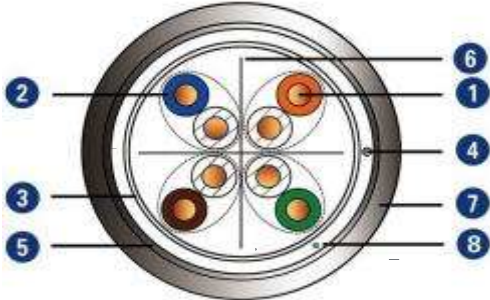
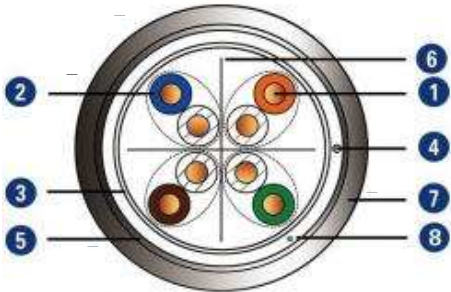


Schema	Product Description	
	①	Inner Conductor
	②	Insulation
	③	Polyester
	④	Drain Wire
	⑤	Aluminum Foil
	⑥	Cross - Member
	⑦	Jacket
	⑧	Ripcord

Construction Item Description			
Conductor	Construction	AWG	23 AWG
	Material	/	Bare Solid Copper
Insulation	Material	/	HDPE
	Proportion	g/cm <sup>3</sup>	2.1
	Outside Diameter	mm	1.13 ± 0.05
	Average Thickness	mm	0.29±0.05
	Color	/	1p: blue stripe + white + blue stripe & blue 2p: orange stripe + white + orange stripe & orange 3p: green stripe + white + green stripe & green 4p: brown stripe + white + brown stripe & brown
Pair Twist	Lay & Direction	/	1p: S=8.5 mm (26%)
			2p: S=13.5 mm (21%)
			3p: S=9.5 mm (30%)
			4p: S=16.5 mm (19%)
Inner Assemble	Lay & Direction	/	S=80 ± 5 mm
	Cross Member	mm	cross member 5.0X5.0X0.50 mmT
	Material	/	LDPE
	Ripcord	/	3*250D
	Material	/	Polyester
Outside Shield	mylar	/	PET thin film
	norms	mm	25*0.025
	Shield	/	Aluminum Foil
	Construction	mm	25*0.063mm
	Drain Wire	/	TCCAA
	norms	mm	0.40
Jacket	Material	/	PVC
	Hardness	A	81 ± 3
	Outside Diameter	mm	7.5 ± 0.2
	Average Thickness	mm	0.55 ~ 0.65
	Color	/	Black/Blue/White/Purple
	Marking Color	/	Black
Marking	Jacket	/	CAT6A 750MHz CMP PLENUM STP 4-PAIR 23AWG EIA/TIA-568-C.2-10002FT-1000FT

### Schema



### Product Description

①	Inner Conductor
②	Insulation
③	Polyester
④	Drain Wire
⑤	Aluminum Foil
⑥	Cross - Member
⑦	Jacket
⑧	Ripcord

### 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	NA	1.13± 0.05	0.55 ~ 0.65	7.5 ± 0.2

Diameters of inner conductor and insulated conductor must be designed in order to reach the electrical and transmission properties of CAT6A.

### 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

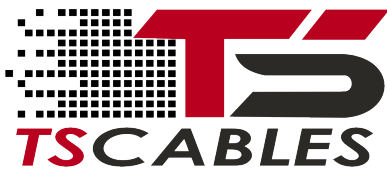
Materials		Fire performance	Electrical performance	Low	Zero Halogen (ZH)		Reach regulation	RoHs Directive
Insulation	Jacket			Smoke Density during combustion	Amount of Halogen acid gas during combustion	Degree of acidity (corrosivity) of gases for materials during combustion		
EN 50290-2-23 UL444	EN 50290-2-27 UL444	EN60332-1-2 GB/T18380.12	ANSI/TIA-568.2-D ISO/IEC 1 1801 IEC 61156-5 EN 50173	NA	NA	NA	NA	NA

### Mechanical Properties

Test Method	According to		
	In Standard	NF EN 60811-1-1 (IEC 60811-501)	
	<i>L<sub>0</sub></i> = 200mm, speed = 100mm/min	<i>L<sub>0</sub></i> = 20mm, speed = 250mm/min (or 25mm/min for PE&PP insulation)	
	INNER CONDUCTOR	INSULATION	JACKET
Tensile Strength (MPa)	-	≥ 16 MPa	≥ 13.5 MPa
Elongation (%)	9%~24%	≥ 300%	≥ 150 %

### Thermal Properties

Operating Temperature Range (°C)	-20°C to +75°C (static)
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# Cable Specification

