

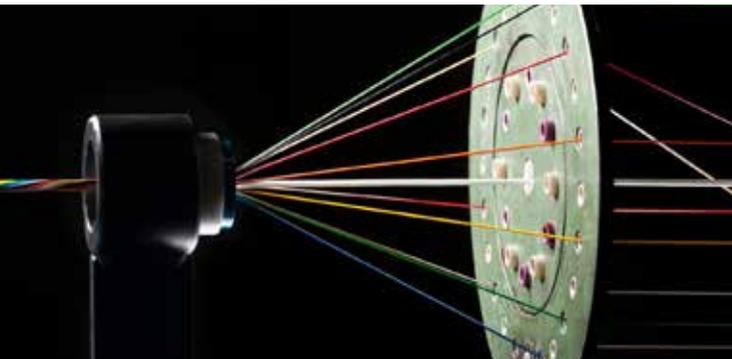
Habia Cable



Offshore//Marine//Subsea
Cable solutions that thrive under pressure

Underwater and pressure resistant cables and harnesses for your needs

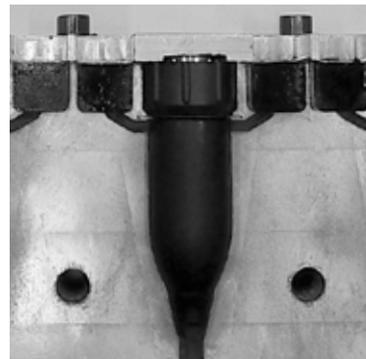
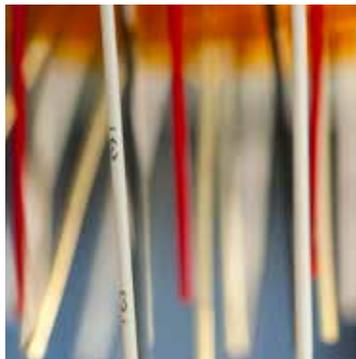
For over 40 years Habia Cable has developed and manufactured custom designed cables and harnesses, supplying to various demanding application areas in the Offshore and Marine industries. We have a proven track record of reliable, innovative cable solutions for oil platforms, ROV's, ships, vessels and submarines.



We believe in working closely together with our customers in order to provide solutions that are fit-for-purpose, cost effective and gives long term reliability.

Our cable manufacturing and in-house production of harnessing allows us to focus on the required key

features to achieve the best possible working relationship between cables and connectors. Our polymer expertise enables optimal combinations of cable material properties and connector water barrier design in order to provide technological feasibility and long lifetime of the underwater systems.



Designs for lowest possible compression

Compression of cables during increased hydrostatic pressure can lead to plastic deformation of cables and related issues with regards to effective water barriers in the cable and harnesses. Our designs allow the lowest possible compression – the cables designed for use under higher hydrostatic pressures are filled to avoid compression. This is validated by in-house hydrostatic pressure tests.

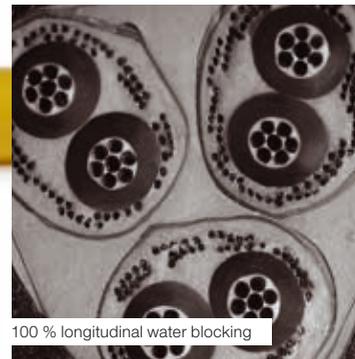
Longitudinal water blocking – for your exact needs

To prevent water ingress into cables, all voids in a cable need to be completely filled. The methods to achieve this differ, depending on the required level of safety; from simpler solutions with water-blocking tapes to advanced methods where the complete cable is filled with water blocking compound

– including the conductor itself. By designing a longitudinal water blocked cable suitable for your exact needs, we can significantly reduce the cost of installation by replacing hermetic connectors with simpler penetrators. Habia offers a range of completely water-blocked cables, **Seaguard LWB**, fully qualified and approved to defence standards.

Buoyancy by design

Cables required to float, sink or remain neutral in water are custom-designed products, tailored to their specific application and environment; from towed arrays and ROV's to many other aspects of marine cable use. By carefully considering the design layout and choice of materials used within a cable, Habia is able to accurately control and adjust the size to mass ratio of our cables. By trapping additional air within the cable – either by the use



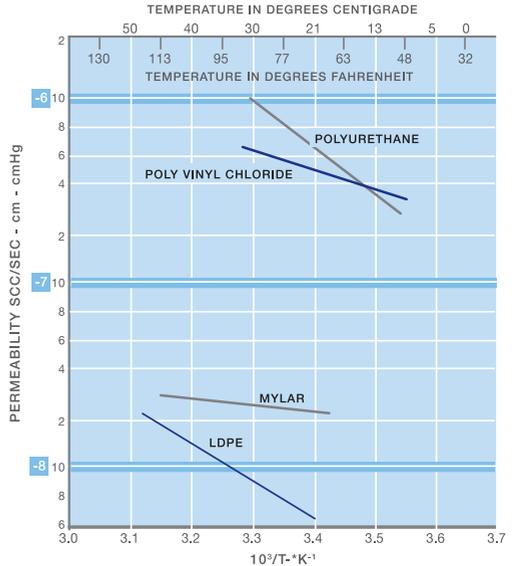
100 % longitudinal water blocking

of foamed materials or air hoses – the weight of the copper within the cable can be offset to allow for either positive, negative or even neutrally buoyant cables.

