ROV ETHERNET HYBRID CABLE

TETHERS & UMBILICALS FOR REMOTELY OPERATED VEHICLES (ROVS)

ROV Tether Cable

Typical ROV Tethers include power conductors, shielded data pairs and video using coax, TSP, or fiber optics. Designs available in several configurations, including Neutral Buoyancy.A varied degree of strength designs available depending onworkloads and handling system. The sample cables listed be low are proven working designs for vehicles used worldwide.

Design Variations

RV POWER GROUP manufactures many custom ROV cables using tried and proven components for power, video, data, etc., which are available for your design, providing shorter lead times.

Cable Properties

Conductors: Stranded tin copper conductors for flexibility and corrosion resistance. Light weight, low dielectric copolymer insulation with great mechanical and moisture resistance.

Strength Layer: Light weight Kevlar fibers are designed into each cable construction to meet specific ROV intended use for maximum strength and longevity.

Jacket Materials are chosen for optimal bonding, moisture and mechanical resistance. Each ROV cable is uniquely designed for specifi c ROV types using PE, TPE, PUR, and foam variations for flotation.

OUR ADVANTAGES

EASY SOLUTIONS

ADAPTABILITY IS ONE OF OUR BEST QUALITESIT PERMIT US TO COPE WITH YOUR REQUE STON A SHORT NOTICE AND EFFEC TIVELY.

NO PRICE FIGHTS

WE ESCAPED THE OLASSICAL REBATE UNTILYOU DROP " POLICY . WE ARE PRICE WISE SINCETHE BEGINNING

HIGH LEVEL EXPERIENCE

QUR TECHNLAL CAPABILITIES HAVE BEENTESTED FOR MORE THAN 30 YEARS ANDIN-DRECT CONNECTION WITH END USERS . SO TOSAY

ENDLESS INVESTIGATION

WE CONTINUOUSY MEASURE EVERYTHINGTEST . TEST AND TESTAGAIN . THIS HELPS NUNDERSTAND RISKS AND REWARDS . ANDBEPREPARED

NO FORTUNE TELLER

WE BASE OUR DECISIONS ON CLEAR BUSIESSPLANS , THINKING BEFORE MAKING OUR STEPSAND KEEPIN-GA'NOTTODO LISTFOR EVERY-OVE OF THEM

TEAM BUILDING

OUR TEAMIS MADE NOT ONLY BY OUR STAFFBUTIT INCLUDES ALSO ALL OUR CUSTOMERSWEACT LIKEA TEAM WEGROW LKEA TEAMWE WINLIKE A TEAM

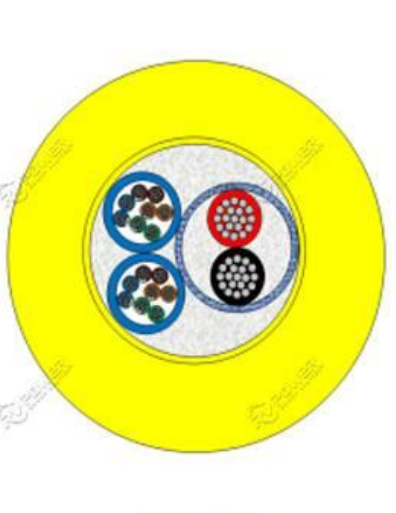
ROV ETHERNET HYBRID CABLE

Custom ROV cables using tried and proven components for power, video, data, etc., which are available for your design, providing shorter lead times

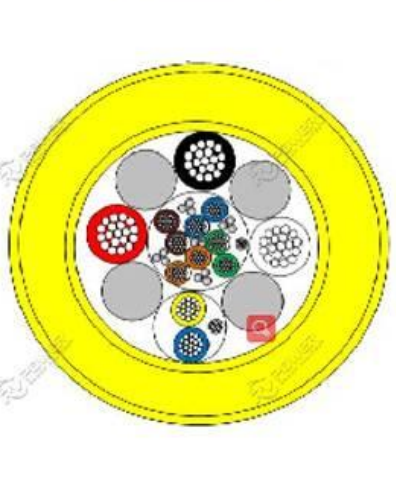
COMPONENTS AND MATERIALS:

- Optical fibers in SS steel tubes /Plastic Tube from 1-24 fibers, single mode, multi-mode,
- Data signals using Ethernet Cat5e and Cat6 signal pairs, RS-232, RS-485, analog, coaxial, shielded components
- Power conductors from 300V to 3.0kv,
- Water block Material : Block water Yarn / Block water Glue
- Strength layers of Synthetic fibers including Kevlar, Vectran
- Jacket compounds :Polyurethane, PE, HDPE, Light weight TPE, foam PE or Foam PUR

