



UMBILICAL AND TETHER CABLES FOR ROVs



ROV UMBILICAL & TETHER CABLES

POWERING AND COMMUNICATING AIRBORNE, UNDERWATER & GROUND ROVs FOR VARIOUS APPLICATIONS



ABOUT PARAS WIRES

Paras Wires provides an extensive range of cables and cabling solutions that deliver increased performance for our customers worldwide.

Paras wires' strategy is founded on continuous innovation in products, solutions and services, employee development, customer training and the introduction of safe, low -environmental- impact industrial processes.

Paras Wires manufactures and markets specialised braids, cables and connection technologies for various industries, it has constantly been investing in R&D to innovate new technologies and be up to date with the latest technologies of the world.

For More Details Contact Us At



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Paras Wires PVT LTD



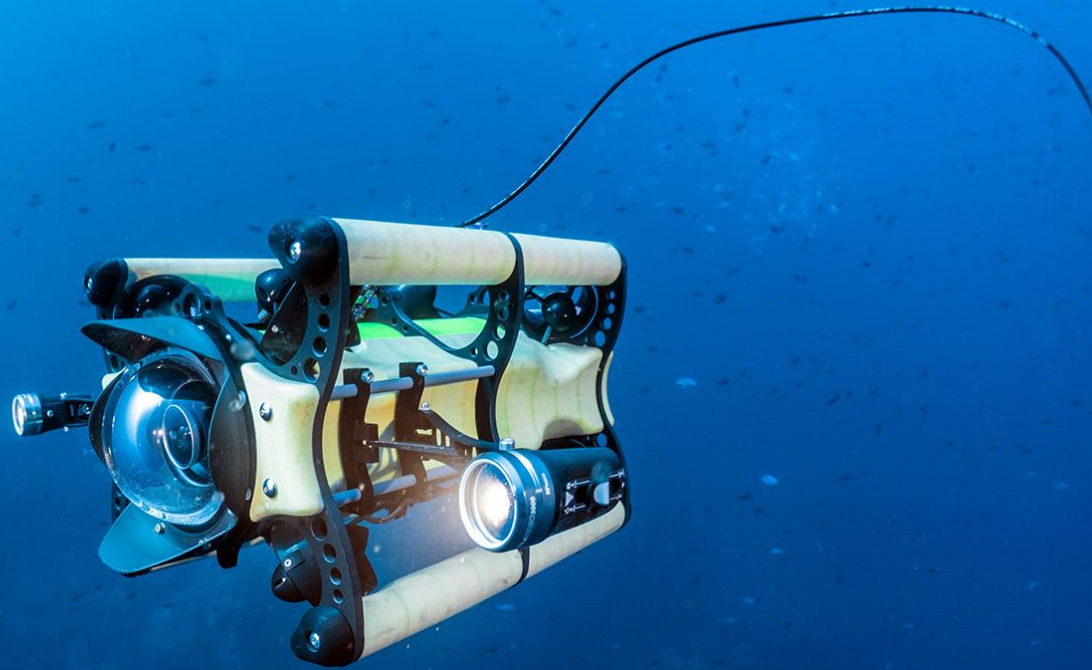
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Paras Wires



**UMBILICAL /TETHER CABLES FOR
UW-ROVs**

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UW-ROV CABLES

UW-ROV: Under Water Remotely Operated Vehicle

These systems are used to perform tasks such as drill support; subsea construction; inspecting pipelines, structures and cables; operating and maintaining valves, other moving parts on subsea manifolds and multiple defence operations; trenching for submarine cables and pipelines; seabed surveys; inspection and maintenance of platforms; and enabling video observation of both divers and underwater equipment.

The communication between the operator and the vehicle is controlled by an umbilical/tether cable. At Paras Wire we design and manufacture both UW-ROV umbilical and tether cables, and they are designed according to our customer's specifications and requirements.

UW-ROV cables are exposed to dynamic cycling, thermal and electrical stress, currents and rough seas. The main purpose of the cables is the transmission of power, signal, communication and mechanical loads to a remote location. The industry is constantly going deeper, and Paras supports the industry by offering products for operations below 5000-meter water depth

Seismic industry data acquisition calls for continuous innovation in Umbilical & Tether cables.

