Copper Cable Solutions

Introduction 52
CopperTen® Augmented Category 6 Horizontal Cable 53
CopperTen® Augmented Category 6 F/UTP Horizontal Cable 55
Category 6 Horizontal Cable 61
Category 6 Limited Combustible Cable 73
Category 6 Outdoor Cable 76
Category 5e Horizontal Cable 79
Category 5e Outdoor Cable 88
Category 5e Backbone Cable 90
Category 3 Horizontal and Backbone Cable 94
Category 1 Horizontal and Backbone Cable 98

Copper Cable Solutions

Introduction

TrueNet Structured Cabling System With AirES Technology

ADC offers a wide variety of copper cable for transmission of the most critical data transmissions. The cable portfolio includes CopperTen® Augmented Category 6 cable for the 10 Gpbs Ethernet over UTP standard, as well as standards-compliant cable for Category 3, Category 5, Category 5e and Category 6 applications. Our high performance copper riser and Plenum data cables for backbone and horizontal applications are produced by highly automated manufacturing processes that ensure consistent quality and dependability with superior electrical performance.

ADC's patented AirES® (Air Enhanced System) is the cable technology that improves data thoughput, saves space, eases installation and reduces the danger of fire and smoke. Through a unique design and advanced manufacturing techniques we are able to build AirES cable using air as a conductor insulator. This groundbreaking process results in a cable that incorporates superior performance while reducing overall size up to 32 percent.

CopperTen Augmented Category 6 Cable with AirES Technology

- The world's first UTP structured cable to enable 10 gigabit Ethernet transmission over a full 100 meters
- Patented "inside out" filler provides the necessary air pockets to minimize alien crosstalk between cables in a bundle
  - Rotates along its length
  - Creates a large air footprint
  - Generates more separation between cables
- Unsurpassed electrical performance parameters
  - Increased signal to noise ratio (ACR) through performance increase in crosstalk and attenuation
  - Decreased crosstalk through reduced capacitive effects, with the introduction of air as an insulator
  - Increased signal strength through less attenuation (Insertion Loss), a by-product of reduced dielectric loss and twist rate

TrueNet® Category 6 and Category 5e Cables with AirES Technology

- Improved physical and mechanical design attributes
- Increased signal speed and strength
- Unsurpassed electrical performance parameters
  - Increased signal to noise ratio (ACR) through performance increase in crosstalk and attenuation
  - Decreased crosstalk through reduced capacitive effects, with the introduction of air as an insulator
  - Increased signal strength through less attenuation (Insertion Loss), a by-product of reduced dielectric loss and twist rate
- Cross-sectional area reduction of 28 percent for TrueNet Category 5e and 32 percent for TrueNet Category 6 provide multiple benefits
  - Increases fill rates by an average of 28 to 32 percent, decreasing installation costs
- Increases fill rates
- Decreases access-way space required
  - Improves safety in event of fire due to decrease of 32 percent in amount of fuel present
  - Provides four times greater crush resistance compared to UL 444 requirements
  - Decreases installation time
- Allows more cables to be pulled at the same time
- Promotes faster terminations

CopperTen® Category 6a Plenum Data Cable

Features

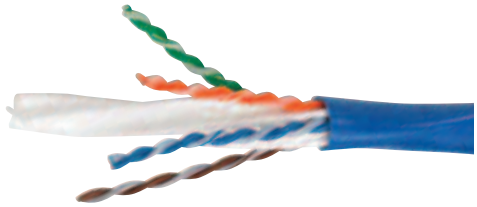
- Unique oblique elliptical offset filler for improved alien crosstalk
- Features AirES® technology
- Manufactured with lead-free materials

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-Any LAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1 Gigabit Networking System (WGNA)
- 1.2Gbps ATM (ATM Forum)
- 77 Channel broadband video
- 10GBase-T Ethernet (IEEE 802.3an)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMP
- ICEA S-90-661
- NEC 800 Type CMP
- TIA/EIA 568-B.2-10 Standards
- ISO/IEC 11801 Class EA Horizontal Cable Requirements



Ordering Information

Description	Catalog Number*
4-pair Plenum data cable	
1000' reel	10G-A6TP-*XX*02

Additional packaging options are available, please contact ADC Technical Assistance Center.

*To order jacket color, replace *XX* with:

BL = Blue	WT = White
GY = Gray	GN = Green
YL = Yellow	RD = Red

Specifications

Conductor:	23 AWG solid bare copper
Insulation:	All 4 pairs 100% FEP
Separator:	Fluoropolymer
Jacket:	Non-lead, flame retardant PVC
Nominal outer diameter:	0.275" (7.0mm)
Maximum average outer diameter:	0.275" (7.0mm)

Copper Cable Solutions

CopperTen® Augmented Category 6 Horizontal Cable

CopperTen® Category 6a Riser Data Cable

Features

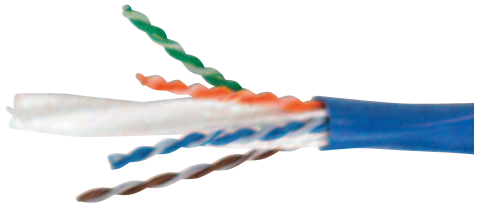
- Unique oblique elliptical offset filler for improved alien crosstalk
- Manufactured with lead-free materials

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-Any LAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1 Gigabit Networking System (WGNA)
- 1.2Gbps ATM (ATM Forum)
- 77 Channel broadband video
- 10GBase-T Ethernet (IEEE 802.3an)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR/CMG
- ICEA S-90-661
- NEC 800 Type CMR
- TIA/EIA 568-B.2-10 Standards
- ISO/IEC 11801 Class EA Horizontal Cable Requirements
- Fire load: 822kJ/m (0.23kWh/m)



Ordering Information

Description	Catalog Number*
4-pair riser data cable 1000' reel	10G-A6TR-*XX*02

Additional packaging options are available, please contact ADC Technical Assistance Center.

*To order jacket color, replace *XX* with:

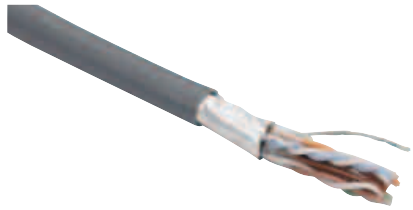
BL = Blue	WT = White
GY = Gray	GN = Green
YL = Yellow	RD = Red

Specifications

Conductor:	23 AWG solid bare copper
Insulation:	100% Polyolefin
Separator:	Flame retardant polyolefin
Jacket:	Non-lead, flame retardant PVC
Nominal outer diameter:	0.295" (7.5mm)
Maximum average outer diameter:	0.295" (7.5mm)

CopperTen® Four Pair F/UTP Plenum Cable

ADC F/UTP CopperTen® cable can be used in data center, communications closet and work station for 10G shielded performance. Installed in high-performance networks world wide, the system's design minimizes alien crosstalk and insertion loss and meets the performance requirements of IEEE 802.3an and TIA 568-B.2-10 standards.



Features

- Supports 10 Gigabit Ethernet over shielded copper to a full 100 meters
- 20 year TrueNet CopperTen warranty

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMP
- ICEA S-90-661
- NEC 800 Type CMP
- TIA/EIA-568-B.2-1 Category 6 Horizontal Cable Requirements
- ETL Verified TIA/EIA-568-B.2-10 Augmented Category 6 Horizontal Cable Requirements
- ISO/IEC 11801 Category 6 Horizontal Cable Requirements
- ISO/IEC 11801 Category 6a Horizontal Cable Requirements

Common Applications

- 4/16 Mb/s Token Ring (IEEE 802.5)
- 10BASE-T (IEEE 802.3)
- 100 Mb/s TP-PMD
- Broadband & Baseband Video
- 100BASE-T ("Fast Ethernet")
- 100BASE-T4 ("Fast Ethernet")
- 100BASE-TX ("Fast Ethernet")
- 100VG-Any LAN (IEEE 802.12)
- 52/155 Mb/s ATM (ATM Forum)
- 622 Mb/s ATM (ATM Forum)
- 1000BASE-T (Gigabit Ethernet)
- 1 Gigabit Networking System (WGNA)
- 1.2 Gb/s ATM (ATM Forum)
- 77 Channel Broadband Video
- 10GBASE-T Ethernet (IEEE P802.3an)

Specifications

CONSTRUCTION

Conductor:	23 AWG solid bare copper
Insulation:	Foamed FEP
Separator:	Fluoropolymer
Shield:	Aluminum/polyester foil
Drain Wire:	Stranded tinnned copper
Jacket:	Lead-free, flame retardant PVC
Nominal O.D.:	285" (7.2mm)

THERMAL CHARACTERISTICS

Transport and Storage:	-10°C to 60°C
Installation:	4°C to 50°C
Operation:	-10°C to 60°C

MECHANICAL CHARACTERISTICS

Bend Radius

During Installation:	16 X O.D.
Installed:	8 X O.D.
Pull Tension:	25 lb/f (110N)

ELECTRICAL CHARACTERISTICS

Conductor DC Resistance @ 20°C (Max):	28.6 Ω/1000 ft (9.38 Ω/100 m)
DC Resistance Unbalance (Max):	5%
Mutual Capacitance @ 20°C (Max):	17 pF/ft (5.6nF/100 m)
Operating Voltage (Max):	300 VDC
Worst Case Cable Skew:	45 ns/100 m
Nominal Velocity of Propagation:	72%

Copper Cable Solutions

CopperTen® Augmented Category 6 F/UTP Horizontal Cable

CopperTen® Four Pair F/UTP Plenum Cable

FREQ MHZ	Fitted Impedance Ohms	Insertion Loss dB/100m		Return Loss dB/100m		Pair-Pair NEXT dB/100m		PSNEXT dB/100m	
	Spec	Max	Spec	Min	Spec	Min	Spec	Min	Spec
1	100 +/- 15	1.7	2	24.3	20	85.9	74.3	83.2	72.3
4	100 +/- 15	3.4	3.7	27.1	23	75.9	65.3	73	63.3
8	100 +/- 15	4.8	5.2	29.4	24.5	68.6	60.8	65.4	58.8
10	100 +/- 15	5.4	5.9	31	25	61.5	59.3	59.1	57.3
16	100 +/- 15	6.8	7.4	30.4	25	63.6	56.2	62.7	54.2
20	100 +/- 15	7.6	8.3	31.6	25	65.4	54.8	62.7	52.8
25	100 +/- 15	8.6	9.3	33.1	24.3	62.6	53.3	58.6	51.3
31.25	100 +/- 15	9.7	10.4	34.2	23.6	67.1	51.9	63.5	49.9
62.5	100 +/- 15	13.9	14.9	31.1	21.5	54	47.4	52.5	45.4
100	100 +/- 15	17.9	19	28.9	20.1	52.7	44.3	50.7	42.3
155	100 +/- 15	22.6	24	33	18.8	45.3	41.4	44.7	39.4
200	100 +/- 15	26.1	27.5	23.5	18	50.7	39.8	48.7	37.8
250	100 +/- 15	29.4	31	22.9	17.3	42.3	38.3	41.1	36.3
300	100 +/- 15	32.7	34.2	26.2	16.8	43.1	37.1	40.5	35.1
350	100 +/- 15	35.8	37.2	22.9	16.3	45.2	36.1	42.2	34.1
400	100 +/- 15	38.7	40	21.9	15.9	44.7	35.3	41.4	33.3
450	100 +/- 15	41.5	42.7	22.4	15.5	39.2	34.5	37.8	32.5
500	100 +/- 15	44.1	45.3	20.1	15.2	36.7	33.8	35.2	31.8
550	100 +/- 15	46.9	-	21.7	-	39.9	-	38.6	-
600	100 +/- 15	49.5	-	17	-	36.6	-	34.4	-

