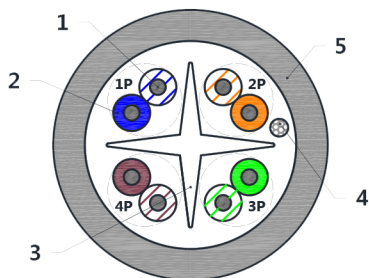


**Schema**



**Product Description**

<b>1 Inner Conductor</b>	Composition : Solid Bare Copper (BC)
	Diameter : See table below
<b>2 Insulation</b>	Composition : FEP (Fluorinated Ethylene Propylene)
	Diameter : See table below
<b>3 Filler</b>	Type of filler : Cross-Member
	Composition : High density Polyethylene (HDPE)
<b>4 Filler</b>	Type of filler : Ripcord
	Composition : Polyester
<b>5 Jacket</b>	Composition : PVC (UL CMP)
	Dimensions : See table below
	color : according to the customer's requirements

**Dimensional Table**

Nb pairs	Section	Diameter of	Diameter of insulated conductor (mm)	Minimal thickness of jacket (mm)	Diameter of outer jacket (mm)
	(AWG)	inner conductor (mm)			
4	23	0.56 ± 0.01	1.01 ± 0.01	0.55 ~ 0.60	6.0 ± 0.15

Diameters of inner conductor and insulated conductor must be designed in order to reach the electrical and transmission properties of CAT6.

**Color Table**

Pair No.	Conductor 1	Conductor 2
1	blue stripe + white + blue stripe	Blue
2	orange stripe + white + orange stripe	Orange
3	green stripe + white + green stripe	Green
4	brown stripe + white + brown stripe	Brown

**Reference Standard**

Materials		Fire performance	Electrical performance	Low	Zero Halogen (ZH)		Reach regulation	RoHs Directive
Insulation	Jacket			Smoke Density during combustion	Amount of Halogen acid gas during combustion	Degree of acidity (corrosivity) of gases for materials during combustion		
EN 50290-2-23 UL444	EN 50290-2-27 UL444	EN 60332-1-2 UL1581.1080	IEC 61156-5 (ref) ISO/IEC 11801 EN 50173 ANSI/TIA-568.2-D	EN 61034-2	EN 60754-1	EN 60754-2	(EU)2015/863	

**Mechanical Properties**

Test Method	According to		
	ISO 6892	NF EN 60811-1-1 (IEC 60811-501)	
	$L_0=200mm$ , speed =100mm/min	$L_0=20mm$ , speed =250mm/min (or 25mm/min for PE&PP insulation)	
	INNER CONDUCTOR	INSULATION	JACKET
Tensile Strength (MPa)	-	≥ 10 MPa	≥ 12.5 MPa
Elongation (%)	9%~24%	≥ 150 %	≥ 125 %

**Thermal Properties**

Operating Temperature Range (°C)	-20°C to +75°C (static)
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**Electrical Properties**

Conductor Resistance at 20°C	NF EN 50289-1-2 / IEC 60189-1	≤ 9.5 Ω / 100m
Resistance unbalance within a pair	NF EN 50289-1-2/ IEC 60708	≤ 5%
Dielectric Strength <i>Test Voltage (cd/cd): 1.00KV DC or 0.7 KV AC for 1 min</i> <i>Test Voltage (cd/screen): 1.00KV DC or 0.7 KV AC for 1 min</i>	NF EN 50289-1-3 / IEC 61196-1-105	No breakdown
Insulation Resistance at 20°C after 2min of electrification under a DC voltage between 100 & 500V	NF EN 50289-1-4 / IEC 60885-1	>1500 MΩ / 100m
Mutual capacitance	NF EN 50289-1-5 / IEC 60189-1	5600pF / 100m MAX
Capacitance unbalance pair to ground at 800Hz or 1 kHz	NF EN 50289-1-5 / IEC 60189-1	≤ 160 pF / 100m
Characteristic impedance at 100MHz	NF EN 50289-1-11/ IEC 61156-1	100 ± 15 Ω
Spark Test	UL444	2000 ± 250VOC