Data collection in the seismic industry has been increasing rapidly in both size and data density, also the desire to dive deeper by the industry has led to constant innovation in the umbilical and tether cables. Paras is constantly innovating and evolving its products to keep itself updated with the demands of the Industry to ensure maximum optimization of operational efficiency and safety.

UW-ROV umbilical

A UW-ROV umbilical is typically installed topside on a winch and is the physical connection between the control unit and the vehicle. The cable core is built up by combining copper conductors for power and signalling, and fiber optic elements for communication. The cable core is protected by sheaths and high tensile armouring such as steel wires or synthetic yarns.

UW-ROV system operating with a tether management system, the preferred strength member is typically steel wires to support the total weight of the system submerged in water. For extreme depths and for free flying systems synthetic armouring is the preferred option. The main challenge of the industry, as the operations go deeper, is to reduce the total weight of the system and at the same time increase power transmission. Paras accepts this challenge by constantly developing new designs with improved technology.

UW-ROV tether

A typical work class UW-ROV has a tether cable installed between the vehicle and the tether management system, to transmit electrical power, optical signals and mechanical payloads through a light and highly flexible and robust cable.

UW-ROV tether cables are exposed to repeated bending at small diameters and low tension, followed by occasional snap loads. High performance polymer yarn handles hydrostatic pressure at great depths and is resistant to fatigue and friction damage. It is also chemically stable in seawater, oils and other fluids used in the oil & gas industry.

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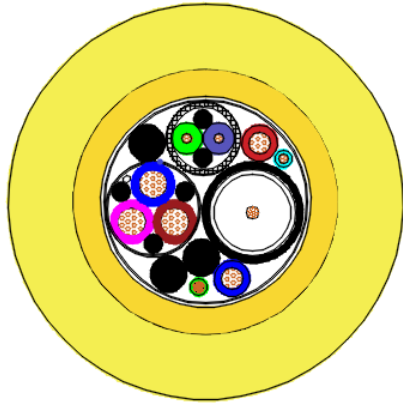
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UW-ROV CABLE TYPES



BUOYANT CABLES

Cable buoyancy solutions from Paras Wires offer low-resistance with evenly assigned flotation for an extensive range of offshore and subsea operations. Designed and developed by a highly experienced and knowledge team, our cable buoyancy productions provide durable, reliable and practical solutions during the most challenging of subsea tasks.

Depending on the requirements of the subsea operations at hand, cable buoyancy system flexibility is a strong benefit for achieving efficient results. Our cable floatation solutions are versatile in such a way that our customers have a much easier time in the deployment and recovery of the cable buoyancy systems.



FIBROUS Or STEEL ARMoured CABLES

From low-tension applications to breaking strengths in excess of a quarter-million pounds, Paras incorporates many different types of metallic and synthetic strength members into our load-bearing umbilical cable constructions. There are many different options to consider when designing a load bearing cable. Is weight a factor, is there a minimum bending requirement, does the cable need to be abrasion resistant? By asking these questions we can recommend the best steel or synthetic strength member for your intended application.

These cables can include electrical conductors, fiber optics and mechanical strength members.



AXIAL WATER BLOCK CABLES

The outboard, underwater and pressure resistant applications presents one of the most demanding areas in terms of environmental conditions. This is already a challenge for the cable alone. Underwater environments mean hydrostatic pressure. Compression of cables during the increase of hydrostatic pressure can lead to plastic deformation of cables and related issues with regard to the effective water barriers in the cable. Paras design allow the lowest possible compression of the cables. This means that cables designed for use under higher hydrostatic pressures are completely filled at every production phase in order to avoid compression.



AIRGUN UMBILICAL CABLES

Air-gun umbilical cables are used in both towed and bottom laid seismic systems. Typically air-guns is steel armoured, comprising a central pneumatic hose with power and signal elements laid up over it. Aramid/Steel armouring can be supplied on request. The cable elements are protected from the expanding pneumatic hoses.