CopperTen® Four Pair F/UTP Plenum Cable

FREQ MHZ	Pair-Pair ACR dB/100m		PSACR dB/100m		Pair-Pair ELFEXT dB/100m		PSNEXT dB/100m		TCL
	Max	Spec	Min	Spec	Min	Spec	Min	Spec	Spec
1	84.2	72.3	81.5	70.3	83.8	67.8	83.1	64.8	40.0
4	72.7	61.5	69.8	59.5	75.8	55.8	75.2	52.8	40.0
8	64.1	55.5	60.9	53.5	64.2	49.7	62.5	46.7	40.0
10	56.5	53.4	54.0	51.4	64.0	47.8	60.3	44.8	40.0
16	57.2	48.8	56.3	46.8	63.7	43.7	61.2	40.7	38.0
20	58.1	46.5	55.1	44.5	59.9	41.8	58.4	38.8	37.0
25	54.4	44.0	50.4	42.0	57.5	39.8	56.9	36.8	36.0
31.25	57.5	41.5	53.8	39.5	55.4	37.9	55.6	34.9	35.1
62.5	40.8	32.5	39.3	30.5	52.4	31.9	50.6	28.9	32.0
100	35.7	25.3	33.4	23.3	52.9	27.8	51.1	24.8	30.0
155	23.7	17.5	22.1	15.5	45.4	24.0	43.8	21.0	28.1
200	25.8	12.3	23.8	10.3	46.0	21.8	43.4	18.8	27.0
250	14.2	7.4	12.5	5.4	43.0	19.8	41.0	16.8	26.0
300	11.9	3.0	9.3	1.0	43.0	18.3	39.3	15.3	-
350	11.0	-1.0	8.1	-3.0	39.0	16.9	38.3	13.9	-
400	7.5	-4.7	3.4	-6.7	37.5	15.8	35.7	12.8	-
450	-0.7	-8.2	-2.2	-10.2	38.9	14.7	36.2	11.7	-
500	-5.7	-11.4	-7.2	-13.4	39.5	13.8	35.4	10.8	-
550	-5.6	-	-6.9	-	31.9	-	32.3	-	-
600	-12.9	-	-14.4	-	31.2	-	29.2	-	-

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA-568-B.2-10 specification.

Ordering Information

Description	Catalog Number
1000 foot reel, 42lbs 62kg	10G-A6TPF-XX02

NOTES: XX = Jacket color - BL = Blue, WT = White, GY = Gray

6/10 • 102094AE

Copper Cable Solutions

CopperTen® Augmented Category 6 F/UTP Horizontal Cable

CopperTen® Four Pair F/UTP Riser Cable

ADC F/UTP CopperTen® cable can be used in data center, communications closet and work station for 10G shielded performance. Installed in high-performance networks world wide, the system's design minimizes alien crosstalk and insertion loss and meets the performance requirements of IEEE 802.3an and TIA 568-B.2-10 standards.

Features

- Supports 10 Gigabit Ethernet over shielded copper to a full 100 meters
- 20 year TrueNet CopperTen warranty

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR
- ICEA S-90-661
- NEC 800 Type CMR
- TIA/EIA-568-B.2-1 Category 6 Horizontal Cable Requirements
- ETL Verified TIA/EIA-568-B.2-10 Augmented Category 6 Horizontal Cable Requirements
- ISO/IEC 11801 Category 6 Horizontal Cable Requirements
- ISO/IEC 11801 Category 6a Horizontal Cable Requirements

Common Applications

- 4/16 Mb/s Token Ring (IEEE 802.5)
- 10BASE-T (IEEE 802.3)
- 100 Mb/s TP-PMD
- Broadband & Baseband Video
- 100BASE-T ("Fast Ethernet")
- 100BASE-T4 ("Fast Ethernet")
- 100BASE-TX ("Fast Ethernet")
- 100VG-Any LAN (IEEE 802.12)
- 52/155 Mb/s ATM (ATM Forum)
- 622 Mb/s ATM (ATM Forum)
- 1000BASE-T (Gigabit Ethernet)
- 1 Gigabit Networking System (WGNA)
- 1.2 Gb/s ATM (ATM Forum)
- 77 Channel Broadband Video
- 10GBASE-T Ethernet (IEEE P802.3an)

Specifications

CONSTRUCTION

Conductor:	23 AWG solid bare copper
Insulation:	HDPE
Separator:	HDPE
Shield:	Aluminum/polyester foil
Drain Wire:	Stranded tinnned copper
Jacket:	Lead-free, flame retardant PVC
Nominal O.D.:	.280" (7.1mm)

THERMAL CHARACTERISTICS

Transport and Storage:	-10°C to 60°C
Installation:	4°C to 50°C
Operation:	-10°C to 60°C

MECHANICAL CHARACTERISTICS

Bend Radius

During Installation:	16 X O.D.
Installed:	8 X O.D.
Pull Tension:	25 lb/f (110N)

ELECTRICAL CHARACTERISTICS

Conductor DC Resistance @ 20°C (Max):	28.6 Ω/1000 ft (9.38 Ω/100 m)
DC Resistance Unbalance (Max):	5%
Mutual Capacitance @ 20°C (Max):	17 pF/ft (5.6nF/100 m)
Operating Voltage (Max):	300 VDC
Worst Case Cable Skew:	45 ns/100 m
Nominal Velocity of Propagation:	72%

CopperTen® Four Pair F/UTP Riser Cable

FREQ MHZ	Fitted Impedance Ohms	Insertion Loss dB/100m		Return Loss dB/100m		Pair-Pair NEXT dB/100m		PSNEXT dB/100m	
	Spec	Max	Spec	Min	Spec	Min	Spec	Min	Spec
1	100 +/- 15	1.7	2.0	24.3	20.0	85.9	74.3	83.2	72.3
4	100 +/- 15	3.4	3.7	27.1	23.0	75.9	65.3	73.0	63.3
8	100 +/- 15	4.8	5.2	29.4	24.5	68.6	60.8	65.4	58.8
10	100 +/- 15	5.4	5.9	31.0	25.0	61.5	59.3	59.1	57.3
16	100 +/- 15	6.8	7.4	30.4	25.0	63.6	56.2	62.7	54.2
20	100 +/- 15	7.6	8.3	31.6	25.0	65.4	54.8	62.7	52.8
25	100 +/- 15	8.6	9.3	33.1	24.3	62.6	53.3	58.6	51.3
31.25	100 +/- 15	9.7	10.4	34.2	23.6	67.1	51.9	63.5	49.9
62.5	100 +/- 15	13.9	14.9	31.1	21.5	54.0	47.4	52.5	45.4
100	100 +/- 15	17.9	19.0	28.9	20.1	52.7	44.3	50.7	42.3
155	100 +/- 15	22.6	24.0	33.0	18.8	45.3	41.4	44.7	39.4
200	100 +/- 15	26.1	27.5	23.5	18.0	50.7	39.8	48.7	37.8
250	100 +/- 15	29.4	31.0	22.9	17.3	42.3	38.3	41.1	36.3
300	100 +/- 15	32.7	34.2	26.2	16.8	43.1	37.1	40.5	35.1
350	100 +/- 15	35.8	37.2	22.9	16.3	45.2	36.1	42.2	34.1
400	100 +/- 15	38.7	40.0	21.9	15.9	44.7	35.3	41.4	33.3
450	100 +/- 15	41.5	42.7	22.4	15.5	39.2	34.5	37.8	32.5
500	100 +/- 15	44.1	45.3	20.1	15.2	36.7	33.8	35.2	31.8
550	100 +/- 15	46.9	-	21.7	-	39.9	-	38.6	-
600	100 +/- 15	49.5	-	17.0	-	36.6	-	34.4	-

Copper Cable Solutions

CopperTen® Augmented Category 6 F/UTP Horizontal Cable

CopperTen® Four Pair F/UTP Riser Cable

FREQ MHZ	Pair-Pair ACR dB/100m		PSACR dB/100m		Pair-Pair ELFEXT dB/100m		PSNEXT dB/100m		TCL
	Max	Spec	Min	Spec	Min	Spec	Min	Spec	Spec
1	84.2	72.3	81.5	70.3	83.8	67.8	83.1	64.8	40.0
4	72.7	61.5	69.8	59.5	75.8	55.8	75.2	52.8	40.0
8	64.1	55.5	60.9	53.5	64.2	49.7	62.5	46.7	40.0
10	56.5	53.4	54.0	51.4	64.0	47.8	60.3	44.8	40.0
16	57.2	48.8	56.3	46.8	63.7	43.7	61.2	40.7	38.0
20	58.1	46.5	55.1	44.5	59.9	41.8	58.4	38.8	37.0
25	54.4	44.0	50.4	42.0	57.5	39.8	56.9	36.8	36.0
31.25	57.5	41.5	53.8	39.5	55.4	37.9	55.6	34.9	35.1
62.5	40.8	32.5	39.3	30.5	52.4	31.9	50.6	28.9	32.0
100	35.7	25.3	33.4	23.3	52.9	27.8	51.1	24.8	30.0
155	23.7	17.5	22.1	15.5	45.4	24.0	43.8	21.0	28.1
200	25.8	12.3	23.8	10.3	46.0	21.8	43.4	18.8	27.0
250	14.2	7.4	12.5	5.4	43.0	19.8	41.0	16.8	26.0
300	11.9	3.0	9.3	1.0	43.0	18.3	39.3	15.3	-
350	11.0	-1.0	8.1	-3.0	39.0	16.9	38.3	13.9	-
400	7.5	-4.7	3.4	-6.7	37.5	15.8	35.7	12.8	-
450	-0.7	-8.2	-2.2	-10.2	38.9	14.7	36.2	11.7	-
500	-5.7	-11.4	-7.2	-13.4	39.5	13.8	35.4	10.8	-
550	-5.6	-	-6.9	-	31.9	-	32.3	-	-
600	-12.9	-	-14.4	-	31.2	-	29.2	-	-

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA-568-B.2-10 specification.