Reduce the rate of migration – retain connector compatibility

Permeability is a critical parameter in extending the lifetime of underwater harnesses, describing where water will migrate through the jacket barriers and make its way to the connector ends. Selecting the right polymeric formulation for your cable jacket can reduce the rate of migration by anything up to a factor of 1000. It is also essential that the cable jacket remains compatible with the connector technology as well as with the processes to assemble the connector.

Water Vapour Permeability of Polyethylene vs other plastics



Filling all voids during cable manufacturing



Pressure resistance test equipment

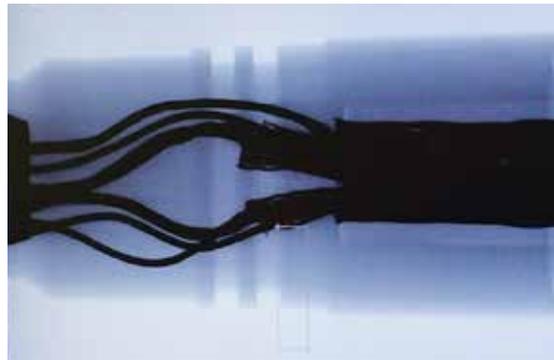
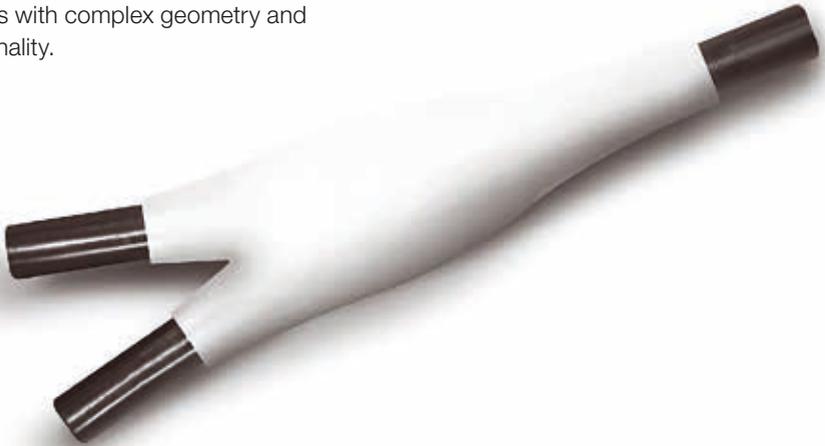


Seaguard harnesses installed

Protected from water penetration

Moulding on metallic parts in contact with seawater leads to cathodic delamination over time, resulting in water penetration. Habia has developed customized connector backshells to ensure protection from potential water penetration to avoid this problem. The developments in the over-moulding methods, in combination with the advanced surface preparation, allow us to design reliable water resistant features with complex geometry and functionality.

We have also invested in suitable equipment to perform the necessary routine inspections for the manufactured harnesses, including X-ray machinery, pressure tanks, network analysers and automatic electrical test machines.



// RENEWABLE ENERGY

Standing in a tidal storm

One of our customers specialises in design, manufacture, installation and maintenance of marine turbines generating renewable energy from tidal streams.

They needed subsea cables at first but later asked us to supply connectors to their turbines.

Tidal turbines can vary from 5 to 20 metres in diameter and is placed in tidal farms on the bottom, no deeper than 100 metres.



To withstand the mechanical stress of underwater currents and at the same time be easy to connect and disconnect, we developed a smart, custom solution that fits their needs perfectly.

Renewable energy production is at the top of the world's to-do list to tackle the climate challenges, while providing clean energy to a growing population. Habia's knowledge in cables have proven very valuable when designing and adding a connector to our customer's turbine system. They are still in the first phase of a global roll-out and given that major tidal streams can be identified along all coastlines of every continent, this technology is proving very promising indeed. Especially since the cable and connectors can be used for all shallow water applications and enterprises.

The future looks just a little bit greener in our opinion. //

Habia Cable

Habia Cable is one of Europe's leading wire and cable manufacturers. We develop, manufacture and market custom design cables and harness systems for demanding applications in a number of diverse industries.

The company has a global presence and worldwide sales of custom design and standard products in more than 50 countries.

We aim to provide a high level of customer service and technical competence with competitive lead times and low minimum order quantities.

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