
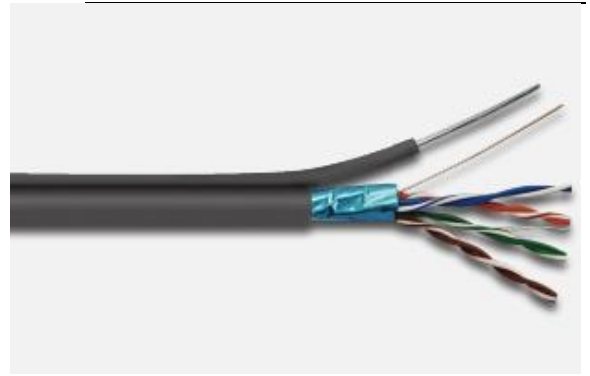


# CAT5e Outdoor Shielded FTP Cable W/Messenger

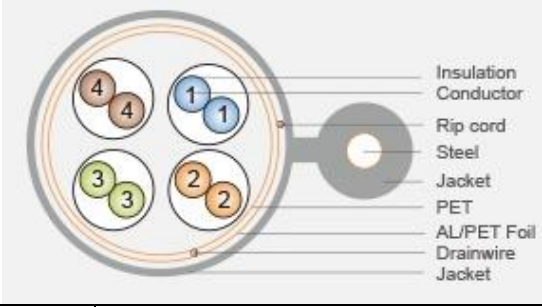
24AWG · 4 Twisted Pairs · Solid Copper · F/UTP ·  
200 MHz · 10Gbps upto 20m tested 



## Key Features:

- ✓ UV resistant PE Jacket designed to withstand sunlight, snow and ice
- ✓ Perfect for above ground applications
- ✓ Built-in steel messenger makes this cable ideal for aerial applications
- ✓ Suitable for gigabit speeds –2.5Gbps up to 100m, Suitable for 10Gbps up to 20m
- ✓ In compliance with ANSI/TIA 568.2-D
- ✓ Supports PoE and PoE+ (IEEE 802.3af/at) upto 30W and 300V DC
- ✓ Installation temperature: -30°C - +50°C