Ordering Information

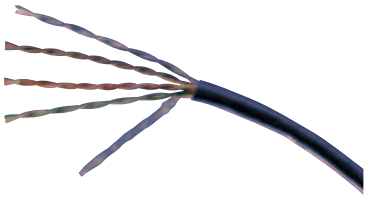
Description	Catalog Number
1000 foot reel, 41lbs 61kg	10G-A6TRF-XX02

NOTES: XX = Jacket color - BL = Blue, WT = White, GY = Gray

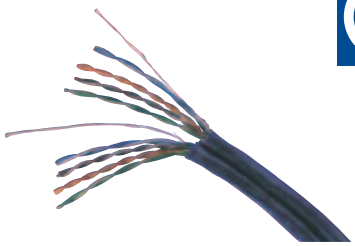
Copper Cable Solutions

Category 6 Horizontal Cable

Category 6 Plenum Cable



TrueNet® Category 6 Plenum cable
is protected by US Patents 6153826



TrueNet® Category 6 Plenum cable
is also available in a side-by-side configuration

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)
- 1.2Gbps ATM (ATM Forum)
- 77 Channel broadband video

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMP
- ICEA S-90-661
- NEC 800 Type CMP
- ISO/IEC 11801 Class E
- TIA/EIA-568-B.2-1 Category 6 horizontal cable requirements

Specifications

CONSTRUCTION

Features AirES® technology

Conductors:	24 AWG solid bare copper
Insulation:	100% FEP
Pairing:	Short, staggered pair lays
Filler:	Fluoropolymer
Color-coding:	See Technical Reference Section, UTP color-code table
Jacket:	Lead-free, flame retardant PVC

Performance information follows on the next page

Copper Cable Solutions

Category 6 Horizontal Cable

Category 6 Plenum Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6 /1000 feet (9.38/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	25 nS/100 meters @100MHz
Nominal velocity of propagation:	75%

FREQ (MHz)	FITTED IMPEDANCE (Ohms)	INSERTION LOSS (dB/100m)		RETURN LOSS (dB/100m)		Pair-Pair NEXT (dB/100m)		PSNEXT (dB/100m)	
	SPEC	Max	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec
1	100 ± 5	1.7	2.0	28.5	20.0	83.8	74.3	81.9	72.3
4	100 ± 3	3.4	3.8	32.1	22.9	74.9	65.3	74.3	63.3
8	100 ± 3	4.9	5.3	35.0	24.5	74.4	60.8	71.0	58.8
10	100 ± 3	5.5	6.0	34.6	25.0	70.3	59.3	68.0	57.3
16	100 ± 3	7.0	7.6	31.7	25.0	67.2	56.2	66.7	54.2
20	100 ± 3	7.9	8.5	32.1	25.0	66.8	54.8	64.7	52.8
25	100 ± 3	8.9	9.5	36.5	24.3	65.6	53.3	63.6	51.3
31.25	100 ± 3	9.9	10.7	36.7	23.6	61.8	51.9	60.9	49.9
62.5	100 ± 3	14.3	15.4	34.0	21.5	61.0	47.4	59.3	45.4
100	100 ± 3	18.4	19.8	30.8	20.1	60.2	44.3	57.4	42.3
155	100 ± 3	23.3	25.2	27.3	18.8	54.8	41.4	51.4	39.4
200	100 ± 3	26.8	29.0	31.0	18.0	54.9	39.8	52.4	37.8
250	100 ± 3	30.4	32.8	28.6	17.3	49.5	38.3	48.5	36.3
300	100 ± 3	33.7		27.2		49.0		48.2	
350	100 ± 3	36.7		24.3		46.3		44.8	
400	100 ± 3	39.6		25.0		47.5		45.2	
450	100 ± 3	42.5		24.5		47.3		43.4	
500	100 ± 3	45.3		24.2		43.8		43.0	
550	100 ± 3	47.7		18.6		40.2		39.4	

FREQ (MHz)	Pair-Pair ACR (dB/100m)		PSACR (dB/100m)		Pair-Pair ELFEXT (dB/100m)		PSELFEXT (dB/100m)		LCL (dB/100m)
	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min
1	86.8	72.3	84.2	70.3	73.6	67.8	72.6	64.8	40.0
4	71.7	61.5	71.2	59.5	62.7	55.8	61.8	52.8	40.0
8	69.8	55.4	66.4	53.4	57.2	49.7	56.2	46.7	40.0
10	65.1	53.3	62.8	51.3	55.2	47.8	54.2	44.8	40.0
16	64.8	48.7	61.5	46.7	51.1	43.7	49.8	40.7	38.0
20	59.4	46.3	57.4	44.3	49.3	41.8	48.2	38.8	37.0
25	60.2	43.8	57.7	41.8	47.4	39.8	46.5	36.8	36.0
31.25	52.5	41.2	51.3	39.2	45.5	37.9	44.4	34.9	35.1
62.5	49.3	32.0	47.9	30.0	40.1	31.9	39.4	28.9	32.0
100	42.7	24.5	41.6	22.5	36.8	27.8	35.9	24.8	30.0
155	33.2	16.3	29.9	14.3	33.6	24.0	33.2	21.0	28.1
200	30.3	10.8	26.9	8.8	31.7	21.8	30.6	18.8	27.0
250	26.7	5.5	22.2	3.5	29.1	19.8	28.9	16.8	26.0
300	19.4		16.6		26.2		25.5		
350	16.8		14.7		21.3		21.8		
400	12.0		10.2		22.1		22.5		
450	10.4		8.4		28.3		27.3		
500	8.8		4.8		23.6		24.0		
550	1.7		0.7		25.7		24.7		

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA 568-B.2-1 specifications.

Ordering information follows on the next page

Category 6 Plenum Cable

Ordering Information

Description	Weight (Lbs/kft)	Catalog Number*
4-pair cable Nominal OD: 0.208" (5.28mm) Maximum OD: 0.212" (5.38mm)		
Reel packaging–1000'	30	TN6SP-*XX02*
Reel in a box–1000'	32	TN6SP-*XX*RB
4-pair side-by-side cable Nominal OD: 0.22" x 0.45" (5.6mm x 11.43mm)	76	TN6SPX2-*XXYY*

*To order cable sheath color, replace *XX* with:

BL = Blue
WT = White
GY = Gray
GN = Green
YL = Yellow
RD = Red

*Other reel sizes available, please contact ADC Customer Services.

6/10 • 102094AE TrueNet® Structured Cabling

Copper Cable Solutions

Category 6 Horizontal Cable

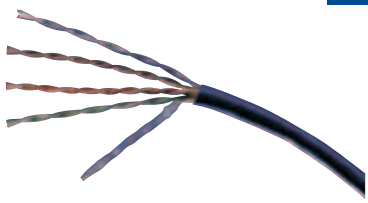
Category 6 Riser Cable

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)
- 1.2Gbps ATM (ATM Forum)
- 77 Channel broadband video)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR/CMG
- ICEA S-90-661
- NEC 800 Type CMR
- ISO/IEC 11801 Category 6
- ETL Verified TIA/EIA-568-B.2-1 Category 6 horizontal cable requirements



TrueNet® Category 6 riser cable is protected by US Patents 6153826 and 6150612

Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	100% Polyolefin
Pairing:	Short, staggered pair lays
Filler:	polyolefin
Color-coding:	See Technical Reference Section, UTP color-code table
Jacket:	Lead-free, flame retardant PVC

Performance information follows on the next page

Category 6 Riser Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω /1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	25 nS/100 meters @100MHz
Nominal velocity of propagation:	69%

FREQ (MHz)	FITTED IMPEDANCE (Ohms)	INSERTION LOSS (dB/100m)		RETURN LOSS (dB/100m)		Pair-Pair NEXT (dB/100m)		PSNEXT (dB/100m)	
	SPEC	Max	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec
1	100 ± 5	1.8	2.0	27.2	20.0	83.4	74.3	81.0	72.3
4	100 ± 3	3.6	3.8	32.2	22.9	76.9	65.3	73.7	63.3
8	100 ± 3	5.1	5.3	34.2	24.5	65.6	60.8	64.0	58.8
10	100 ± 3	5.8	6.0	33.8	25.0	67.2	59.3	65.7	57.3
16	100 ± 3	7.4	7.6	33.9	25.0	65.9	56.2	63.8	54.2
20	100 ± 3	8.3	8.5	30.6	25.0	62.2	54.8	61.1	52.8
25	100 ± 3	9.3	9.5	33.1	24.3	60.1	53.3	59.9	51.3
31.25	100 ± 3	10.4	10.7	32.9	23.6	60.6	51.9	58.5	49.9
62.5	100 ± 3	14.9	15.4	33.5	21.5	54.0	47.4	53.1	45.4
100	100 ± 3	19.0	19.8	29.4	20.1	54.4	44.3	52.3	42.3
155	100 ± 3	24.0	25.2	23.5	18.8	52.2	41.4	50.5	39.4
200	100 ± 3	27.4	29.0	27.1	18.0	49.9	39.8	47.6	37.8
250	100 ± 3	30.8	32.8	27.9	17.3	50.1	38.3	47.7	36.3
300	100 ± 3	33.9		23.3		44.1		42.6	
350	100 ± 3	36.6		21.5		45.9		45.2	
400	100 ± 3	39.4		22.1		44.8		41.9	
450	100 ± 3	42.3		20.4		45.8		42.5	
500	100 ± 3	44.8		18.5		41.6		40.0	
550	100 ± 3	47.1		18.3		41.1		38.8	

FREQ (MHz)	Pair-Pair ACR (dB/100m)		PSACR (dB/100m)		Pair-Pair ELFEXT (dB/100m)		PSELFEXT (dB/100m)		LCL (dB/100m)	ISO SPEC
	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec	TIA Spec	ELTCTL Min (dB)
1	81.8	72.3	79.3	70.3	75.4	67.8	74.8	64.8	40.0	35.0
4	74.4	61.5	72.9	59.5	63.0	55.8	62.5	52.8	40.0	23.0
8	60.6	55.4	59.2	53.4	56.0	49.7	55.6	46.7	40.0	16.9
10	61.6	53.3	60.1	51.3	54.7	47.8	54.7	44.8	40.0	15.0
16	63.5	48.7	60.3	46.7	50.4	43.7	50.5	40.7	38.0	10.9
20	54.3	46.3	53.2	44.3	49.8	41.8	49.8	38.8	37.0	9.0
25	53.4	43.8	51.9	41.8	47.3	39.8	47.1	36.8	36.0	7.0
31.25	52.0	41.2	51.8	39.2	46.0	37.9	45.9	34.9	35.1	5.1
62.5	42.2	32.0	41.4	30.0	40.3	31.9	40.3	28.9	32.0	
100	37.0	24.5	35.9	22.5	37.2	27.8	37.1	24.8	30.0	
155	29.0	16.3	27.2	14.3	35.2	24.0	34.6	21.0	28.1	
200	23.3	10.8	21.0	8.8	35.7	21.8	32.0	18.8	27.1	
250	19.8	5.5	17.4	3.5	32.1	19.8	31.5	16.8	26.0	
300	10.8		9.2		27.0		25.5			
350	9.8		9.1		24.9		23.8			
400	5.9		4.8		23.7		21.2			
450	6.7		3.7		22.3		19.5			
500					19.9		18.7			
550					15.4		15.4			

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA 568-B.2-1 specifications.

Ordering information follows on the next page

Category 6 Riser Cable

Ordering Information

Description	Weight (Lbs/kft)	Catalog Number*
4-pair cable, CMR flame rated Nominal OD: 0.206" (5.4mm)		
Reel packaging—1000'	26	TN6SR-*XX02*
Reel in a box—1000'	28	TN6SR-*XX*RB

*To order cable sheath color, replace *XX* with:

BL = Blue
WT = White
GY = Gray
GN = Green
YL = Yellow
RD = Red

*Other reel sizes available, please contact ADC Customer Services.