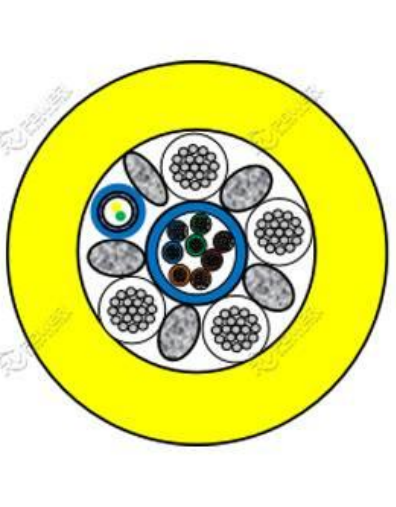
PRODUCT MIX



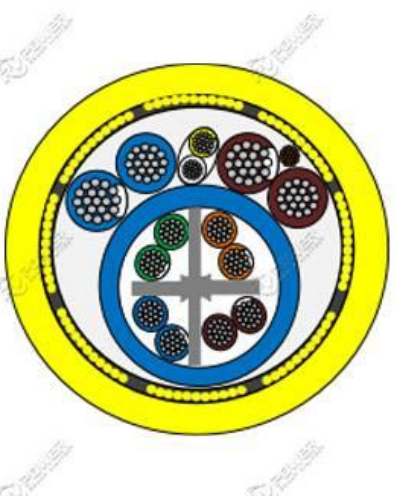
Neutrally buoyant ROV cable
2 POWER Cable
2 CAT5E Ethernet Cable
Overall diameter: 16 mm



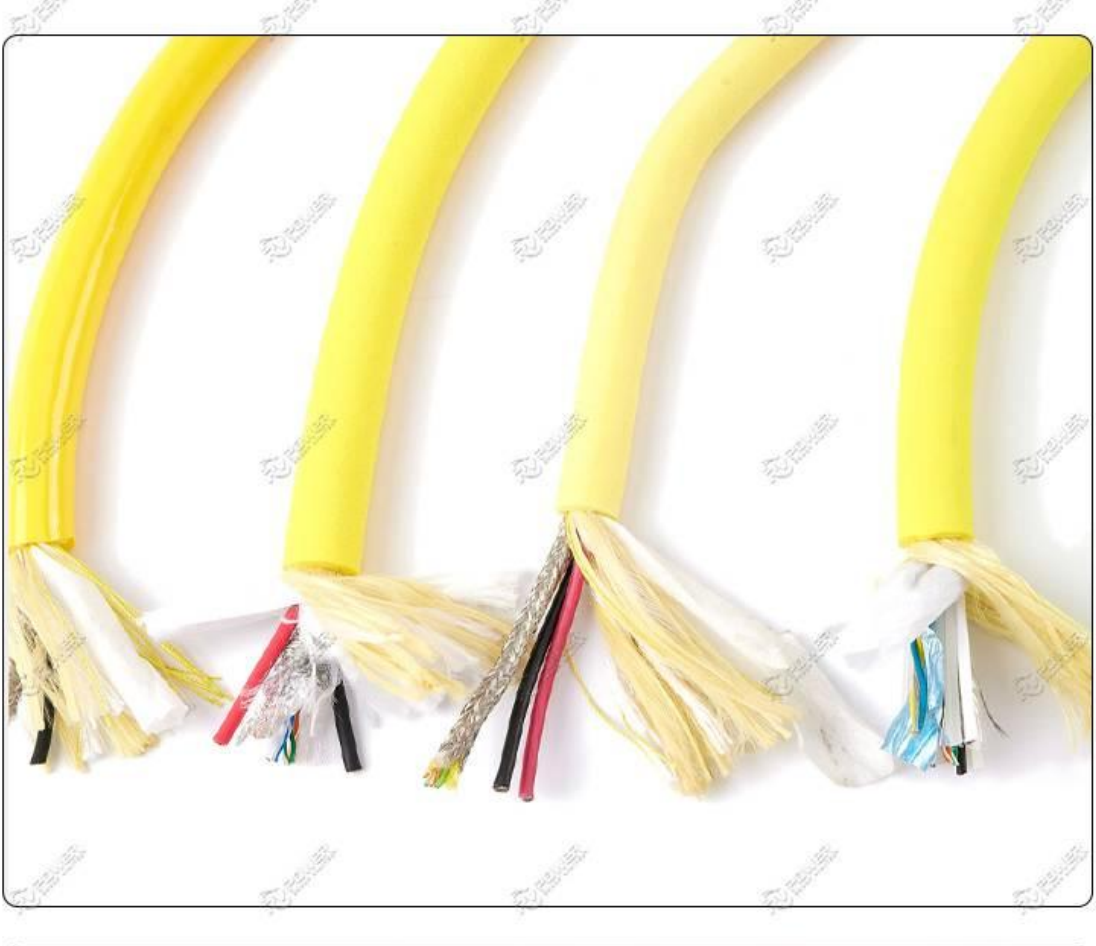
Neutrally buoyant ROV cable
4 POWER Cable
1 CAT6 Ethernet Cable
Overall diameter: 16 mm

