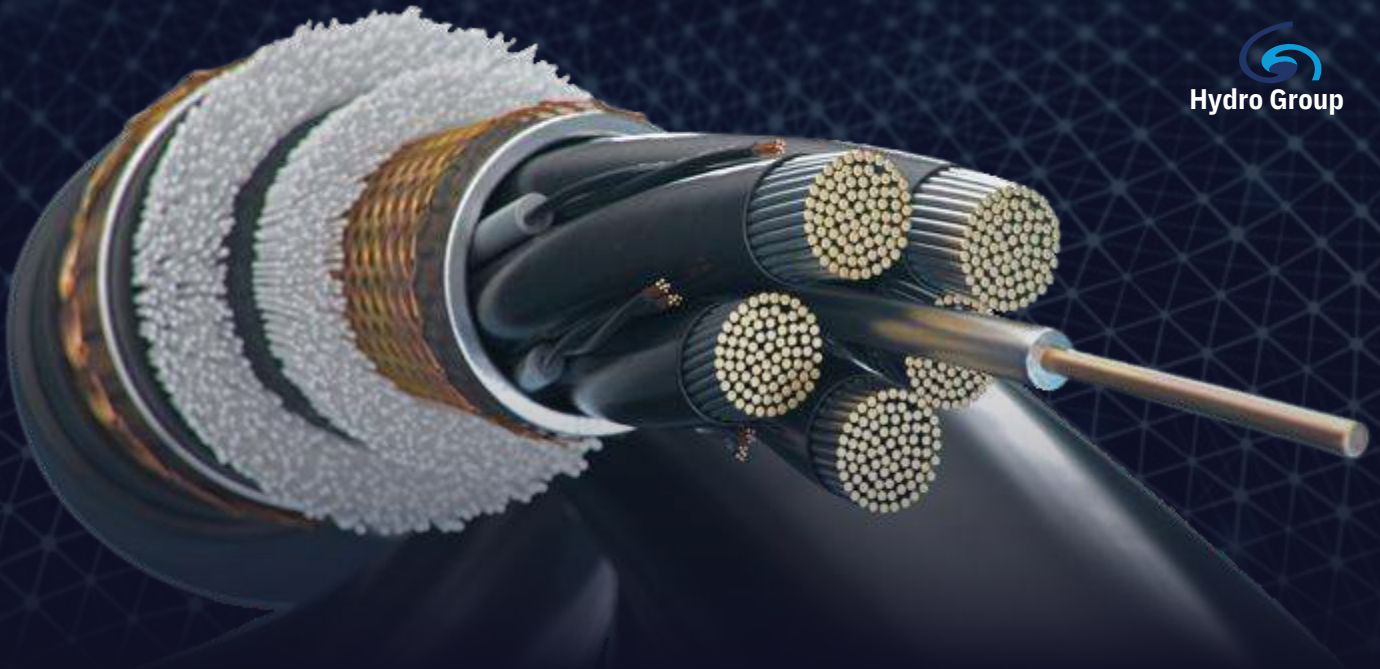


Suppliers of Harsh Environment Cables  
& Umbilicals

[hydrogroup-uk.com](http://hydrogroup-uk.com)





Leading the way in subsea cable and connector connectivity

## HYDRO GROUP

With certification approval to ISO 9001: 2015, our range of subsea products are designed and manufactured in-house to exact requirements for global projects. Our subsea cables are tested extensively for quality, performance and endurance in their specific environment. Importantly, our products have a proven track record over many years on local, national and global projects.

### Cables - *quality, performance and endurance*

Our cable design engineering team is respected globally for its high level of industry knowledge and innovation, achieving unique cable design solutions for challenging subsea applications. Our database contains over 9000 custom designs which we can offer.

Our relatively short 100 Metre minimum order requirement (200m armoured cable) allows us to provide application specific solutions with low levels of investment.

- Armoured tow cables
- Strain bearing cables
- Acoustic range sea cables
- High voltage & power cables
- Composite communication cables
- Underwater TV and video cables
- Composite optical
- Electrical cables
- Armoured cables, tethers and umbilicals
- Buoyant tether cables for ROV
- Armoured umbilicals for dynamic applications
- Towed decoy cable for fighter aircraft
- Flame retardant cables



## Wire Armouring of Electrical / Optical Cables

Hydro Group has the in-house capability to armour multicore electrical, optical and hybrid cables using stainless steel or galvanised wire.