Category 6 Bundled Plenum Cable

Features

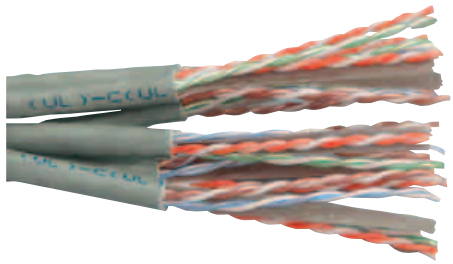
- Individual 4-pair horizontal cables twisted and bound together with Kevlar® cord
- Patented impedance matching for zero-bit errors
- Manufactured with lead-free materials

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMP
- ICEA S-90-661
- NEC 800 Type CMP
- ISO/IEC 11801 Class D
- TIA/EIA-568-B.2-1 Category 6 horizontal, individual cables



Specifications

CONSTRUCTION

Features AirES® technology

Conductors:	24 AWG solid bare copper
Insulation:	100% FEP
Individual cable diameter:	0.208" (5.28mm)
Jacket:	Non-lead, flame retardant PVC

Performance information follows on the next page

Copper Cable Solutions

Category 6 Horizontal Cable

Category 6 Bundled Plenum Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	25 nS/100 meters @100MHz
Nominal velocity of propagation:	75% @100MHz

Freq (MHz)	Impedance (Ohms)		Attenuation (dB/100m)		Return Loss (dB)		Attenuation-To-NEXT Ratio Pair-To-Pair (dB/100m)		Attenuation-To-NEXT Ratio PowerSum (dB/100m)	
	Input Typical	Characteristic Typical	Typical	Spec	Typical	Spec	Typical	Spec	Typical	Spec
1	100 ± 5	100 ± 5	1.6	2.0	20.3	20.0	94.8	72.3	88.0	70.3
4	100 ± 5	100 ± 3	3.2	3.8	35.2	23.0	86.7	61.5	79.9	59.5
8	100 ± 5	100 ± 3	4.6	5.3	41.1	24.5	80.0	55.4	73.5	53.4
10	100 ± 5	100 ± 3	5.2	6.0	40.2	25.0	80.1	53.3	72.0	51.3
16	100 ± 5	100 ± 2	6.7	7.6	41.0	25.0	73.8	48.7	65.9	46.7
20	100 ± 5	100 ± 2	7.5	8.5	41.1	25.0	70.0	46.3	63.0	44.3
25	100 ± 5	100 ± 2	8.4	9.5	42.2	24.3	70.4	43.8	63.6	41.8
31.25	100 ± 5	100 ± 2	9.5	10.7	39.5	23.6	64.8	41.2	58.2	39.2
62.5	100 ± 5	100 ± 2	13.9	15.4	40.6	21.5	56.5	32.0	49.7	30.0
100	100 ± 5	100 ± 2	18.3	19.8	36.9	20.1	50.2	24.5	43.2	22.5
155	100 ± 5	100 ± 2	23.5	25.2	38.9	18.8	42.4	16.3	35.0	14.3
200	100 ± 5	100 ± 2	27.3	29.0	35.5	18.0	36.8	10.8	29.6	8.8
250	100 ± 5	100 ± 2	31.3	32.8	36.0	17.3	30.1	5.5	23.8	3.5
300	100 ± 5	100 ± 2	34.9		35.4		26.2		18.8	
350	100 ± 5	100 ± 2	38.4		32.5		22.3		15.1	
400	100 ± 5	100 ± 2	41.8		33.0		17.3		10.0	
550	100 ± 8	100 ± 2	50.6		28.9		5.5		-2.7	

Freq (MHz)	NEXT				ELFEXT			
	Pair-To-Pair (dB/100m)		PowerSum (dB/100m)		Pair-To-Pair (dB/100m)		PowerSum (dB/100m)	
	Typical	Spec	Typical	Spec	Typical	Spec	Typical	Spec
1	96.4	74.3	89.6	72.3	92.2	67.8	84.8	64.8
4	89.9	65.3	83.1	63.3	83.3	55.8	74.2	52.8
8	84.6	60.8	78.1	58.8	77.9	49.7	69.4	46.7
10	85.3	59.3	77.2	57.3	74.8	47.8	66.9	44.8
16	80.5	56.2	72.6	54.2	70.2	43.7	62.6	40.7
20	77.5	54.8	70.5	52.8	67.9	41.8	60.2	38.8
25	78.8	53.3	72.0	51.3	66.1	39.8	58.3	36.8
31.25	74.3	51.9	67.7	49.9	63.7	37.9	55.9	34.9
62.5	70.4	47.4	63.6	45.4	58.4	31.9	50.5	28.9
100	68.5	44.3	61.5	42.3	54.9	27.8	46.6	24.8
155	65.9	41.4	58.5	39.4	49.2	24.0	41.8	21.0
200	64.1	39.8	56.9	37.8	45.5	21.8	38.1	18.8
250	61.4	38.3	55.1	36.3	43.6	19.8	35.0	16.8
300	61.1		53.7		38.9		30.4	
350	60.7		53.5		34.2		26.3	
400	59.1		51.8		3.0		22.5	
550	56.1		47.9		19.2		10.8	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA 568-B.2-1 specifications.

Ordering information follows on the next page

Category 6 Bundled Plenum Cable

Ordering Information

Number of Cables	Bundled Diameter (Inches)	Weight (lbs/kft)	Packaging	Catalog Number*
3	0.39"	84	1000' Reel	TNSP-36*XX02*
4	0.48"	112	1000' Reel	TNSP-46*XX02*
6	0.58"	168	1000' Reel	TNSP-66*XX02*

*To order cable sheath color, replace *XX* with:

BL = Blue
WT = White
GY = Gray
GN = Green
YL = Yellow
RD = Red
ST = Standard bundled colors—white, blue, gray, orange, yellow, green

*Other reel sizes available, please contact ADC Customer Services.

Copper Cable Solutions

Category 6 Horizontal Cable

Category 6 Bundled Riser Cable

Features

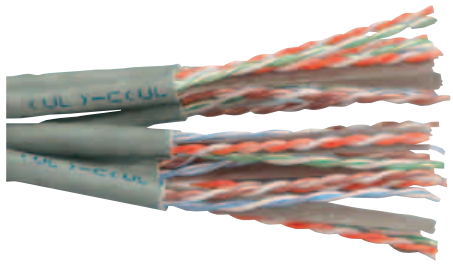
- Individual 4-pair horizontal cables twisted and bound together with Kevlar® cord
- Patented impedance matching for zero-bit errors
- Manufactured with lead-free materials

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR/CMG
- ICEA S-90-661
- NEC 800 Type CMR
- ISO/IEC 11801 Class D
- TIA/EIA-568-B.2-1 Category 6 horizontal, individual cables



Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	Polyolefin
Individual cable diameter:	0.21" (5.33mm)
Jacket:	Non-lead, flame retardant PVC

Performance information follows on the next page

Category 6 Bundled Riser Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	45 nS/100 meters @100MHz
Nominal velocity of propagation:	75% @100MHz

Freq (MHz)	Impedance (Ohms)		Attenuation (dB/100m)		Return Loss (dB)		Attenuation-To-NEXT Ratio Pair-To-Pair (dB/100m)		Attenuation-To-NEXT Ratio PowerSum (dB/100m)	
	Input Typical	Characteristic Typical	Typical	Spec	Typical	Spec	Typical	Spec	Typical	Spec
1	100 ± 5	100 ± 5	1.7	2.0	22.4	20.0	92.7	72.3	85.8	70.3
4	100 ± 5	100 ± 3	3.5	3.8	32.9	23.0	82.9	61.5	75.4	59.5
8	100 ± 5	100 ± 3	5.0	5.3	39.8	24.5	82.7	55.4	72.7	53.4
10	100 ± 5	100 ± 3	5.6	6.0	44.1	25.0	75.0	53.3	66.5	51.3
16	100 ± 5	100 ± 2	7.1	7.6	44.9	25.0	72.3	48.7	61.1	46.7
20	100 ± 5	100 ± 2	8.0	8.5	43.3	25.0	68.8	46.3	61.1	44.3
25	100 ± 5	100 ± 2	9.0	9.5	44.6	24.3	67.3	43.8	57.0	41.8
31.25	100 ± 5	100 ± 2	10.1	10.7	43.8	23.6	63.8	41.2	55.2	39.2
62.5	100 ± 5	100 ± 2	14.5	15.4	40.8	21.5	53.0	32.0	44.2	30.0
100	100 ± 5	100 ± 2	18.4	19.8	41.1	20.1	45.4	24.5	38.0	22.5
155	100 ± 5	100 ± 2	23.2	25.2	37.6	18.8	40.0	16.3	31.8	14.3
200	100 ± 5	100 ± 2	26.6	29.0	36.7	18.0	36.2	10.8	26.4	8.8
250	100 ± 5	100 ± 2	29.8	32.8	34.3	17.3	33.5	5.5	24.9	3.5
300	100 ± 5	100 ± 2	32.8		32.9		27.5		21.2	
350	100 ± 5	100 ± 2	35.6		30.2		23.1		15.4	
400	100 ± 5	100 ± 2	38.2		29.8		17.7		11.9	
550	100 ± 8	100 ± 2	45.3		28.2		7.8		1.1	

Freq (MHz)	NEXT				ELFEXT			
	Pair-To-Pair (dB/100m)		PowerSum (dB/100m)		Pair-To-Pair (dB/100m)		PowerSum (dB/100m)	
	Typical	Spec	Typical	Spec	Typical	Spec	Typical	Spec
1	94.4	74.3	87.5	72.3	93.1	67.8	87.4	64.8
4	86.4	65.3	78.9	63.3	83.6	55.8	76.2	52.8
8	87.6	60.8	77.7	58.8	77.9	49.7	70.8	46.7
10	80.6	59.3	72.2	57.3	74.0	47.8	67.1	44.8
16	79.4	56.2	68.2	54.2	72.8	43.7	65.6	40.7
20	76.8	54.8	69.1	52.8	69.8	41.8	61.9	38.8
25	76.3	53.3	66.0	51.3	66.8	39.8	59.3	36.8
31.25	73.9	51.9	65.3	49.9	66.3	37.9	58.6	34.9
62.5	67.5	47.4	58.7	45.4	58.9	31.9	51.5	28.9
100	63.8	44.3	56.4	42.3	52.7	27.8	45.4	24.8
155	63.3	41.4	55.0	39.4	48.8	24.0	40.6	21.0
200	62.8	39.8	52.9	37.8	46.5	21.8	38.2	18.8
250	63.3	38.3	54.7	36.3	44.2	19.8	35.4	16.8
300	60.3		54.0		43.3		34.9	
350	58.7		51.0		41.1		32.6	
400	55.9		50.1		40.3		32.7	
550	53.0		46.4		35.5		29.2	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA 568-B.2-1 specifications.

Ordering information follows on the next page

Category 6 Bundled Riser Cable

Ordering Information

Number of Cables	Bundled Diameter (Inches)	Weight (lbs/kft)	Packaging	Catalog Number*
3	0.49"	84	1000' Reel	TNSR-36*XX02*
4	0.49"	93	1000' Reel	TNSR-46*XX02*
6	0.62"	140	1000' Reel	TNSR-66*XX02*

*To order cable sheath color, replace *XX* with:

BL = Blue
WT = White
GY = Gray
GN = Green
YL = Yellow
RD = Red
ST = Standard bundled colors—white, blue, gray, orange, yellow, green

*Other reel sizes available, please contact ADC Customer Services.