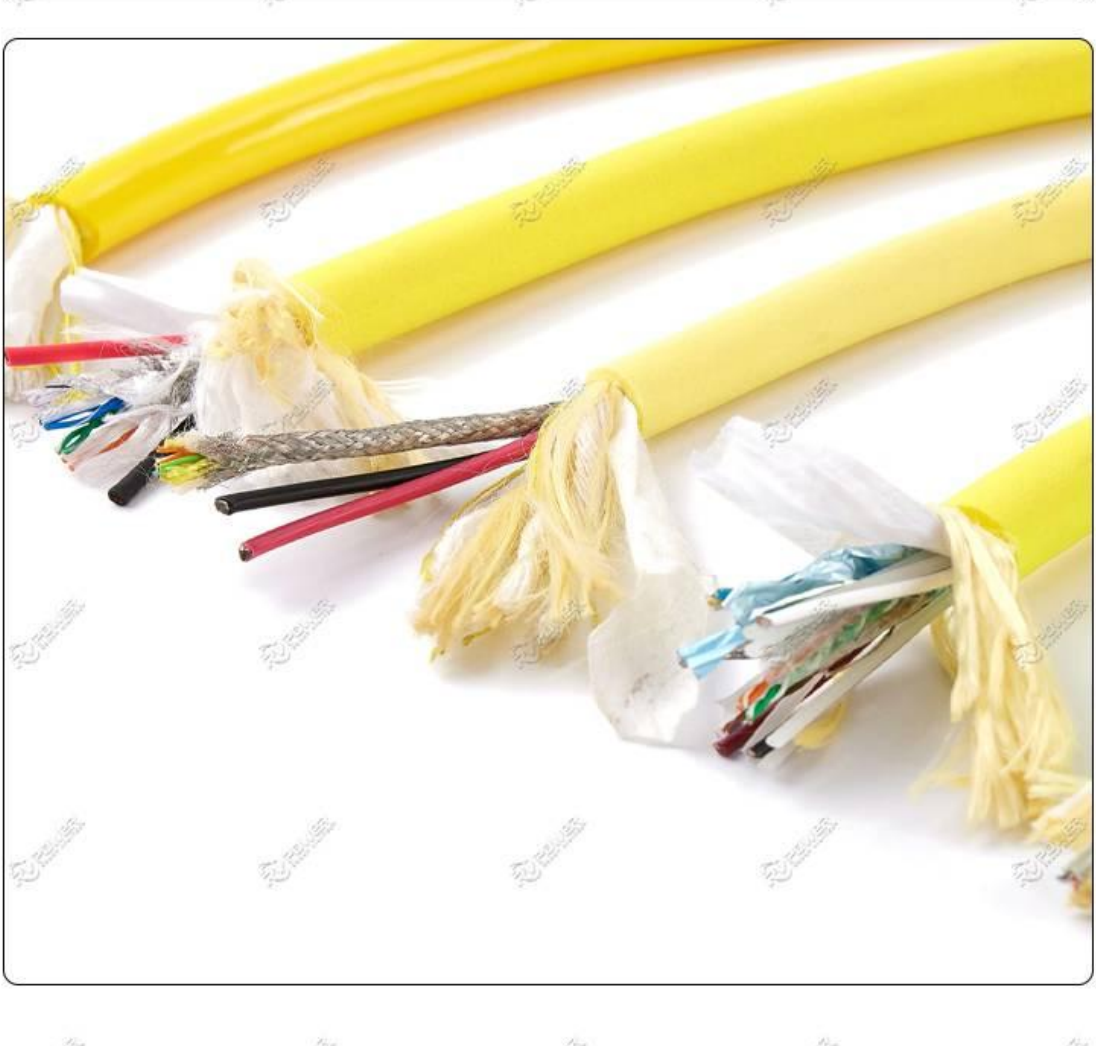


Neutrally buoyant ROV cable
4 POWER Cable
1 CAT5e Ethernet Cable
2 Core optical fiber
Overall diameter: 24 mm

