

The World's Most Durable Ethernet Cables



Cross Section

Dependable, highest quality ProPlex Ethernet cables - From the Super Bowl Half-Time Show, to the Academy Awards, to a rock concert near you, the industry standard for entertainment and live event networks.

Originally developed for the demanding professional live event market, ProPlex Ethernet Cables have since been proven in indoor, outdoor, and temporary underwater applications of all kinds. In addition to entertainment use, they are now trusted for the connection of many different portable networks, including; industrial, scientific, military, marine, communications, and more. The original roadworthy, dependable, verified Ethernet cables, they combine unsurpassed critical data integrity with outstanding durability, long-term reliability and optimum handling characteristics – all proven over many years of professional portable use, over five million meters of cable sold, and over millions of touring miles traveled.

Premium ProPlex CAT5e Ultra S/FTP offers outstanding, fully verified Gigabit performance, extreme noise resistance and practically zero skew. Other superior performance benefits include:

- Full CAT5e performance and data integrity, verified up to 90m!
- Minimal transmission degradation, even after years of heavy use and abuse
- Kevlar reinforced, stranded conductors for long-term portable reliability
- Tear and cut-proof UV-resistant outer jacket
- Suitable for use in CAT6 applications
- Excellent DC resistance. Low attenuation. Low N.E.X.T. (Near-end crosstalk loss).
- High tensile strength. Extreme durability. Easy handling and coiling.

RoHS
Compliant

General Specifications

Part Number	PCCAT5EPU
Conductors	24 AWG [0.25 mm ²] tinned copper, 7x0.20 mm
Insulation	Cellular PO, Nom. Dia. 0.055" [1.4 mm]
Color Code	White/Blue X Blue; White/Orange X Orange; White/ Green X Green; White/Brown X Brown.
Assembly	Pairs individually shielded and cabled with strength yarns.
Shields	Inner: Individual aluminum foil for each pair, 100% coverage. Outer: tinned copper braid, 80% coverage
Jacket	Black, UV resistant industrial grade PU compound.
Marking	ProPlex PCCAT5EPU Ultra S/FTP 24AWG shielded 100MHz Data Cable Cat5e verified [batch no.]
Weight	47 lbs./mft [70 Kg/Km]
Outside Diameter	0.32" [8.1 mm] +/-0.012" [0.3 mm]
Bend Radius	75 mm min.
Max. tensile force during installation	150 N
Drag Chain	May be used in drag chain (cable carrier) applications. Avoid surface contact between cables with different jacket materials, or abrasion may result.
Temperature Rating	Operational: -40 to +70 °C
Compliance	Flame test: IEC 60332.1 Environmental: per IEC 61156-6 and ISO/IEC 11801 RoHS compliance: RoHS-2 2015/863/EU

Transmission Performance

	10 MHz	16 MHz	62.5 MHz	100 MHz
Attenuation db/10m nom.	0.65	0.85	2.0	2.5
N.E.X.T (Near-End Crosstalk Loss) db min.	58	56	45	43
ACR db min.	57.2	54.9	42.6	40.1

ProPlex CAT5e Ultra Ethernet cable meets attenuation specs up to 90 m (295 ft); meets all other CAT5e performance specs up to 100 m (328 ft)

General Information

A 4-pair, 24 AWG, 100 Ohm S/FTP round patch cable, designed to the ISO / IEC 11801 Category 5e requirements. The cable contains 4 twisted pairs, cabled, double shielded with Kevlar reinforcement strands, jacketed in black UV resistant polyurethane. Designed for fixed or portable applications in harsh environments.