Copper Cable Solutions

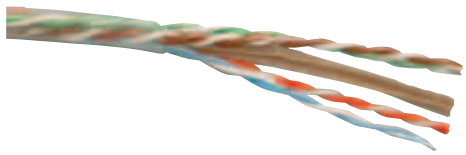
Category 6 Limited Combustible Cable

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gigabit Networking System (WGNA)
- 1.2Gbps ATM (ATM Forum)
- 77 Channel broadband video

Compliances

- UL Subject 444
- UL 2424
- (UL)-C(UL) Type CMP
- UL Type CMP Limited Combustible
- ICEA S-90-661
- NEC 800 Type CMP
- ETL Verified TIA/EIA 568-B.21-1 Category 6 horizontal cable requirements
- ISO/IEC 11801 Class E



Specifications

CONSTRUCTION

Features AirES® technology

Conductors:	24 AWG solid bare copper
Insulation:	All 4 pairs 100% FEP
Separator:	Fluoropolymer
Jacket:	100% FEP

Performance information follows on the next page

Copper Cable Solutions

Category 6 Limited Combustible Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	30 nS/100 meters @100MHz
Nominal velocity of propagation:	77% @100MHz

Freq (MHz)	Impedance (Ohms)		Attenuation (dB/100m)		Return Loss (dB)		Attenuation-To-NEXT Ratio Pair-To-Pair (dB/100m)		Attenuation-To-NEXT Ratio PowerSum (dB/100m)	
	Input Typical	Characteristic Typical	Max	EIA/TIA-568 Cat 6	Min	EIA/TIA-568 Cat 6	Min	EIA/TIA-568 Cat 6	Min	EIA/TIA-568 Cat 6
1	100 ± 5	100 ± 5	2.0	2.0	20.0	20.0	79.0	72.3	74.3	70.3
4	100 ± 5	100 ± 3	3.7	3.8	23.6	23.0	68.3	61.5	63.6	59.5
8	100 ± 5	100 ± 3	5.2	5.3	25.4	24.5	62.3	55.4	57.6	53.4
10	100 ± 5	100 ± 3	5.8	6.0	26.0	25.0	60.2	53.3	55.6	51.3
16	100 ± 5	100 ± 2	7.3	7.6	26.0	25.0	55.7	48.7	51.0	46.7
20	100 ± 5	100 ± 2	8.1	8.5	26.0	25.0	53.4	46.3	48.7	44.3
25	100 ± 5	100 ± 2	9.1	9.5	25.5	24.3	50.9	43.8	46.2	41.8
31.25	100 ± 5	100 ± 2	10.2	10.7	25.0	23.6	48.4	41.2	43.7	39.2
62.5	100 ± 5	100 ± 2	14.5	15.4	23.5	21.5	39.6	32.0	34.9	30.0
100	100 ± 5	100 ± 2	18.5	19.8	22.5	20.1	18.8	24.5	16.3	22.5
155	100 ± 5	100 ± 2	23.2	25.2	21.6	18.8	25.0	16.3	20.3	14.3
200	100 ± 5	100 ± 2	26.5	29.0	21.0	18.0	20.0	10.8	15.3	8.8
250	100 ± 5	100 ± 2	29.8	32.8	20.5	17.3	15.3	5.5	10.6	3.5
300	100 ± 5	100 ± 2	32.8		20.1		11.1		6.4	
350	100 ± 5	100 ± 2	35.6		19.8		7.3		2.6	
400	100 ± 5	100 ± 2	38.2		19.5		3.8		-0.9	

Freq (MHz)	NEXT				ELFEXT			
	Pair-To-Pair (dB/100m)		Power Sum (db/100m)		Pair-To-Pair (dB/100m)		PowerSum (dB/100m)	
	Min	EIA/TIA-568 Cat 6	Min	EIA/TIA-568 Cat 6	Min	EIA/TIA-568 Cat 6	Min	EIA/TIA-568 Cat 6
1	81.0	74.3	76.3	72.3	68.8	67.8	65.8	64.8
4	72.0	65.3	67.3	63.3	56.7	55.8	53.7	52.8
8	67.5	60.8	62.8	58.8	50.7	49.7	47.7	46.7
10	66.0	59.3	61.3	57.3	48.8	47.8	45.8	44.8
16	62.9	56.2	58.3	54.2	44.7	43.7	41.7	40.7
20	61.5	54.8	56.8	52.8	42.7	41.8	39.7	38.8
25	60.0	53.3	55.3	51.3	40.8	39.8	37.8	36.8
31.25	58.6	51.9	53.9	49.9	38.9	37.9	35.9	34.9
62.5	54.1	47.4	49.4	45.4	32.8	31.9	29.8	28.9
100	51.0	44.3	46.3	42.3	28.8	27.8	25.8	24.8
155	48.1	41.4	43.5	39.4	24.9	24.0	21.9	21.0
200	46.5	39.8	41.8	37.8	22.7	21.8	19.7	18.8
250	45.0	38.3	40.3	36.3	20.8	19.8	17.8	16.8
300	43.8		39.2		19.2		16.2	
350	42.8		38.2		17.9		14.9	
400	42.0		37.3		16.7		13.7	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA 568-B.2-1 specifications.

Ordering information follows on the next page

Copper Cable Solutions

Category 6 Limited Combustible Cable

Ordering Information

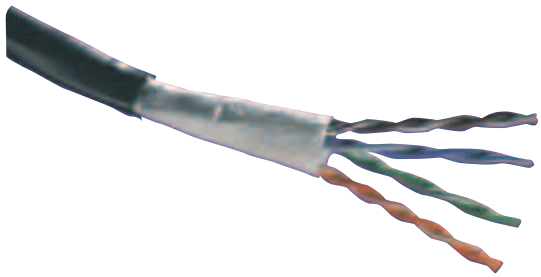
Description	Weight (Lbs/kft)	Catalog Number
4-pair cable, clear jacket Nominal OD: 0.205" (5.2mm) Maximum Average OD: 0.205" (5.2mm)		
Reel packaging—1000'	31	TN6ESD-CL02
Reel in a box—1000'	33	TN6ESD-CLRB
4-pair cable, blue jacket Nominal OD: 0.205" (5.2mm) Maximum Average OD: 0.205" (5.2mm)		
Reel packaging—1000'	31	TN6ESD-BL02
Reel in a box—1000'	33	TN6ESD-BLRB

6/10 • 102094AE

Copper Cable Solutions

C6T 4 Pair Outdoor Cable

The Outback cable is a 4-pair, 23 gauge Category 6 data cable designed for outdoor use. The cable combines excellent transmission performance and weather resistant properties. It is intended for outdoor installation, in buried conduit or as aerial cable. The core contains a water blocking tape which isolates the core from moisture.



Features

- Patented AirES® conductor insulation technology enables improved signal strength and speed with superior electrical performance
- Manufactured with lead free materials
- Moisture barrier core wrap protects pairs

C6T 4 Pair Outdoor Cable

Specifications

CONSTRUCTION

Conductor:	23 AWG solid bare copper
Insulation:	Polyolefin
Filler:	Polyolefin Star
Core Tape:	Moisture barrier core wrap
Jacket:	Linear Low Density Polyethylene, Black 0.260" (6.6mm) nominal O.D.
Compliances:	ETL Verified TIA/EIA-568-B.2-1 Category 6 Horizontal ISO/IEC 11801 Category 6 Horizontal Cable Requirements

Common Applications:

4/16 Mb/s Token Ring (IEEE 802.5)	100VG-Any LAN (IEEE 802.12)
10BASE-T (IEEE 802.3)	52/155 Mb/s ATM (ATM Forum)
100 Mb/s TP-PMD	622 Mb/s ATM (ATM Forum)
Broadband & Baseband Video	1000BASE-T (Gigabit Ethernet)
100BASE-T ("Fast Ethernet")	1 Gigabit Networking System (WGNA)
100BASE-T4 ("Fast Ethernet")	1.2 Gb/s ATM (ATM Forum)
100BASE-TX ("Fast Ethernet")	77 Channel Broadband Video

THERMAL CHARACTERISTICS

Transport and Storage:	-20 °C to 75 °C
Installation:	4 °C to 50 °C
Operation:	-20 °C to 75 °C

MECHANICAL CHARACTERISTICS

Bend Radius

During Installation:	8 X O.D.
Installed:	4 X O.D.
Pull Tension:	25# (11ON)

ELECTRICAL CHARACTERISTICS

Conductor DC Resistance @ 20°C (Max):	28.6 Ω/1000 ft (9.38 Ω/100 m)
DC Resistance Unbalance (Max):	2%
Mutual Capacitance @ 20°C (Max):	17 pF/ft (5.6nF/100 m)
Operating Voltage (Max):	300 VDC
Worst Case Cable Skew:	45 ns/100 m
Nominal Velocity of Propagation:	66%

Ordering Information

Description	Weight		Catalog Number
	LBS/KFT	KG/KM	
Reel – 1000'	29	42.5	TN6TOSP-BK02

6/10 • 102094AE TrueNet® Structured Cabling

Copper Cable Solutions

Category 6 Outdoor Cable

C6T 4 Pair Outdoor Cable

FREQ MHZ	FITTED IMPEDANCE Ohms	INSERTION LOSS dB/100m		RETURN LOSS dB/100m		PAIR-PAIR NEXT dB/100m		PSNEXT dB/100m	
	Spec	Max	Spec	Min	Spec	Min	Spec	Min	Spec
1	100 +/-3	1.7	2.0	26.2	20.0	83.9	74.3	80.8	72.3
4	100 +/-3	3.4	3.8	33.8	22.9	80.0	65.3	76.4	63.3
8	100 +/-3	4.8	5.3	34.5	24.5	74.0	60.8	72.3	58.8
10	100 +/-3	5.4	6.0	37.2	25.0	68.6	59.3	67.5	57.3
16	100 +/-3	6.8	7.6	33.5	25.0	71.0	56.2	68.8	54.2
20	100 +/-3	7.6	8.5	34.8	25.0	62.7	54.8	62.2	52.8
25	100 +/-3	8.6	9.5	36.1	24.3	59.1	53.3	58.6	51.3
31.25	100 +/-3	9.6	10.7	38.8	23.6	67.2	51.9	64.7	49.9
62.5	100 +/-3	13.6	15.4	35.2	21.5	56.8	47.4	54.1	45.4
100	100 +/-3	17.3	19.8	35.0	20.1	53.7	44.3	52.1	42.3
155	100 +/-3	21.7	25.2	32.8	18.8	53.6	41.4	51.9	39.4
200	100 +/-3	24.8	29.0	32.9	18.0	47.3	39.8	45.7	37.8
250	100 +/-3	27.8	32.8	31.3	17.3	49.1	38.3	47.2	36.3
300	100 +/-3	30.6		31.3		49.4		46.5	
350	100 +/-3	33.1		30.0		49.1		46.7	
400	100 +/-3	35.5		26.6		41.3		40.6	
550	100 +/-3	42.1		22.3		42.1		40.4	

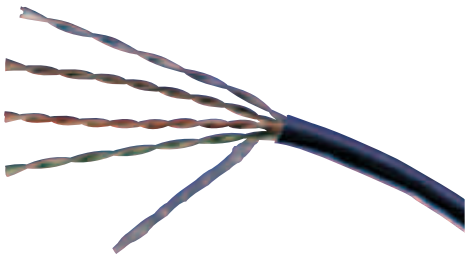
FREQ MHZ	PAIR-PAIR ACR dB/100m		PSACR dB/100m		PAIR-PAIR ELFEXT dB/100m		PSELFEXT dB/100m		LCL dB/100m
	Min	Spec	Min	Spec	Min	Spec	Min	Spec	Min
1	82.3	72.3	79.2	70.3	79.4	67.8	75.1	64.8	40.0
4	76.6	61.5	73.1	59.5	67.7	55.8	63.3	52.8	40.0
8	69.4	55.4	67.5	53.4	61.6	49.7	57.3	46.7	40.0
10	63.4	53.3	62.2	51.3	59.4	47.8	55.2	44.8	40.0
16	64.2	48.7	62.0	46.7	54.8	43.7	51.3	40.7	38.0
20	55.3	46.3	54.7	44.3	52.5	41.8	49.6	38.8	37.0
25	50.8	43.8	50.1	41.8	49.6	39.8	47.4	36.8	36.0
31.25	57.8	41.2	55.4	39.2	47.6	37.9	45.6	34.9	35.1
62.5	43.4	32.0	40.8	30.0	42.4	31.9	39.7	28.9	32.0
100	36.9	24.5	35.3	22.5	38.3	27.8	35.5	24.8	30.0
155	32.1	16.3	30.4	14.3	37.6	24.0	34.7	21.0	28.1
200	23.0	10.8	21.0	8.8	35.1	21.8	33.3	18.8	27.0
250	21.9	5.5	20.0	3.5	27.5	19.8	26.8	16.8	26.0
300	19.8	-	16.8	-	25.3	-	23.9	-	
350	16.3	-	14.0	-	27.3	-	25.0	-	
400	6.2	-	5.5	-	29.4	-	27.6	-	
550	1.0	-	-	-	23.9	-	23.7	-	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA-568-B.2-1 specification.