## Cat6A Shielded F/UTP Plenum, 1000ft, 23AWG Solid Bare Copper, 750MHz

Date: 26/06/2023

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	≤ 2%
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 100 MHz	NF EN 50289- 1- 11/ IEC 61156- 1	100 ± 15 Ω
Spark Test	UL444	2000 ± 250VOC

Transmission Properties									
ANSI/TIA-568.2-D ISO/IEC 1 1801/IEC 61156-5/EN 50173									
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	300	34.27	536.08	45	17.3	38.14	35.14	18.46	15.46
15	350	37.25	535.92	45	17.3	37.14	34.14	17.12	14.12
16	400	40.05	535.8	45	17.3	36.27	33.27	15.96	12.96
17	450	42.71	535.7	45	17.3	35.5	32.5	14.94	11.94
18	500	45.26	535.61	45	17.3	34.82	31.82	14.02	11.02

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	<i>Black</i>
Text	CAT6A 750MHz CMP PLENUM STP 4-PAIR 23AWG EIA/TIA-568-C.2-1000FT-1000FT

**Beltsville MD 20705 - Riverside CA 92508 - Kansas City KS 66103**

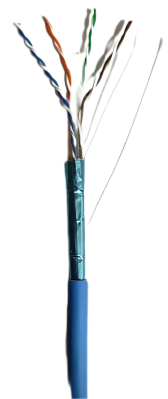
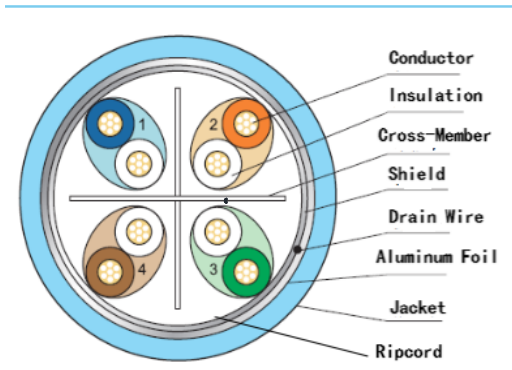
**(301) 825-9890 - Sales@tscables.com**

### Product Design Card

Product Description : **Cat6A Shielded F/UTP Plenum, 1000ft, 23AWG Solid Bare Copper, 750MHz**

Rev. : A      ECN Description:

Construction		Item Description	Electrical Property		
Conductor	Material	Bare Solid Copper (elongation : 19-24% )	Conductor Resistance at 20 °C	≤ 9.5Ω/100m	
	OD	23 AWG	Resistance unbalance within a pair	≤ 2%	
Insulation	Material	HDPE	Insulation Resistance at 20 °C after 2 min of electrification under a DC voltage between 100 & 500V	> 1500 MΩ / 100m	
	OD	1.13 ± 0.05 mm	Mutual capacitance	5600 pF / 100m MAX	
	Average THK	0.29 mm± 0.05 mm	Capacitance unbalance pair to ground at 800Hz or 1 kHz	≤ 160 pF / 100m	
	Color	1p: white + 2 blue stripes & blue	Characteristic impedance at 100MHz	100 ± 15 Ω	
		2p: white + 2 orange stripes & orange	Dielectric Strength Test Voltage (cd/cd,cd/screen): 1.00KV DC or 0.7 KV AC for 1 min	No breakdown	
	3p: white + 2 green stripes & green 4p: white + 2 brown stripes & brown	<b>Mechanical Property</b>			
Pair Twist	Lay & Direction	1p: S=8.5 mm (26%)	insulation	elongation before aging	≥ 300%
		2p: S=13.5 mm (21%)		tensile strength before aging	≥16 MPa
		3p: S=9.5 mm (30%)	jacket	elongation before aging	≥ 150 %
		4p: S=16.5 mm ( 19%)		tensile strength before aging	≥ 13.5 MPa
OD	/		elongation after aging	≥ 125 %	
Inner Assemble	Lay	S=80±5 mm		tensile strength after aging	≥ 12.5 MPa
	Direction	according to the drawing			
	Filler	cross member 5.0X5.0X0.50mmT			
	OD	/			
Filler	Ripcord	250D*3			
	Material	Polyester			
Outside Shield	Shield	mylar			
	Construction	25*0.025mm			
	Material	PET thin film			
	Shield	Aluminum Foil			
	Construction	25*0.063mm			
	Drain Wire	TCCAA			
Jacket	norms	0.40mm			
	Material	PVC			
	Hardness	81 ±3			
	OD	7.5 ± 0.2			
	Average THK	0.55~0.65			
	Color	Black/Blue/White/Purple			
Marking	Marking Color	Black			
		CAT6A 750MHZ CMP PLENUM STP 4-PAIR 23AWG EIA/TIA-568-C.2-1000FT-1000FT			



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