Electrical Specifications

Velocity of Propagation	78% nom.
Impedance	100 +/- 5 Ohm (100 MHz)
Delay Skew	25 ns/100 m max.
Dielectric Strength	VAC/1min - 700V/min
Capacitance	42 pF/m nom. @1 KHz
Resistance Unbalance	2% max @ 20 °C
Capacitance Unbalance	1.4 pF/m max. @ 800 Hz
Insulation Resistance	5000 M Ohm / Km Min.
DC Resistance	93 Ohm/Km @ 20 °C
Typical channel length	Up to 90 m @ 20 °C
Alien cross talk	Proven by design per IEC 61156-6
Coupling Attenuation	Type I per IEC 61156-6
Transfer impedance	Grade 1 per IEC 61156-6
Transverse conversion loss	Level A per IEC 61156-6
PoE Compatibility	Yes

Reeling Capability

In the core level, under the shields, are 4 conductor pairs and 6 strength members, 3 white and 3 yellow. Two central strength members perform a "tension relief" function. The other 4 are twisted around the pairs, each pair is wrapped in a strength member to perform a "pair structure holding" function. The reason for two types of strength members is that each one has a different prolongation constant – one positive, the other negative – so on average the length of the strength members remains constant and equal to the wire length.

To install on a reel, please use the following guidelines:

- Minimum reel core diameter is 10 cm.
- Minimum tension to be used during reeling and unreeling process.
- Terminate the cable with plugs before reeling is initiated.
- Cable length per reel is 90 meters or less.

PUR Jacket Properties

Jacket Compound Specification

Halogen Free Flame Retardant Polyether-based Polyurethane, Glossy finish. Excellent Hydrolysis resistance. High microbial resistance. UV resistant. High flexibility.

Jacket Testing Results

Test	Test Method	Result
Density	DIN 53479	1.15g/cubic cm
Tensile strength	DIN 53504	40 nom. N/sqmm
Tensile strength after 42 days, H2O 80°C	DIN 53504	30 N/sqmm
Ultimate elongation	DIN 53504	550 nom. % min.
20% modulus	DIN 53504	3.2 N/sqmm
100% modulus	DIN 53504	5.5 N/sqmm
300% modulus	DIN 53504	12 N/sqmm
Tear strength	DIN 53515	60 N/mm
Hardness shore A	DIN 53505	87
Hardness shore D	DIN 53505	36
Melt index- MVR	ISO 1133	30-60 cubic cm/10 min
Brittle point	DIN 53513	-45°C
Abrasion Loss	DIN 53516	40 cubic mm
Compression set (23°C) 70h	DIN 53517	30%
Compression set (70°C) 24h	DIN 53517	50%