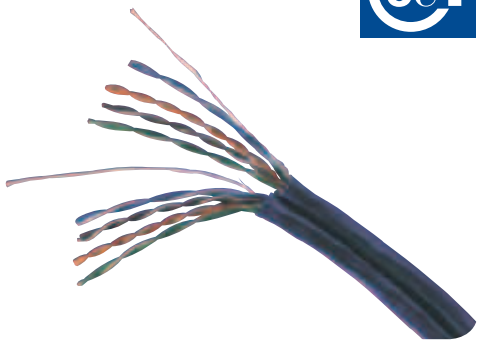
Copper Cable Solutions

Category 5e Horizontal Cable

Category 5e Plenum Cable



TrueNet® Category 5e Plenum cable
is protected by US Patents 6153826



TrueNet® Category 5e Plenum cable
is also available in a side-by-side configuration

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)

Compliances

- UL Subject 444
- (UL)-C(UL) Type MPP/CMP
- ICEA S-90-661
- NEC 800 Type CMP
- ISO/IEC 11801 Class D
- ETL verified TIA/EIA-568-B.2-1 Category 5e horizontal cable requirements

Specifications

CONSTRUCTION

Features AirES® technology

Conductors:	24 AWG solid bare copper
Insulation:	100% FEP
Pairing:	Short, staggered pair lays
Color-coding:	See Technical Reference Section, UTP color-code table
Jacket:	Lead-free, flame retardant PVC

Performance information follows on the next page

Copper Cable Solutions

Category 5e Horizontal Cable

Category 5e Plenum Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	22 nS/100 meters @100MHz
Nominal velocity of propagation:	76%

FREQ (MHz)	FITTED IMPEDANCE (Ohms)	INSERTION LOSS (dB/100m)		RETURN LOSS (dB/100m)		Pair-Pair NEXT (dB/100m)		PSNEXT (dB/100m)	
	SPEC	Max	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec
1	100 ± 5	1.9	2.0	33.1	20.0	79.8	65.3	78.1	62.3
4	100 ± 3	3.7	4.1	30.1	23.0	72.4	56.3	67.9	53.3
8	100 ± 3	5.3	5.8	32.7	24.5	64.4	51.8	63.5	48.8
10	100 ± 3	6.0	6.5	31.4	25.0	63.7	50.3	62.4	47.3
16	100 ± 3	7.6	8.2	37.0	25.0	61.4	47.2	59.7	44.2
20	100 ± 3	8.6	9.3	37.5	25.0	59.7	45.8	58.0	42.8
25	100 ± 3	9.6	10.4	35.1	24.3	58.7	44.3	56.9	41.3
31.25	100 ± 3	10.8	11.7	34.4	23.6	58.7	42.9	54.9	39.9
62.5	100 ± 3	15.5	17.0	33.2	21.5	52.4	38.4	50.3	35.4
100	100 ± 3	19.8	22.0	29.8	20.1	49.3	35.3	47.2	32.3
155	100 ± 3	25.1		29.3		51.3		47.9	
200	100 ± 3	28.9		22.9		47.5		45.5	
250	100 ± 3	32.5		25.0		42.6		41.1	
300	100 ± 3	35.9		22.5		43.6		41.1	
350	100 ± 3	39.3		22.4		41.1		39.6	

FREQ (MHz)	Pair-Pair ACR (dB/100m)		PSACR (dB/100m)		Pair-Pair ELFEXT (dB/100m)		PSELFEXT (dB/100m)	
	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec
1	78.0	63.3	76.3	60.3	70.2	63.8	70.0	60.8
4	68.6	52.2	64.2	49.2	58.9	51.8	58.7	48.8
8	59.1	46.0	58.1	43.0	52.8	45.7	52.5	42.7
10	57.8	43.8	56.4	40.8	51.1	43.8	50.8	40.8
16	53.8	39.0	52.0	36.0	47.4	39.7	47.1	36.7
20	51.2	36.5	49.4	33.5	45.0	37.8	44.9	34.8
25	49.0	33.9	47.3	30.9	43.0	35.8	42.6	32.8
31.25	47.9	31.2	44.1	28.2	41.4	33.9	41.1	30.9
62.5	36.9	21.4	34.8	18.4	35.2	27.9	35.2	24.9
100	29.4	13.3	27.4	10.3	32.0	23.8	31.7	20.8
155	26.2		22.8		28.7		28.6	
200	18.7		16.6		27.4		27.3	
250	10.1		8.6		25.8		25.4	
300	7.7		5.2		24.4		23.8	
350	1.8		0.3		22.8		22.1	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are also based on the TIA/EIA-568-B.2 specification.

Ordering information follows on the next page

Category 5e Plenum Cable

Ordering Information

Description	Weight (Lbs/kft)	Catalog Number*
4-pair cable Nominal OD: 0.180" (4.57mm) Maximum Average OD: 0.185" (4.7mm)		
Reel packaging	21	TN5ESP-*XXYY*
Reel in a box–1000'	23	TN5ESP-*XX*RB
Reelex–1000'	21	TN5ESP-*XX*II
4-pair, side-by-side cable Nominal OD: 0.19" x 0.40" (4.83mm x 10.16mm)	50	TN5ESPX2-*XXYY*

*To order cable sheath color, replace *XX* with:

BL = Blue
WT = White
GY = Gray
GN = Green
YL = Yellow
RD = Red

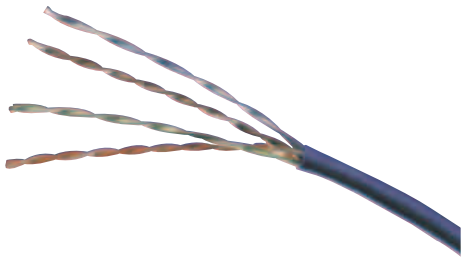
*To designate reel length, replace *YY* with:

02 = 1000'
04 = 2000'

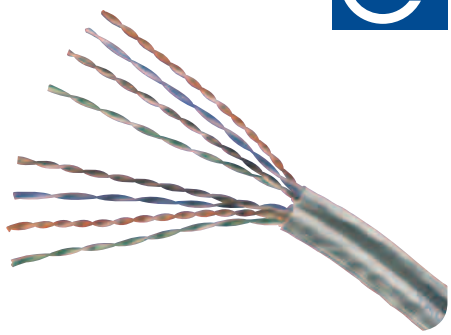
Copper Cable Solutions

Category 5e Horizontal Cable

Category 5e Riser Cable



TrueNet® Category 5e riser cable is protected by US Patent 6153826



TrueNet® Category 5e riser cable is also available in a side-by-side configuration

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR/CMG
- ICEA S-90-661
- NEC 800 Type CMR
- ISO/IEC 11801 Category 5e
- ETL verified TIA/EIA-568-B.2-1 Category 5e horizontal cable requirements

Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	Polyolefin
Pairing:	Short, staggered pair lays
Color-coding:	See Technical Reference Section, UTP color-code table
Jacket:	Lead-free, flame retardant PVC

Performance information follows on the next page

Copper Cable Solutions

Category 5e Horizontal Cable

Category 5e Riser Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	22 nS/100 meters @100MHz
Nominal velocity of propagation:	70%

FREQ (MHz)	FITTED IMPEDANCE (Ohms)	INSERTION LOSS (dB/100m)		RETURN LOSS (dB/100m)		Pair-Pair NEXT (dB/100m)		PSNEXT (dB/100m)	
	SPEC	Max	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec
1	100 ± 5	1.9	2.0	33.7	20.0	80.2	65.3	78.0	62.3
4	100 ± 3	3.8	4.1	38.9	23.0	68.7	56.3	66.6	53.3
8	100 ± 3	5.4	5.8	35.6	24.5	63.0	51.8	61.7	48.8
10	100 ± 3	6.1	6.5	36.4	25.0	61.8	50.3	59.2	47.3
16	100 ± 3	7.7	8.2	36.9	25.0	59.0	47.2	55.8	44.2
20	100 ± 3	8.7	9.3	35.1	25.0	60.0	45.8	58.3	42.8
25	100 ± 3	9.8	10.4	36.4	24.3	55.7	44.3	54.2	41.3
31.25	100 ± 3	10.9	11.7	33.3	23.6	53.7	42.9	52.3	39.9
62.5	100 ± 3	15.6	17.0	31.6	21.5	51.6	38.4	50.4	35.4
100	100 ± 3	20.0	22.0	32.8	20.1	46.4	35.3	44.1	32.3
155	100 ± 3	25.1		23.7		44.6		43.1	
200	100 ± 3	28.8		24.8		46.6		43.3	
250	100 ± 3	32.2		23.3		42.1		40.8	
300	100 ± 3	35.5		21.9		42.0		39.1	
350	100 ± 3	38.6		21.7		34.5		32.9	

FREQ (MHz)	Pair-Pair ACR (dB/100m)		PSACR (dB/100m)		Pair-Pair ELFEXT (dB/100m)		PSELFEXT (dB/100m)	
	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec	Min	TIA Spec
1	78.3	63.3	76.1	60.3	74.6	63.8	73.8	60.8
4	64.9	52.2	62.8	49.2	63.5	51.8	62.5	48.8
8	57.5	46.0	56.3	43.0	56.0	45.7	55.4	42.7
10	55.7	43.8	53.1	40.8	54.1	43.8	53.8	40.8
16	51.3	39.0	48.1	36.0	51.2	39.7	50.7	36.7
20	51.3	36.5	49.6	33.5	49.3	37.8	48.7	34.8
25	46.0	33.9	44.4	30.9	47.9	35.8	47.2	32.8
31.25	42.7	31.2	41.4	28.2	45.2	33.9	44.8	30.9
62.5	36.0	21.4	34.8	18.4	39.4	27.9	38.8	24.9
100	26.4	13.3	24.1	10.3	36.6	23.8	35.7	20.8
155	19.4		18.0		30.4		29.5	
200	17.8		14.5		28.0		28.0	
250	9.8		8.6		24.9		23.7	
300	6.6		3.7		24.7		24.8	
350					22.8		21.6	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA 568-B.2 specifications.