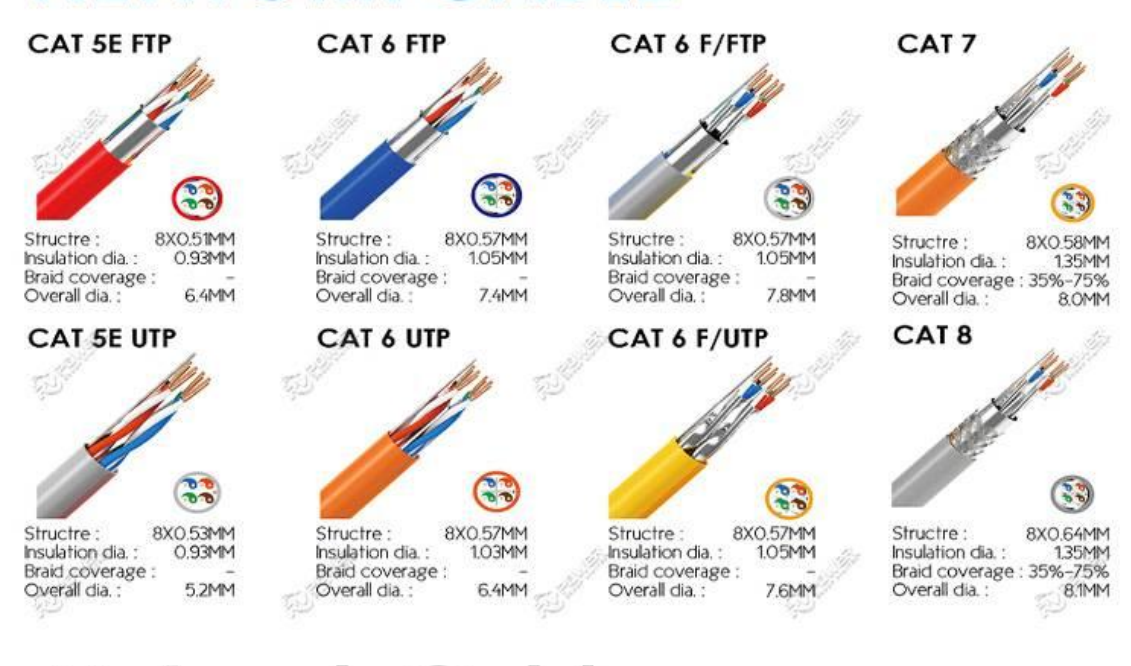


Neutrally buoyant ROV cable
4 POWER Cable
1 PAIRS SIGNAL DATE Cable
1 CAT5e Ethernet Cable
Overall diameter: 15 mm





NETWORK CABLE



CAT 5E FTP
Structre : 8X0.51MM
Insulation dia. : 0.93MM
Braid coverage : -
Overall dia. : 6.4MM

CAT 6 FTP
Structre : 8X0.57MM
Insulation dia. : 1.05MM
Braid coverage : -
Overall dia. : 7.4MM

CAT 6 F/FTP
Structre : 8X0.57MM
Insulation dia. : 1.05MM
Braid coverage : -
Overall dia. : 7.8MM

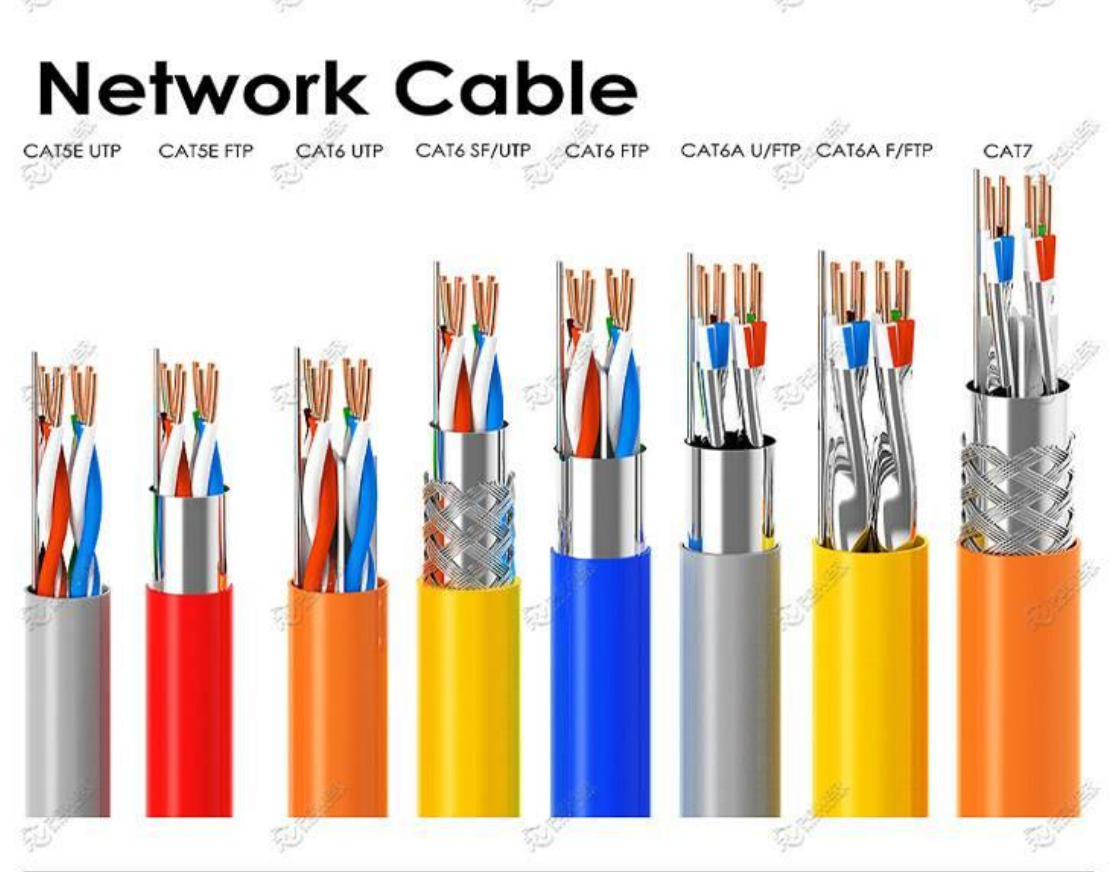
CAT 7
Structre : 8X0.58MM
Insulation dia. : 1.35MM
Braid coverage : 35%-75%
Overall dia. : 8.0MM