## Technical Data:

Category	F/UTP CAT5e – 4P-PVC																																																																				
Test Standard	ISO/IEC 11801, TIA-568																																																																				
Conductor	Material	Solid Bare copper	<table border="1"> <tr> <td rowspan="4">Sheath Physical Properties</td> <td>Before Aging: Tensile Strength (Mpa) ≥ 10.0</td> <td rowspan="4" style="text-align: center; vertical-align: middle;"> <table border="1"> <tr> <td rowspan="2">Electrical Characteristics (20 °C)</td> <td>1.0 – 100.0MHz: Impedance (Ω) 100 ± 15</td> <td rowspan="2" style="text-align: center; vertical-align: middle;"> <table border="1"> <tr> <td>NVP:</td> <td>69%</td> </tr> <tr> <td>Capacitance (nF/100m) max:</td> <td>5.6</td> </tr> <tr> <td>DC Resistance (Ω/100m) max:</td> <td>9.5</td> </tr> <tr> <td>DC Conductor Resistance Unbalance (%) max:</td> <td>5.0</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table> </td> </tr> <tr> <td>After Aging: Elongation (%) ≥ 300</td> </tr> <tr> <td>Cold bend (20 ± 2 °C x4h) 8xcable O.D. No visible cracks</td> </tr> <tr> <td>1.0 – 100.0MHz: Delay Skew (ns/100m) ≤ 45</td> </tr> </table> </td> </tr> <tr> <td rowspan="2">Insulation</td> <td>Material</td> <td>HDPE</td> </tr> <tr> <td>Diameter</td> <td>1.00 ± 0.03 mm</td> </tr> <tr> <td rowspan="4">Sheath</td> <td>Thickness</td> <td>0.55 ± 0.05 mm</td> </tr> <tr> <td>External O.D.</td> <td>(6.4/2.6) ±0.4 mm</td> </tr> <tr> <td>Surface</td> <td>Clean, Frap, Satiation</td> </tr> <tr> <td>Material</td> <td>HDPE</td> </tr> <tr> <td rowspan="3">Surface Printing</td> <td>Color</td> <td>Black</td> </tr> <tr> <td>Letter height</td> <td>3.0 ± 0.3 mm</td> </tr> <tr> <td>Print Error &amp; Space</td> <td>≤ ±0.5%, 1 mm</td> </tr> <tr> <td rowspan="2">Core Color</td> <td>1 White-Blue /Blue</td> <td>2 White-Orange /Orange</td> </tr> <tr> <td>3 White-Green /Green</td> <td>4 White-Brown /Brown</td> </tr> <tr> <td>Packing</td> <td colspan="2">Wooden Tray</td> </tr> <tr> <td>Carton Dimension</td> <td colspan="2">35cm x 35cm x 20cm</td> </tr> <tr> <td>Packing Length</td> <td colspan="2">(500 ± 1.5)m</td> </tr> <tr> <td>Rip Cord</td> <td colspan="2">Yes</td> </tr> <tr> <td>Drain Wire</td> <td colspan="2">0.45mmTC</td> </tr> </table>	Sheath Physical Properties	Before Aging: Tensile Strength (Mpa) ≥ 10.0	<table border="1"> <tr> <td rowspan="2">Electrical Characteristics (20 °C)</td> <td>1.0 – 100.0MHz: Impedance (Ω) 100 ± 15</td> <td rowspan="2" style="text-align: center; vertical-align: middle;"> <table border="1"> <tr> <td>NVP:</td> <td>69%</td> </tr> <tr> <td>Capacitance (nF/100m) max:</td> <td>5.6</td> </tr> <tr> <td>DC Resistance (Ω/100m) max:</td> <td>9.5</td> </tr> <tr> <td>DC Conductor Resistance Unbalance (%) max:</td> <td>5.0</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table> </td> </tr> <tr> <td>After Aging: Elongation (%) ≥ 300</td> </tr> <tr> <td>Cold bend (20 ± 2 °C x4h) 8xcable O.D. No visible cracks</td> </tr> <tr> <td>1.0 – 100.0MHz: Delay Skew (ns/100m) ≤ 45</td> </tr> </table>	Electrical Characteristics (20 °C)	1.0 – 100.0MHz: Impedance (Ω) 100 ± 15	<table border="1"> <tr> <td>NVP:</td> <td>69%</td> </tr> <tr> <td>Capacitance (nF/100m) max:</td> <td>5.6</td> </tr> <tr> <td>DC Resistance (Ω/100m) max:</td> <td>9.5</td> </tr> <tr> <td>DC Conductor Resistance Unbalance (%) max:</td> <td>5.0</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	NVP:	69%	Capacitance (nF/100m) max:	5.6	DC Resistance (Ω/100m) max:	9.5	DC Conductor Resistance Unbalance (%) max:	5.0									After Aging: Elongation (%) ≥ 300	Cold bend (20 ± 2 °C x4h) 8xcable O.D. No visible cracks	1.0 – 100.0MHz: Delay Skew (ns/100m) ≤ 45	Insulation	Material	HDPE	Diameter	1.00 ± 0.03 mm	Sheath	Thickness	0.55 ± 0.05 mm	External O.D.	(6.4/2.6) ±0.4 mm	Surface	Clean, Frap, Satiation	Material	HDPE	Surface Printing	Color	Black	Letter height	3.0 ± 0.3 mm	Print Error & Space	≤ ±0.5%, 1 mm	Core Color	1 White-Blue /Blue	2 White-Orange /Orange	3 White-Green /Green	4 White-Brown /Brown	Packing	Wooden Tray		Carton Dimension	35cm x 35cm x 20cm		Packing Length	(500 ± 1.5)m		Rip Cord	Yes		Drain Wire	0.45mmTC	
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**Technical Performance (100m):**