Ordering information follows on the next page

Copper Cable Solutions

Category 5e Riser Cable

Ordering Information

Description	Weight (Lbs/kft)	Catalog Number*
4-pair cable Nominal OD: 0.185" (4.7mm)		
Reel packaging	20	TN5ESR-*XXYY*
Reelex—1000'	20	TN5ESR-*XX*II
Reel in a box—1000'	22	TN5ESR-*XX*RB
4-pair, side-by-side cable Nominal OD: 0.19" x 0.40" (4.83mm x 10.16mm)	52	TN5ESRX2-*XXYY*

*To order cable sheath color, replace *XX* with:

BL = Blue
WT = White
GY = Gray
GN = Green
YL = Yellow
RD = Red

*To designate reel length, replace *YY* with:

02 = 1000'
04 = 2000'

TrueNet® Structured Cabling
6/10 • 102094AE

Copper Cable Solutions

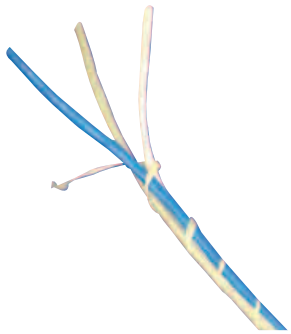
Category 5e Bundled Riser Cable

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR/CMG
- ICEA S-90-661
- NEC 800 Type CMR
- TIA/EIA-568-B.2 Category 5e horizontal, individual cables



TrueNet® Category 5e bundled cable is protected by US Patent 6153826

Specifications

CONSTRUCTION

Features AirES® technology

Conductors:	24 AWG solid bare copper
Insulation:	100% Polyolefin
Jacket:	Lead-free, flame retardant PVC

Performance information follows on the next page

Copper Cable Solutions

Category 5e Horizontal Cable

Category 5e Bundled Riser Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω /1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	45 nS/100 meters @100MHz
Nominal velocity of propagation:	70% @100MHz

Freq (MHz)	Impedance (Ohms)		Attenuation (dB)		Return Loss (dB)		Attenuation-To-NEXT-Ratio Pair-To-Pair (dB/100m)		Attenuation-To-NEXT-Ratio PowerSum (dB/100m)	
	Characteristic Typical	Input Typical	Typical	Spec	Typical	Spec	Typical	Spec	Typical	Spec
1	100 ± 10	100 ± 10	1.8	2.0	44.5	20.0	85.3	63.3	78.8	60.3
4	100 ± 8	100 ± 10	3.7	4.1	46.2	23.0	73.4	52.2	66.3	49.2
8	100 ± 6	100 ± 10	5.2	5.8	45.1	24.5	65.4	46.0	58.6	43.0
10	100 ± 6	100 ± 10	5.8	6.5	41.6	25.0	64.7	43.8	58.1	40.8
16	100 ± 5	100 ± 10	7.5	8.2	44.5	25.0	60.4	39.0	53.1	36.0
20	100 ± 5	100 ± 10	8.4	9.3	44.3	25.0	58.5	36.5	51.5	33.5
25	100 ± 4	100 ± 10	9.4	10.4	43.4	24.3	54.6	33.9	48.1	30.9
31.25	100 ± 4	100 ± 10	10.5	11.7	43.5	23.6	53.1	31.2	45.5	28.2
62.5	100 ± 3	100 ± 10	15.1	17.0	41.4	21.5	43.6	21.4	36.8	18.4
100	100 ± 3	100 ± 10	19.5	22.0	42.1	20.1	36.0	13.3	29.9	10.3
155	100 ± 3	100 ± 10	24.4		43.7		27.7		21.0	
200	100 ± 3	100 ± 10	27.8		39.6		22.2		15.8	
250			31.5		38.6		17.1		10.5	
300			34.8		40.0		13.4		6.5	
350			37.6		37.5		8.8		2.3	

Freq (MHz)	NEXT					ELFEXT			
	Pair-To-Pair (dB/100m)		PowerSum (dB/100m)		Bundled PowerSum	Pair-To-Pair (dB/100m)		PowerSum (dB/100m)	
	Typical	Spec	Typical	Spec	Spec	Typical	Spec	Typical	Spec
1	87.1	65.3	80.6	62.3	65.0	85.0	63.8	77.5	60.8
4	77.1	56.3	70.1	53.3	59.3	75.2	51.8	66.5	48.8
8	70.6	51.8	63.9	48.8	54.8	67.4	45.7	59.1	42.7
10	70.8	50.3	63.9	47.3	53.3	65.4	43.8	57.9	40.8
16	67.8	47.2	60.6	44.2	50.2	60.8	39.7	53.5	36.7
20	66.9	45.8	59.9	42.8	48.8	58.6	37.8	51.4	34.8
25	64.0	44.3	57.5	41.3	47.3	56.3	35.8	49.5	32.8
31.25	63.6	42.9	56.1	39.9	45.9	55.0	33.9	48.2	30.9
62.5	58.6	38.4	51.9	35.4	41.4	48.9	27.9	42.0	24.9
100	55.5	35.3	49.5	32.3	38.3	45.2	23.8	38.7	20.8
155	52.1		45.4			41.2		34.8	
200	49.9		43.6			38.2		31.5	
250	48.5		42.1			35.0		28.6	
300	48.2		41.4			32.4		26.2	
350	46.4		39.9			29.6		22.6	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA 568-B.2-1 specifications.

Ordering information follows on the next page

Category 5e Bundled Riser Cable

Ordering Information

Number of Cables	Bundled Diameter (Inches)	Weight (lbs/kft)	Packaging	Catalog Number*
3	0.37"	71	Reel	TNSR-3E*XX02*
4	0.40"	95	Reel	TNSR-4E*XX02*
6	0.54"	143	Reel	TNSR-6E*XX02*

*To order cable sheath color, replace *XX* with:

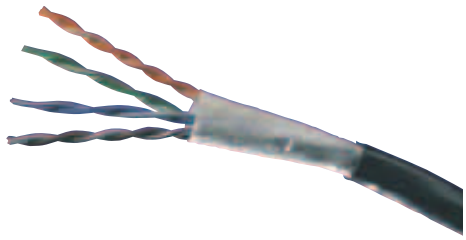
BL = Blue
WT = White
GY = Gray
GN = Green
YL = Yellow
RD = Red
ST = Standard bundled colors

Copper Cable Solutions

Category 5e Outdoor Cable

Category 5e The Outback® Outdoor Cable

The Outback cable is a 4-pair, 24 gauge, Category 5e data cable designed for outdoor use. The cable combines excellent transmission and weather resistant properties. It is intended for outdoor installation, in buried conduit, or as aerial cable. The core contains a heat and water-blocking tape, which isolates the core from extreme temperature and moisture.



Category 5e The Outback® Cable is protected by US Patent 6153826

Common Applications

- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 100Mbps TP-PMD
- Broadband and baseband video
- 100Base-T (Fast Ethernet)
- 100Base-T4 (Fast Ethernet)
- 100Base-TX (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)
- 52/155Mbps ATM (ATM Forum)
- 622Mbps ATM (ATM Forum)
- 1000Base-T (Gigabit Ethernet)
- 1Gbps Networking System (WGNA)

Compliances

- TIA/EIA-568-B.2 Category 5e horizontal cable requirements

Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	100% Polyolefin
Pairing:	Short, staggered pair lays
Color-coding:	See Technical Reference Section, UTP color-code table
Core tape:	Heat and moisture barrier core wrap
Jacket:	Linear low-density Polyethelyene, black

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω /1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	2%
Mutual capacitance (maximum):	17 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	75°C
Operating voltage (maximum):	300VDC
Worst case cable skew:	45 nS/100 meters @100MHz
Nominal velocity of propagation:	69% @100MHz

Performance information follows on the next page

Category 5e The Outback® Outdoor Cable

Freq (MHz)	Impedance (Ohms)		Attenuation (dB)		Return Loss (dB)		Attenuation-To-NEXT-Ratio Pair-To-Pair (dB/100m)		PowerSum (dB/100m)	
	Characteristic Typical	Input Typical	Typical	Spec	Typical	Spec	Typical	Spec	Typical	Spec
1	100 ± 10	100 ± 10	1.8	2.0	44.5	20.0	85.3	63.3	78.8	60.3
4	100 ± 8	100 ± 10	3.7	4.1	46.2	23.0	73.4	52.2	66.3	49.2
8	100 ± 6	100 ± 10	5.2	5.8	45.1	24.5	65.4	46.0	58.6	43.0
10	100 ± 6	100 ± 10	5.8	6.5	41.6	25.0	64.7	43.8	58.1	40.8
16	100 ± 5	100 ± 10	7.5	8.2	44.5	25.0	60.4	39.0	53.1	36.0
20	100 ± 5	100 ± 10	8.4	9.3	44.3	25.0	58.5	36.5	51.5	33.5
25	100 ± 4	100 ± 10	9.4	10.4	43.4	24.3	54.6	33.9	48.1	30.9
31.25	100 ± 4	100 ± 10	10.5	11.7	43.5	23.6	53.1	31.2	45.5	28.2
62.5	100 ± 3	100 ± 10	15.1	17.0	41.4	21.5	43.6	21.4	36.8	18.4
100	100 ± 3	100 ± 10	19.5	22.0	42.1	20.1	36.0	13.3	29.9	10.3
155	100 ± 3	100 ± 10	24.4		43.7		27.7		21.0	
200	100 ± 3	100 ± 10	27.8		39.6		22.2		15.8	
250			31.5		38.6		17.1		10.5	
300			34.8		40.0		13.4		6.5	
350			37.6		37.5		8.8		2.3	

Freq (MHz)	NEXT				ELFEXT			
	Pair-To-Pair (dB/100m)		PowerSum (dB/100m)		Pair-To-Pair (dB/100m)		PowerSum (dB/100m)	
	Typical	Spec	Typical	Spec	Typical	Spec	Typical	Spec
1	87.1	65.3	80.6	62.3	85.0	63.8	77.5	60.8
4	77.1	56.3	70.1	53.3	75.2	51.8	66.5	48.8
8	70.6	51.8	63.9	48.8	67.4	45.7	59.1	42.7
10	70.8	50.3	63.9	47.3	65.4	43.8	57.9	40.8
16	67.8	47.2	60.6	44.2	60.8	39.7	53.5	36.7
20	66.9	45.8	59.9	42.8	58.6	37.8	51.4	34.8
25	64.0	44.3	57.5	41.3	56.3	35.8	49.5	32.8
31.25	63.6	42.9	56.1	39.9	55.0	33.9	48.2	30.9
62.5	58.6	38.4	51.9	35.4	48.9	27.9	42.0	24.9
100	55.5	35.3	49.5	32.3	45.2	23.8	38.7	20.8
155	52.1		45.4		41.2		34.8	
200	49.9		43.6		38.2		31.5	
250	48.5		42.1		35.0		28.6	
300	48.2		41.4		32.4		26.2	
350	46.4		39.9		29.6		22.6	

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are also based on the TIA/EIA-568-B.2 specification.