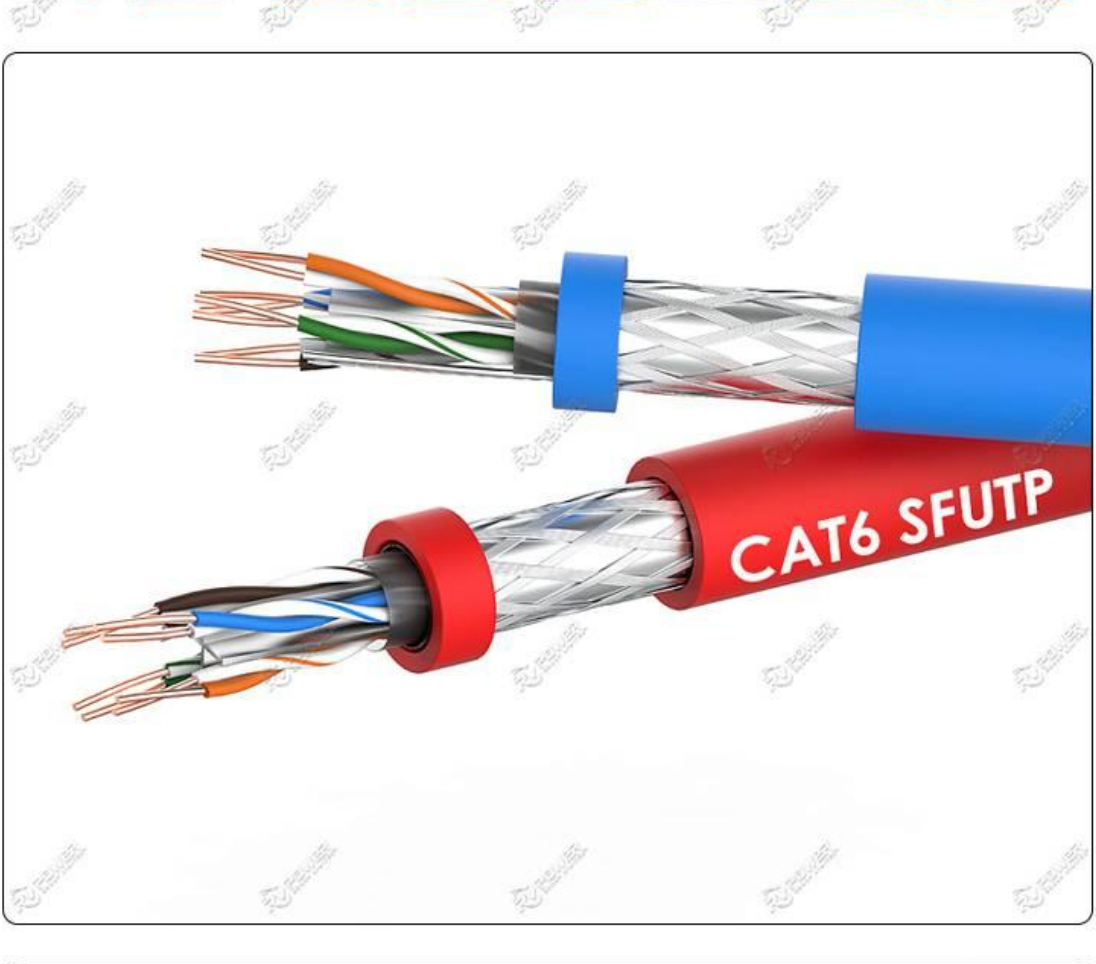
CAT 5E UTP
Structre : 8X0.53MM
Insulation dia. : 0.93MM
Braid coverage : -
Overall dia. : 5.2MM