For More Details Contact Us At



**UMBILICAL & TETHERED
CABLES FOR Unmanned Aerial
Vehicles(UAV)**

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UAV CABLES

UAV: Unmanned Aerial Vehicle Drone Type

The drone to the today's world is an unmanned aerial vehicle or UAV that is either operated by human from remote location or it can work autonomously as per set mode. Tether-powered aerial drones for customers who need unlimited aerial surveillance and thus removing the requirement of a battery management system and providing space for more technologies to be included. Drones are used in various applications in defence. Drones can identify security and terrorism-related challenges and pinpoint vulnerable areas that are prone to various risks. Drones are the modern-day force multiplier that can enhance the capabilities of security forces to contain terror and to counter the emerging challenges in defence and homeland security.

UAV(Aerostat): Unmanned Aerial Vehicle Aerostat Type

An aerostat is a lighter than air aircraft that gains its lift using a buoyant gas. Aerostats include unpowered balloons and powered airships. A balloon may be free-flying or tethered. In the defence industry Aerostats are used primarily to provide low-level radar surveillance over long range areas, and secondarily to provide low-level surveillance coverage for air sovereignty.

The communication between the operator and the UAV is controlled by an umbilical/tether cable from the ground. At Paras Wire we design and manufacture both umbilical and tether cables as per customer's specifications and requirements for aerostats and drones.

UAV cables are exposed to dynamic cycling, thermal, mechanical and electrical stress. The main purpose of the cables is the transmission of power, signal, communication and mechanical loads to a remote location. The industry is constantly going higher, and Paras supports the industry by offering products for operations up to 500-meter height

AEROSTAT Tether

The umbilical cable are mainly used for Aerostat type of AROVs as they have a very high breaking strength resistance. The umbilical cable core is built up by combining copper conductors for power and signalling, and fiber optic elements for communication. The cable core is protected by sheaths and high tensile armoring of synthetic yarns.

The main challenge of the industry is; as the operations go higher, the total weight of the system must reduce and at the same time increase power transmission. Paras supports this challenge by constantly developing new designs including improved technology. As weight of the cable in these cases are very critical at Paras, we have developed some high strength synthetic yarns with extremely low weight. This helps the AROV to fly higher and cover a larger range of operations

DRONE Tether

A typical Drone has a tether cable installed between the vehicle and the TMS (tether management system), to transmit electrical power, optical signals and mechanical payloads through a light and highly flexible and robust cable. These game-changing cables offer a rugged, small-scale design with high performance that maximizes Tether Management System (TMS) availability, provides increased design options and payload, and enables greater drone operational capability.

Drone tether cables are exposed to repeated bending at small diameters and low tension, followed by occasional snap loads. High performance polymer yarn handles the extreme mechanical and thermal stress induced on the cable during unfavourable conditions and is resistant to fatigue and friction damage.

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AROV CABLE TYPES

DRONE TETHER CABLES

Standard materials used in tethered drone cables pose ongoing challenges for both military and commercial industries. Traditional durable materials are bulky and heavy often weighing drones down, while lighter weight materials absorb moisture and lack adequate protection to withstand harsh environments. As a result, standard cables limit the altitude that drones can operate, affecting the line of sight or coverage. These challenges can significantly limit opportunities for more payload options and decrease the capability of tethered drones. Paras Tethered Drone Cables strike a balance by combining power and fiber optic cables with unique materials in a hybrid solution that yields exceptional benefits. These game-changing cables offer a rugged, small-scale design with high performance that maximizes Tether Management System (TMS) availability, provides increased design options and payload, and enables greater drone operational capability.

UAV (AEROSTAT) CABLES WITH LIGHTENING PROTECTION

Aerostats are prone to lightning as they are constantly fixed at a height, thus Paras provide special cables for lightning protection. The cables are also designed for various applications from low-tension applications to breaking strengths in excess of a 10 metric tons, Paras incorporates many different types of synthetic strength members into our load-bearing tether cable constructions. There are many different options to consider when designing a load bearing cable. Is weight a factor, is there a minimum bending requirement, does the cable need to be abrasion resistant? By asking these questions we can recommend the best synthetic strength member for your intended application.

These cables are custom-made and engineered to the client's specifications. Thanks to our in-house facilities, we can perform qualification testing, continuous cycling, breaking strength testing and electro-optical monitoring.



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