### Features

Stainless steel and galvanised wire armour provides mechanical protection, which means the cable can withstand higher stresses, be buried directly and used in external underground and underwater projects.

Most power cables incorporate either a steel wire or aluminium armour. There are many advantages with an armoured cable including superior crush resistance, better cold impact and cold bend performance, and a broader range of acceptable installation practices.

Galvanised wire is similar in cost to steel wire armoured cable and offers the benefit of reduced weight. Both meet the same performance criteria, however some users prefer steel wire armour for certain applications as it provides more protection to the cable core.

Steel wire armour is particularly suited for small diameter/bend radius applications. The armour consists of strands of galvanized steel wire wound concentrically over a flame retardant PVC jacketed core. Two layers are wound (clockwise & anti-clockwise) for superior cut through resistance and pulling strength.

Hydro Group also offer Nitronic Armour which offers high levels of corrosion resistance, particularly suited for towing applications and can be used without an outer jacket.





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## Cable Jackets

Building on our extensive cable design & manufacturing capabilities, Hydro Group has introduced various new cable jacket options to our standard range of polyurethane sheathing materials. These are designed to increase the company's capability to supply a variety of Defence, Renewable and Oil & Gas applications. We offer extrusion capabilities from 0.22 (insulation) up to 120mm diameter outer jacket.

### Features

The standard jacket material currently offered is a polyether-based polyurethane with hydrolysis resisting abilities. This type of PU can be used in underwater applications as well as humid and damp situations where increasing temperatures would normally cause hydrolytic degradation. Polyether PUs can be stable in water as warm as 122°F (50°C) for long periods.

As an alternative to this standard material, we are now also able to extrude a higher shore hardness version of this PU where increased mechanical properties are required.

For applications requiring high levels of abrasion resistance, Hydro Group offers High-Density Polyethylene (HDPE) cable jackets. This type of jacket is also used widely in the manufacture of armoured cables as both inner and outer sheaths. In addition, Hydro Group has created a bespoke system of PE moulding to allow connector termination to PE jacketed cables.

One of the new materials now on offer is a low-smoke, zero halogen, flame retardant SHF material to IEC60092 designed for use in shipboard & topside applications, allowing us to supply customers with a complete cable solution which transitions from subsea to the topside.





Leading the way in subsea cable and connector connectivity

## Cable Braiding

Hydro Group offers a full range of braiding options including, copper, steel, and fibre.

### Features

The upgrade to the braiding cell required a complete reorganisation of the current braiding footprint within the facility. The new machine is now capable of handling cable diameters of between 10 and 100mm and can operate at speeds of 5m/minute dependent on the braid design. It allows for high-speed efficient braiding of cables with all types of metallic and fibre braids without joints.

Hydro Group offers a huge range of cable designs featuring fibre braids for towing and lifting applications and metallic braids for abrasion resistance and screening purposes. The new machinery will further enhance capability and reduce lead times.

- Capable of handling cable diameters of between 10 and 100mm
- Operates at speeds of 5m/minute dependent on braid design
- High-speed efficient braiding of cables with all types of metallic and fibre braids without joints
- Greater utilisation of our operators through a multi-machine operation
- Enhance capability and reduce lead times





Leading the way in subsea cable and connector connectivity

## Hose, Cable, Strength Member Bundles

Hydro Group Systems Ltd has the in-house capability to lay-up hoses, electrical cables, fibre optics and other components into one 'twisted' composite bundle.

### Laying-up

Our purpose built lay-up process allows hoses, cables, strength members and other components to be integrated into complex bundles. These bundles may be utilised in umbilicals as a composite assembly.

The composite assembly may be taped, bound or oversheathed to assist handling.

Hose bundles with such properties are used in many applications for the offshore subsea oil & gas industry.

### Strength Members

Hydro Group offer a range of umbilical strength members including aramid braiding, steel wire central members and aramid rope central members.

### High Specification Hoses

Hydro Group offer an extensive selection of high specification hoses of differing types, sizes and pressure ratings, all manufactured to industry standards and supplied by world class manufacturers.

Service requirements and application details are a critical part of the design process to ensure that the optimum hose solution is selected. For example, High Collapse Resistance (HCR) hoses, reinforced within an internal stainless steel carcass prevents hose collapse when used in deepwater applications or where there is a high differential pressure between the external and internal pressure of the hose.