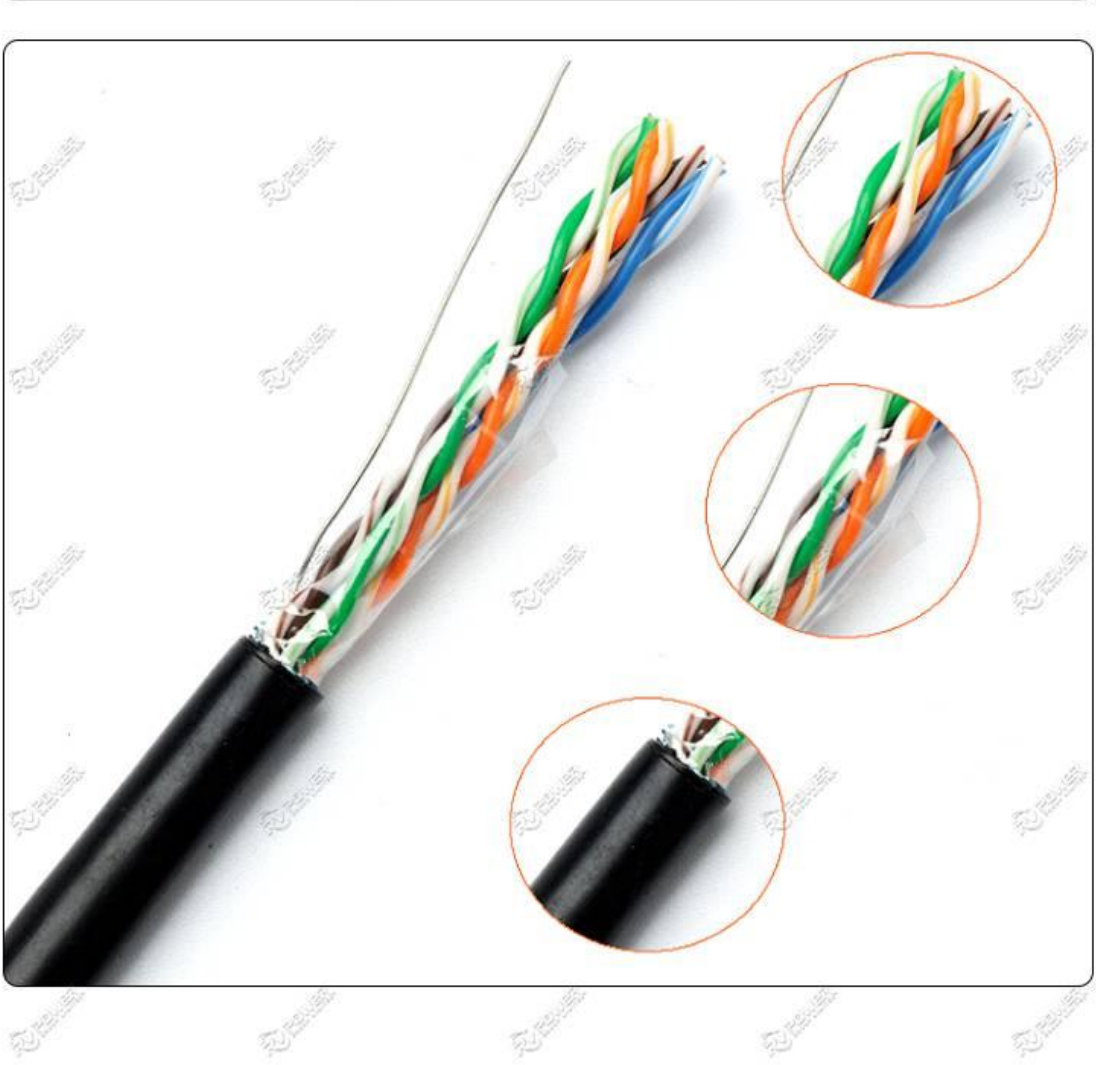
CAT 6 UTP
Structre : 8X0.57MM
Insulation dia. : 1.03MM
Braid coverage : -
Overall dia. : 6.4MM

CAT 6 F/UTP
Structre : 8X0.57MM
Insulation dia. : 1.05MM
Braid coverage : -
Overall dia. : 7.6MM

CAT 8
Structre : 8X0.64MM
Insulation dia. : 1.35MM
Braid coverage : 35%-75%
Overall dia. : 8.1MM







Cat5e vs. Cat6

CAT5e (CAT 5e, Category 5, enhanced) – Category 5, enhanced has the same specifications of basic CAT 5 cable however, it can handle data transfers up to 1000Mbps (1Gb/s). It is suitable for Gigabit Ethernet, and is less susceptible to near-end cross talk (Next) , the interference between two pairs in a cable measured at the same end of the cable as the interfering transmitter. Next is usually caused by crossed or crushed wire pairs.

current technology (enhanced)
less sensitive to EMI, electromagnetic interference
reduced Next, near-end cross talk
data transfer up to 1000 Mbit/s (1Gb/s)
rated for 1000-BaseT
comes in solid or stranded

CAT6 – Category 6 cable – is a more advanced version of the listed cables, it' s performance exceeds its predecessors. CAT6 is made up of four twisted pairs of copper by a longitudinal separator, a structure that isolates each of the four pairs from each other. The separator reduces crosstalk, allows for faster data transfer, and twice the bandwidth of Cat5. CAT6 supports Gigabit Ethernet, and can operate up to 250Mhz (250 million cycles per second). CAT6 is backwards compatible, can support exisiting CAT5 and CAT5e cabling. CAT 5 is rated for 1000BASE-T.

advanced current technology
less sensitive to EMI, electromagnetic interference
reduced Next, near-end cross talk
data transfer up to 1000 Mbit/s (1Gb/s)
supports Gigabit Ethernet
comes in solid or stranded

Maximum Length

Both Cat5e and Cat6 cable specifications allow lengths up to 100 meters, but Cat6e has a lower max length (55 meters) when used for 10GBASE-T (10 Gigabit Ethernet). In order to run 10GBASE-T for 100 meters, Category 6a cable, or Augmented Category 6, cables need to be used. Cat6a cables allow performance up to 500 MHz.