Frequency (MHz)	Return Loss ≥dB	Attenuation ≤dB	NEXT ≥dB	Phase Delay ≤ns
1	20.0	2.0	65.3	570.00
4	23.0	4.1	56.3	552.00
8	24.5	5.8	51.8	516.73
10	25.0	6.5	50.3	545.38
16	25.0	8.2	47.2	543.00
20	25.0	9.3	45.8	542.05
25	24.3	10.4	44.3	541.2
31.25	23.6	11.7	42.9	540.44
62.5	21.5	17.0	38.4	538.55
100	20.1	22.0	35.3	537.60
200	18.00	32.4	30.8	536.50

Frequency (MHz)	PSNEXT ≥dB	ELFEXT ≥dB	PSELFEXT ≥dB
1	62.3	63.8	60.8
4	53.3	51.8	48.8
8	48.8	45.7	42.7
10	47.3	43.8	40.8
16	44.4	39.7	36.7
20	42.8	37.8	34.8
25	41.3	35.8	32.8
31.25	39.9	33.9	30.9
62.5	35.4	27.9	24.9
100	32.3	23.8	20.8
200	27.8	17.7	14.7





**Cable ID: CAT5E-STAND**

**Test Limit: TIA Cat 5e Perm. Link**

Limits Version: 1.9500

Date / Time: 04/13/2021 09:15:28 AM

Operator: M.G.G

**Headroom 6.5 dB (NEXT 1,2-7,8)**

Cable Type: Cat 5e F/UTP

NVP: 69.0%

Main: DTX CableAnalyzer

S/N: 8991028

Software Version: 2.7800

Calibration Date: 02/14/2017

Adapter: DTX-PLA002

S/N: MC4T52L

**Test Summary: PASS**

Remote: DTX CableAnalyzer

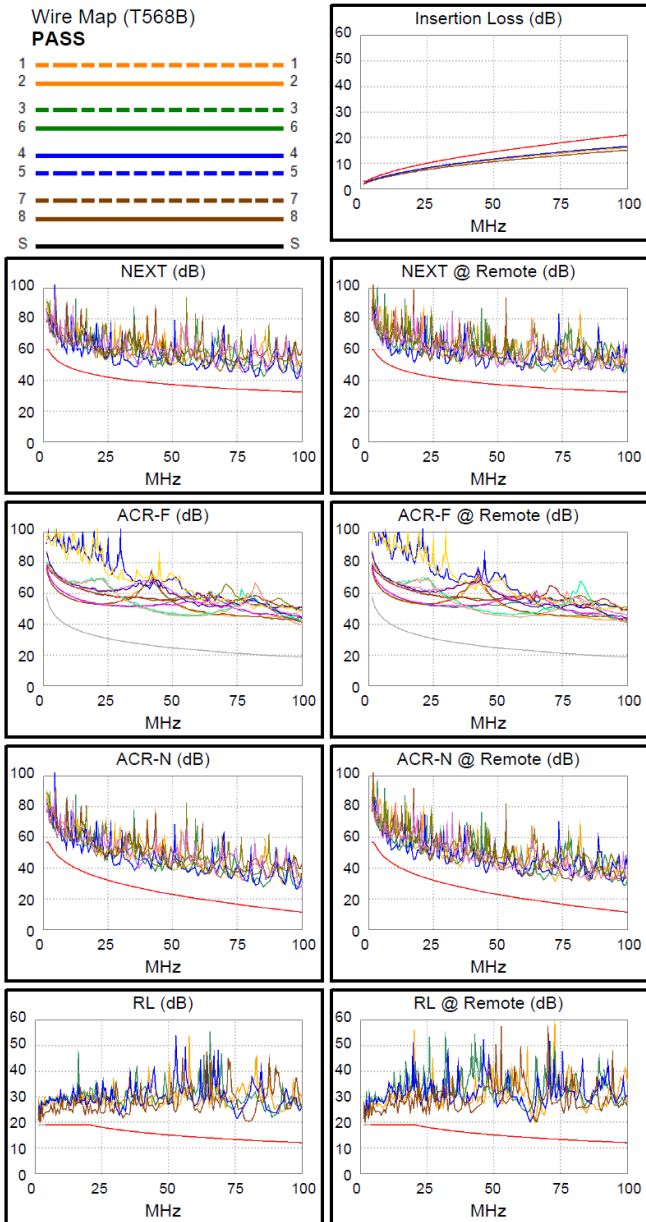
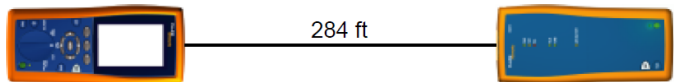
S/N: 8991027