**Transmission Properties**

CAT 6 ANSI/TIA-568.2-D; IEC 61156-6; YD/T1019-2013

No.	Frequency	Attenuation (Max)	Propagation Delay (MAX)	Propagation Delay Skew (MAX)	Return Loss (Min)	NEXT (Min)	PS NEXT (Min)	EL-FEXT (Min)	PS EL-FEXT (Min)
	MHz	dB/100m	ns/100m	ns/100m	dB(on 100m)	dB(on 100m)	dB(on 100m)	dB(on 100m)	dB(on 100m)
1	4	3.78	552	45	23.01	66.27	63.27	55.96	52.96
2	8	5.32	546.73	45	24.52	61.75	58.75	49.94	46.94
3	10	5.95	545.38	45	25	60.3	57.3	48	45
4	16	7.55	543	45	25	57.24	54.24	43.92	40.92
5	20	8.47	542.05	45	25	55.78	52.78	41.98	38.98
6	25	9.51	541.2	45	24.32	54.33	51.33	40.04	37.04
7	31.25	10.67	540.44	45	23.64	52.88	49.88	38.1	35.1
8	50	13.66	539.09	45	22.21	49.82	46.82	34.02	31.02
9	62.5	15.38	538.55	45	21.54	48.36	45.36	32.08	29.08
10	100	19.8	537.6	45	20.11	45.3	42.3	28	25
11	125	22.36	537.22	45	19.43	43.85	40.85	26.06	23.06
12	200	28.98	536.55	45	18	40.78	37.78	21.98	18.98
13	250	32.85	536.28	45	17.32	39.33	36.33	20.04	17.04
14	350 *	39.8	/	45	16.3	36.1	34.1	16.9	13.9
15	400 *	43	/	45	15.9	35.3	33.7	15.7	12.7
16	450 *	46.3	/	45	15.5	34.5	32.5	14.7	11.7
17	500 *	48.9	/	45	15.2	33.8	31.8	13.8	10.8
18	550 *	51.8	/	45	14.9	33.2	31.2	12.9	9.9

Remarks: \* are the reference values.

**Application**

The cable must support class E applications and must be compatible POE, POE+ and UPOE.

**Marking**

Type	ink
Color	black
Text	According to the customer's requirements

**Packing**

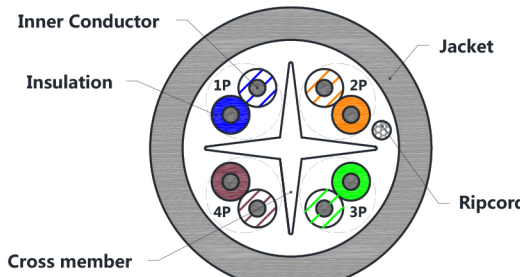

Type of Packing	Dimension (mm)	Qt of per Packing (m)	Label Type	Cut Allowed	Tolerance Length (%)
Inner Box	385 X 385 X 215	305		No	0
Master Carton	440 X 420 X 420	305		No	0

**Product Design Card**

**Product Description : Cat 6 U/UTP 4 X 2 X 0.56 CMP**

Rev. : A

ECN Description :

Construction Item Description			Electrical Property					
Conductor	Material	Bare Solid Copper	Conductor Resistance at 20°C					
	OD	0.560 ± 0.01mm	≤ 9.5 Ω / 100m					
Insulation	Material	FEP(Fluorinated Ethylene Propylene)	Resistance unbalance within a pair					
	OD	1.01 ± 0.01 mm	≤ 2%					
	Average THK	0.22 mm	Insulation Resistance at 20°C after 2min of electrification under a DC voltage between 100 & 500V					
	Color	1p: white + 2 blue stripes & blue	Mutual capacitance					
		2p: white + 2 orange stripes & orange	5600 pF / 100m MAX					
		3p: white + 2 green stripes & green	Capacitance unbalance pair to ground at 800Hz or 1 kHz					
4p: white + 2 brown stripes & brown	Characteristic impedance at 100MHz		≤ 160 pF / 100m					
			Dielectric Strength Test Voltage (cd/cd,cd/screen): 1.00KV DC or 0.7 KV AC for 1 min					
			No breakdown					
			<b>Mechanical Property</b>					
Pair Twist	Lay & Direction	1p: S=18.5 mm (26%)	insulation	elongation before aging	≥ 300%			
		2p: S=15.5 mm (21%)		tensile strength before aging	≥12 MPa			
		3p: S=20.5 mm (30%)	jacket	elongation after aging	≥ 150 %			
		4p: S=14.0 mm (19%)		tensile strength after aging	≥10.5 MPa			
	OD	/		elongation before aging	≥ 150 %			
Inner Assemble	Lay	S=90±5 mm	elongation after aging	≥ 125 %				
	Direction	according to the drawing	tensile strength after aging	≥ 12.5 MPa				
	Filler	cross member 4.8X4.8X0.5mmT	<b>Packing</b>					
Filler	OD	/	Inner Box		385 X 385 X 215mm			
	Material	Ripcord	Master Carton		440 X 420 X 420mm			
Outside Shield	Construction	300D	 					
	Shield	/						
Jacket	Material	CMP, 70P, -20~75°C						
	Hardness	81 ±3						
	OD	6.0 ± 0.15						
Marking	Average THK	0.55~0.60						
	Color	according to the customer's requirements						
	Marking Color	black						
						according to the customer's requirements		