If network infrastructure requires covering distances larger than 100 meters, repeaters or switches are required to amplify the signal.

Speed

As mentioned previously, Cat6 cables can be used to power 10GBASE-T, or 10 Gigabit Ethernet, while the maximum that Cat5e cables can support is 1GBASE-T, or 1 Gigabit Ethernet. This is because Cat6 cables perform up to 250 MHz, more than twice that of Cat5e cables (100 MHz).

	Cat5e	Cat6
Frequency	Up to 100MHz	0 - 250 MHz (minimum); 500 MHz maximum
Maximum Cable Length	100 meters	100 meters for slower network speeds (up to 1,000 Mbps) and higher network speeds over short distances. For Gigabit Ethernet, 55 meters max, with 33 meters in high crosstalk conditions.
Performance	Less crosstalk/interference than CAT5. Potentially more interference than CAT6.	SNR higher and better
Theoretical Top Speed	1000Mbps	10 Gbps over 33-55 meters (110-165 feet) of cable
Standard gauges in conductors	24-26 AWG	24 AWG
Connectors	RJ45 (aka 8P8C)	RJ45 (aka 8P8C)
Common usage	Personal home usage	Office networks, home networks, phone lines

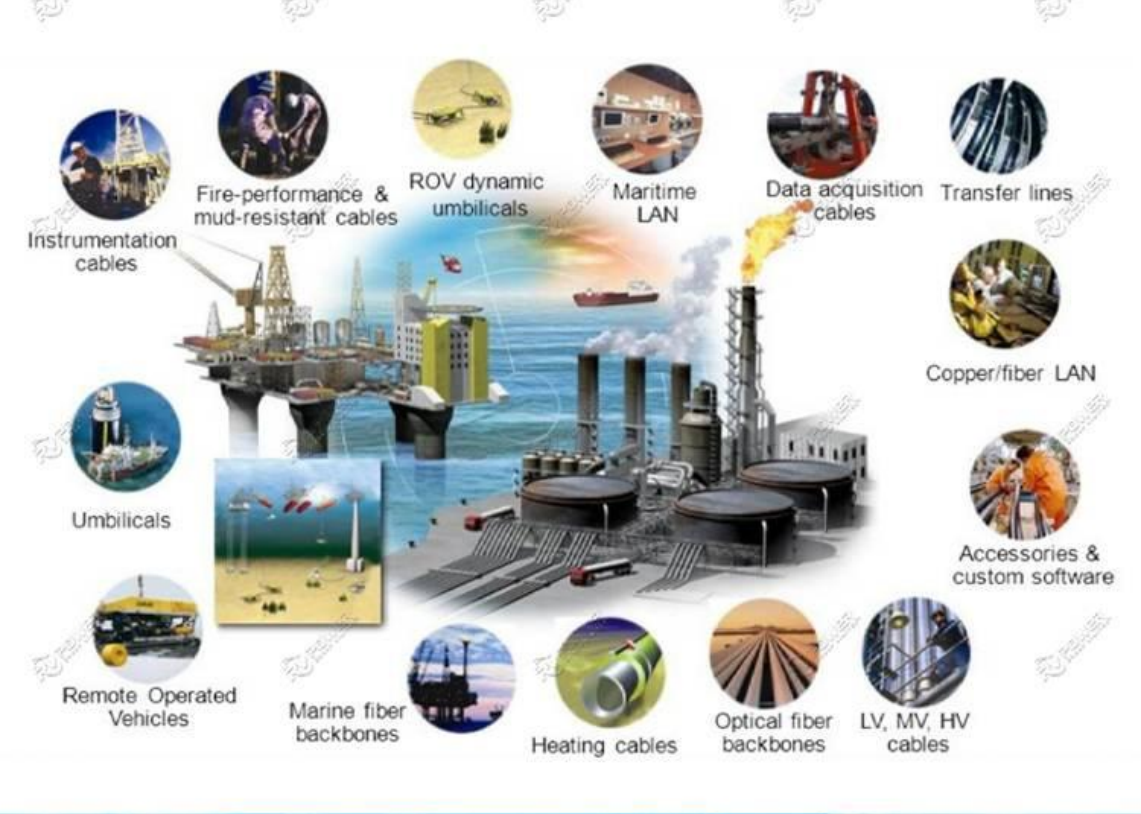
CABLES FOR MARITIME AND UNDERWATER TECHNOLOGIES

Underwater technology, especially at great depths, is challenging. ROVs, used for underwater inspection, survey and search work,Require cables with high performance and reliability for efficient and accurate control, providing the required strength to support the vehicle.Cables and tethers used for Remotely Operated Vehicles represent the vital connection between the vehicle and the vessel.These products include: neutrally buoyant tethers, Kevlar strength member cables, hybrid cables.