PUR Jacket Chemical Resistance Chart

Organic Substances				Inorganic Substances			
Medium	Temperature	Concentration	Reaction	Medium	Temperature	Concentration	Reaction
Acetic Acid	Room Temp	20%	slight	Acetic Acid	Room Temp	20%	nil to slight
Acetone	Room Temp	40%	poor	Acetic Acid 3N	Room Temp		poor
Astm Fuel A	Room Temp	4%	nil	Aluminum Chloride, Aqu.	Room Temp	5%	nil
Astm Fuel B	Room Temp	10%	nil	Ammonia, Aqu.	Room Temp	10%	nil
Astm Fuel C	Room Temp	18%	nil to slight	Aniline	Room Temp		no resistance
Astm Oil 1	80°C		nil	Barium Salts	Room Temp	cold saturated	nil to slight
Astm Oil 2	80°C	3%	nil	Boric Acid	Room Temp	100%	nil to slight
Astm Oil 3	80°C	6%	nil	Calcium Chloride	Room Temp	cold saturated	nil to slight
Benzene	Room Temp		poor	Calcium Nitrate	Room Temp	cold saturated	nil to slight
Butanol	Room Temp		poor	Chromium Salts, Aqu.	Room Temp	cold saturated	nil to slight
Butyl Acetate	Room Temp	40%	poor	Copper Salts, Aqu.	Room Temp	cold saturated	nil to slight
Citric Acid	Room Temp		slight	Fe Chloride, Aqu. 5%	40°C		slight
Cutting Oil	Room Temp		nil to slight	Hydrochloric Acid 20%	Room Temp	20%	nil to slight
Cyclohexanol	Room Temp	5%	slight	Hydrogen Peroxide	Room Temp	3%	nil to slight
Dibutylphthalate	Room Temp	40%	slight	Hydrogen Sulphide	Room Temp		nil to slight
Diesel Oil	Room Temp		nil to slight	Magnesium Salts, Aqu.	Room Temp	cold saturated	nil to slight
Diesel Oil	Room Temp	5%	nil	Mercury	Room Temp	100%	nil to slight
Diethylether	Room Temp		nil to slight	Mercury Salts, Aqu.	Room Temp	cold saturated	nil to slight
Diethylprestone	Room Temp		nil to slight	Nickel Salts, Aqu.	Room Temp	cold saturated	nil to slight
Dimethylformamide	Room Temp		soluble	Nitric Acid	Room Temp	20%	no resistance
Ethyl Alcohol	Room Temp	100%	slight	Phosphoric Acid	Room Temp	50%	nil to slight
Ethylacetate	Room Temp	40%	poor	Potassium Carbonate, Aqu. (Potash)	Room Temp		nil to slight
Ethylether	Room Temp		slight	Potassium Chloride	Room Temp	cold saturated	nil to slight
Glycerin	Room Temp		nil	Potassium Dichromate, Aqu.	Room Temp		slight
Glycol	Room Temp	2%	nil	Potassium Iodide	Room Temp		nil to slight
Glycantin / Water 1:1	Room Temp		slight	Potassium Nitrate, Aqu.	Room Temp		nil to slight
Glycantin / Water 1:1	80°C		slight	Potassium Permanganate	Room Temp		nil to slight
Hydraulic Oil	Room Temp		slight	Potassium Sulphate, Aqu.	Room Temp		nil to slight
Isopropanol	Room Temp	12%	slight	Sea Water	Room Temp	100%	nil
Isopropyl Alcohol	Room Temp	100%	slight	Silver Salts, Aqu.	Room Temp		nil to slight
Kerosene	Room Temp	3%	nil	Sodium Bicarbonate, Aqu. (Soda)	Room Temp		slight
Machine Oil	Room Temp		nil to slight	Sodium Chloride, Aqu.	Room Temp		nil to slight
Methanol	Room Temp	10%	slight	Sodium Chloride Solution, Conc.	Room Temp		nil
Methyl Alcohol	Room Temp	100%	slight	Sodium Hydroxide Solution 1N	Room Temp		slight
Methylen Chloride	Room Temp		no resistance	Sodium Thiosulphate, Aqu.	Room Temp		nil to slight
Methylethylketone	Room Temp	45%	poor	Sulphur	Room Temp	100%	nil to slight
Mineral Oil	80°C		nil	Sulphur Dioxide	Room Temp		slight
Olive Oil	Room Temp		nil	Sulphuric Acid 20%	Room Temp		slight
Paraffin Oil	Room Temp		nil to slight	Toluene	Room Temp	35%	poor
Siccinic Acid, Aqu.	Room Temp	cold saturated	nil to slight	Water	100°C		poor
Vegetable Oil And Fats	Room Temp		nil	Water	Room Temp		nil
				Water	80°C		nil to slight

Key:

Nil: Resistance over a prolonged period.
 Nil to slight: After a certain time appreciable differences are noticeable.
 Slight: Conditionally resistant.
 Poor: Short term contact possible under certain conditions.
 No resistance: Pronounced attack

CONTACT INFORMATION

LOS ANGELES HEADQUARTERS

527 Park Avenue | San Fernando, CA 91340, USA

Tel: +1 818.899.8818 | Fax: +1 818.899.8813

sales@tmb.com

TMB 24/7 TECH SUPPORT

US/Canada: +1.818.794.1286

Toll Free: 1.877.862.3833 (1.877.TMB.DUDE)

UK: +44 (0)20.8574.9739

Toll Free: 0800.652.5418

techsupport@tmb.com

LOS ANGELES +1 818.899.8818

LONDON +44 (0)20.8574.9700

NEW YORK +1 201.896.8600

BEIJING +86 10.8492.1587

CANADA +1 519.538.0888

RIGA +371 6389 8886



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