Software Version: 2.7800

Adapter: DTX-PLA002

S/N: MC4T50L

Length (ft), Limit 295	[Pair 7,8]	284
Prop. Delay (ns), Limit 498	[Pair 3,6]	444
Delay Skew (ns), Limit 44	[Pair 3,6]	25
Resistance (ohms)	[Pair 3,6]	15.9
Insertion Loss Margin (dB)	[Pair 3,6]	4.5
Frequency (MHz)	[Pair 3,6]	100.0
Limit (dB)	[Pair 3,6]	21.0



Worst Case Margin Worst Case Value

PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2-7,8	1,2-7,8	1,2-7,8	1,2-4,5
<b>NEXT (dB)</b>	7.3	6.5	8.8	12.6
Freq. (MHz)	35.5	8.8	98.0	99.0
Limit (dB)	39.6	49.4	32.4	32.4
Worst Pair	7,8	1,2	1,2	1,2
<b>PS NEXT (dB)</b>	9.2	8.9	9.8	12.4
Freq. (MHz)	35.5	8.8	98.3	85.5
Limit (dB)	36.6	46.4	29.4	30.4

PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2-3,6	1,2-3,6	7,8-4,5	1,2-3,6
<b>ACR-F (dB)</b>	17.7	17.5	21.2	22.5
Freq. (MHz)	4.4	4.4	99.3	99.8
Limit (dB)	45.8	45.8	18.7	18.6
Worst Pair	1,2	1,2	4,5	7,8
<b>PS ACR-F (dB)</b>	18.4	18.4	22.3	22.6
Freq. (MHz)	1.6	1.8	99.0	99.3
Limit (dB)	51.4	50.8	15.7	15.7

N/A	MAIN	SR	MAIN	SR
Worst Pair	1,2-7,8	1,2-7,8	1,2-7,8	1,2-4,5
<b>ACR-N (dB)</b>	9.5	8.0	14.6	17.0
Freq. (MHz)	8.6	8.8	98.0	99.0
Limit (dB)	43.8	43.6	11.7	11.5
Worst Pair	7,8	1,2	1,2	4,5
<b>PS ACR-N (dB)</b>	11.5	10.1	14.6	18.3
Freq. (MHz)	5.1	8.8	98.3	99.0
Limit (dB)	45.7	40.6	8.7	8.5

PASS	MAIN	SR	MAIN	SR
Worst Pair	7,8	7,8	7,8	1,2
<b>RL (dB)</b>	3.6	3.4	7.0	6.0
Freq. (MHz)	4.0	7.6	80.8	65.3
Limit (dB)	19.0	19.0	12.9	13.9

Compliant Network Standards:  
 10BASE-T      100BASE-TX      100BASE-T4  
 1000BASE-T    2.5GBASE-T      ATM-25  
 ATM-51        ATM-155          100VG-AnyLan  
 TR-4           TR-16 Active      TR-16 Passive