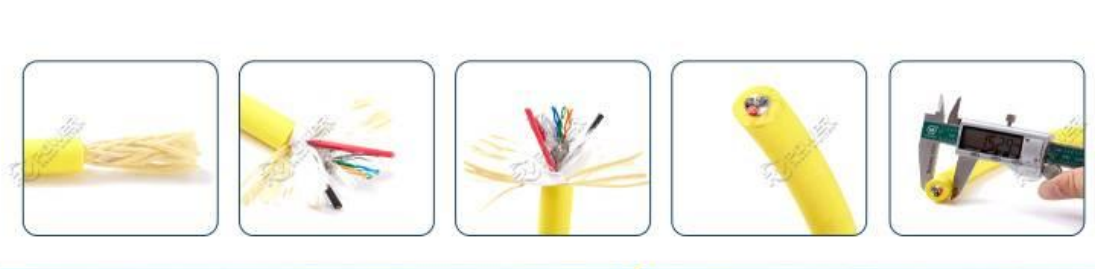
We has many years of knowledge and experience manufacturing cables for the ROV.We offer a complete range of standard communication, video, power and combined service cables, designed to meet the extreme pressures of the subsea environment. Whatever your diving application needs, we can create flexible, cost-effective engineering solutions to suit your requirements and your budget.

SUBSEA CABLES TYPE

ROV Tether Cable
ROV Umbilicals Cable
Diver umbilical
Pool robotic cleaner cable
Neutrally Buoyant Cables
Diver Communications Cable
Underwater Video Cable – Diver
CCTV Inspection Crawler Video Cables
Underwater Fiber Optic Cable
Underwater Instrumentation Cable
Underwater Multiconductor Power & Control Cable
Underwater Ethernet Cable
Sidescan Sonar Tow Cable
Coax Oceanoghraphic Tow Cable
Push-rod Cables
Polyurethane or Polyethylene Jacketed Cables
Composite Underwater Communication Cables
PUR underwater umbilical hybrid Optical
Custom Cable Designs



ROV PIPE HYBRID CABLE



DETAIL DISPLAY

ONE

LONG DISTANCE DATA TRASMISSION

Conductors: Stranded Pure/ tin copper conductors for flexibility and corrosion resistance. Light weight, low dielectric copolymer insulation with great mechanical and moisture resistance.

TWO

RESILIENT, FLEXIBLE AND NEUTRALLY BOUYANT ONE SINGLE LONG CONTINUOUS LENGTH REQUIRED

Custom ROV cables using tried and proven components for power, video, data, etc., which areavailable for your design, providing shorter lead times.

THREE

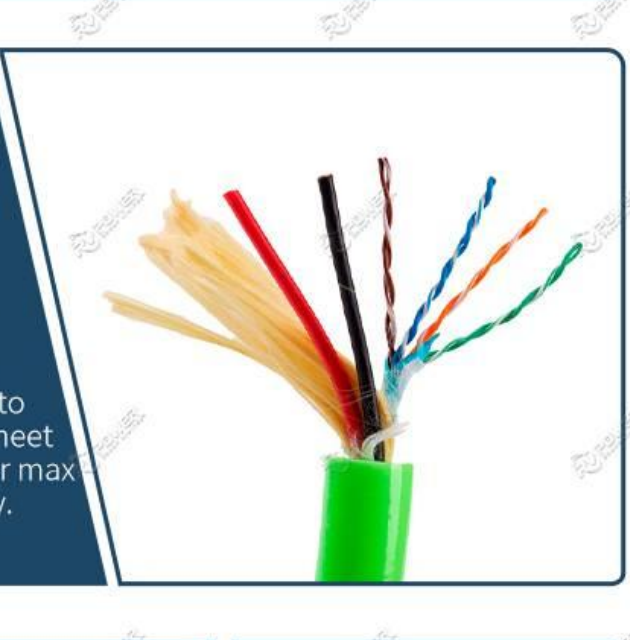
WATER BLOCKED CABLE

Water block flooding compounds offered to each specific design are light wgt and fully encapsulating, design for extreme ocean depths and pressures, salt and oil resistant elastomeric and thermosetting

FOUR

HIGH BREAKING STRENGTH

Strength Layer: Light weight Kevlar fibers are designed into each cable construction to meet specific ROV intended use for maximum strength and longevity.



FIVE

SMALL SIZED. LIGHT . PRESSURE RESISTANT . ABRASION/ EROSION RESISTANT

Jacket Materials are chosen for optimal bonding, moisture and mechanical resistance. Each ROV cable is uniquely designed for specific ROV types using PE, TPE, PUR, and foam variations for flotation.

OIL RESISTANT
FLAE RESISTANT
HALOGEN FREE
COLD RESISTANT
ABRASION RESISTANT
OZONE RESISTANT
UV RESISTANT
MICROBE RESISTANT
MUD RESISTANT
WATER RESISTANT