Ordering Information

Description	Weight (Lbs/kft)	Catalog Number
4-pair cable Nominal OD: 0.22" (5.59mm), black jacket		
Reel packaging—1000'	21	TN5ETOSP-BK02

Copper Cable Solutions

Category 5e Backbone Cable

25-Pair Category 5e Plenum Cable

Features

- Verified to Category 5e standard
- 24 AWG solid copper conductors
- Lead-free, flame retardant PVC
- 100 Ohm nominal impedance

Compliances

- UL subject 444
- (UL)-C(UL) type CMP
- ICEA S-90-661
- NEC 800 type CMP
- ETL verified TIA/EIA-568-B.2 Category 5e horizontal cable requirements

Specifications

CHARACTERISTICS:	
Conductor:	24 AWG solid bare copper
Insulation:	100% FEP
Jacket:	Fluropolymer, .460" (11.7 mm) nominal O.D.
COMMON APPLICATIONS:	
	4/16 Mb/s Token Ring (IEEE 802.5)
	10BASE-T (IEEE 802.3)
	100 Mb/s TP-PMD
	Broadband & Baseband Video
	100BASE-T ("Fast Ethernet)
	100BASE-T4 ("Fast Ethernet")
	100BASE-TX ("Fast Ethernet")
	100VG-Any LAN (IEEE 802.12)
	52/155 Mb/s ATM (ATM Forum)
	622 Mb/s ATM (ATM Forum)
	1000BASE-T (Gigabit Ethernet)
	1 Gigabit Networking System (WGNA)
THERMAL CHARACTERISTICS:	
Transport and Storage:	-50°C to 200°C
Installation:	-50°C to 200°C
Operation:	-50°C to 200°C
MECHANICAL CHARACTERISTICS:	
Bend Radius:	6.9" (175 mm)
ELECTRICAL CHARACTERISTICS:	
Conductor DC Resistance @ 20°C (Max):	28.6 Ω/1000 ft (9.38 Ω/100 m)
DC Resistance Unbalance (Max):	5%
Mutual Capacitance @ 20°C (Max):	17 pF/ft (5.6nF/100 m)
Operating Voltage (Max):	300 VDC
Worst Case Cable Skew:	45 ns/100 m
Nominal Velocity of Propagation:	72%

25-Pair Category 5e Plenum Cable

FREQ MHZ	Fitted Impedance Ohms	Insertion Loss dB/100m		Pair-Pair NEXT dB/100m		PSNEXT dB/100m	
	Spec	Max	Spec	Min	Spec	Min	Spec
1	100 +/- 15	2.0	2.0	71.7	65.3	69.6	62.3
4	100 +/- 15	4.0	4.1	64.1	56.3	60.8	53.3
8	100 +/- 15	5.6	5.8	57.9	51.8	56.3	48.8
10	100 +/- 15	6.3	6.5	57.2	50.3	55.2	47.3
16	100 +/- 15	8.1	8.2	54.2	47.2	51.7	44.2
20	100 +/- 15	9.2	9.3	53.1	45.8	50.0	42.8
25	100 +/- 15	10.2	10.4	48.5	44.3	46.8	41.3
31.25	100 +/- 15	11.5	11.7	50.9	42.9	48.0	39.9
62.5	100 +/- 15	16.5	17.0	46.6	38.4	44.0	35.4
100	100 +/- 15	21.3	22.0	42.5	35.3	39.9	32.3

FREQ MHZ	Return Loss dB/100m		Pair-Pair ELFEXT dB/100m		PSELFEXT dB/100m	
	Max	Spec	Min	Spec	Min	Spec
1	26.6	20.0	67.3	63.8	65.8	60.8
4	27.1	23.0	55.8	51.8	54.2	48.8
8	28.5	24.5	49.9	45.7	48.3	42.7
10	29.8	25.0	47.8	43.8	46.3	40.8
16	29.5	25.0	43.9	39.7	42.3	36.7
20	30.4	25.0	41.9	37.8	40.3	34.8
25	31.2	24.3	40.1	35.8	38.5	32.8
31.25	30.7	23.6	38.1	33.9	36.5	30.9
62.5	26.7	21.5	32.5	27.9	30.8	24.9
100	24.6	20.1	29.0	23.8	27.3	20.8

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA-568-B.2 specification.

Ordering Information

Description	Catalog Number
1000 foot reel, 142 lbs (210 kg), White	5ETP-2524WT02

Copper Cable Solutions

25-Pair Category 5e Riser Cable

Features

- Verified to Category 5e standard
- 24 AWG solid copper conductors
- Lead-free, flame retardant PVC
- 100 Ohm nominal impedance

Compliances

- UL subject 444
- (UL)-C(UL) type CMR/CMG
- ICEA S-90-661
- NEC 800 type CMR
- ETL verified TIA/EIA-568-B.2 Category 5e horizontal cable requirements

Specifications

CONSTRUCTION:	
Conductor:	24 AWG solid bare copper
Insulation:	HDPE
Jacket:	Flame-retardant PVC, .500" (12.7 mm) nominal O.D.
COMMON APPLICATIONS:	
	4/16 Mb/s Token Ring (IEEE 802.5)
	10BASE-T (IEEE 802.3)
	100 Mb/s TP-PMD
	Broadband & Baseband Video
	100BASE-T ("Fast Ethernet")
	100BASE-T4 ("Fast Ethernet")
	100BASE-TX ("Fast Ethernet")
	100VG-Any LAN (IEEE 802.12)
	52/155 Mb/s ATM (ATM Forum)
	622 Mb/s ATM (ATM Forum)
	1000BASE-T (Gigabit Ethernet)
	1 Gigabit Networking System (WGNA)
THERMAL CHARACTERISTICS:	
Transport and Storage:	-10°C to 60°C
Installation:	-0°C to 50°C
Operation:	-10°C to 60°C
MECHANICAL CHARACTERISTICS:	
Bend Radius:	5.0" (127 mm)
ELECTRICAL CHARACTERISTICS:	
Conductor DC Resistance @ 20°C (Max):	28.6 Ω/1000 ft (9.38 Ω/100 m)
DC Resistance Unbalance (Max):	5%
Mutual Capacitance @ 20°C (Max):	17 pF/ft (5.6nF/100 m)
Operating Voltage (Max):	300 VDC
Worst Case Cable Skew:	45 ns/100 m
Nominal Velocity of Propagation:	70%

25-Pair Category 5e Riser Cable

FREQ MHZ	Fitted Impedance Ohms	Insertion Loss dB/100m		Pair-Pair NEXT dB/100m		PSNEXT dB/100m	
	Spec	Max	Spec	Min	Spec	Min	Spec
1	100 +/- 15	2.0	2.0	71.7	65.3	69.6	62.3
4	100 +/- 15	4.0	4.1	64.1	56.3	60.8	53.3
8	100 +/- 15	5.6	5.8	57.9	51.8	56.3	48.8
10	100 +/- 15	6.3	6.5	57.2	50.3	55.2	47.3
16	100 +/- 15	8.1	8.2	54.2	47.2	51.7	44.2
20	100 +/- 15	9.2	9.3	53.1	45.8	50.0	42.8
25	100 +/- 15	10.2	10.4	48.5	44.3	46.8	41.3
31.25	100 +/- 15	11.5	11.7	50.9	42.9	48.0	39.9
62.5	100 +/- 15	16.5	17.0	46.6	38.4	44.0	35.4
100	100 +/- 15	21.3	22.0	42.5	35.3	39.9	32.3

FREQ MHZ	Return Loss dB/100m		Pair-Pair ELFEXT dB/100m		PSELFEXT dB/100m	
	Max	Spec	Min	Spec	Min	Spec
1	26.6	20.0	67.3	63.8	65.8	60.8
4	27.1	23.0	55.8	51.8	54.2	48.8
8	28.5	24.5	49.9	45.7	48.3	42.7
10	29.8	25.0	47.8	43.8	46.3	40.8
16	29.5	25.0	43.9	39.7	42.3	36.7
20	30.4	25.0	41.9	37.8	40.3	34.8
25	31.2	24.3	40.1	35.8	38.5	32.8
31.25	30.7	23.6	38.1	33.9	36.5	30.9
62.5	26.7	21.5	32.5	27.9	30.8	24.9
100	24.6	20.1	29.0	23.8	27.3	20.8

NOTE: The above listed discrete frequency electrical performance values are provided for engineering information only. Actual compliance testing is based on swept frequency measurements. The spec values are based on TIA/EIA-568-B.2 specification.

Ordering Information

Description	Catalog Number
1000 foot reel, 132 lbs (195 kg), Gray	5ETR-2524GY02

Copper Cable Solutions
Category 3 Horizontal and Backbone Cable

Category 3 Plenum Cable

Common Applications

- POTS
- T1 and T1 Fractional
- ISDN Basic and Primary Rate
- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-t (IEEE 802.3)
- 52Mbps ATM (ATM Forum)
- 100Base-T4 (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMP
- ICEA S-90-661
- NEC 800 Type CMP
- Two- to four-pair: TIA/EIA-568-B.2 Category 3 horizontal cable
- Over four-pair: TIA/EIA-568-B.2 Category 3 backbone cable

Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	LS-flame retardant PVC
Pairing:	Short, staggered pair lays
Color-coding:	See Technical Reference Section, 25-pair color-code table
Rip cord:	Applied under jacket
Jacket:	LS-flame retardant PVC (2- to 100-pair) PVDF Copolymer (Over 100-pair)

Performance information follows on the next page

Category 3 Plenum Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	5%
Insulation resistance (minimum):	500 Megohms/1000 feet @20°C
Mutual capacitance (typical):	19 pF/foot (5.6nF/100 meters) 20 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	60°C
Operating voltage (maximum):	300VDC

Frequency (MHz)	Impedance (Ohms)	Attenuation Max (dB/100m)	NEXT Min (dB)	SRL Min (dB)
1.0	85–115	2.6	41	12
4.0	85–115	5.6	32	12
8.0	85–115	8.5	27	12
10.0	85–115	9.7	26	12
16.0	85–115	13.1	23	10

Notes: (1) Compliance testing for the above parameters is based on Swept Frequency Measurements.
(2) NEXT = Near-End Crosstalk. NEXT requirements for cables up to and including 4 pair are for Worst-Case-Pair NEXT. Cables over 4 pair are subject to PowerSum NEXT requirements.

Ordering Information

Description	OD (Inches)	Weight (Lbs/kft)	Packaging	Catalog Number*
Category 3 Plenum cable Jacket color: white				
2-pair	0.14	12	Reelex—1000'	VXV0224-19R2
3-pair	0.15	15	Reelex—1000'	VXV0324-19R2
4-pair	0.17	19	Reelex—1000'	VXV0424-19R2
6-pair	0.19	27	Reelex—1000'	VXV0624-19R2
2-pair	0.14	12	Spool	VXV0224-19*YY*
3-pair	0.15	15	Spool	VXV0324-19*YY*
4-pair	0.17	19	Spool	VXV0424-19*YY*
6-pair	0.19	27	Reel	VXV0624-19*YY*
8-pair	0.24	39	Reel	VXV0824-19*YY*
12-pair	0.28	54	Reel	VXV1224-19*YY*
25-pair	0.38	106	Reel	VXV2524-19*XX*
50-pair	0.55	210	Reel	VXV5024-19*YY*
75-pair	0.68	310	Reel	VXV7524-19*YY*
100-pair	0.76	430	Reel	VXV0024-19*YY*
200-pair	1.11	1052	Reel	VXCCC24-19*YY*

*To designate reel length, replace *YY* with:

02 = 1000'
10 = 5000'

Dimensions and weights are calculated nominals and do not imply any minimum or maximum tolerance

Copper Cable Solutions

Category 3 Horizontal and Backbone Cable

Category 3 Riser Cable

Common Applications

- POTS
- T1 and T1 Fractional
- ISDN Basic and Primary Rate
- 4/16Mbps Token Ring (IEEE 802.5)
- 10Base-T (IEEE 802.3)
- 52Mbps ATM (ATM Forum)
- 100Base-T4 (Fast Ethernet)
- 100VG-AnyLAN (IEEE 802.12)

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR/CMG
- ICEA S-90-661
- NEC 800 Type CMR
- Two- to four-pair: TIA/EIA-568-B.2 Category 3 horizontal cable
- Over four-pair: TIA/EIA-568-B.2 Category 3 backbone cable

Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	Lead-free, flame retardant PVC
Pairing:	Staggered pair lays
Color-coding:	Standard telephony (See Technical Reference Section, 25-pair color-code table)
Rip cord:	Applied under jacket
Jacket:	Lead-free, flame retardant PVC

Performance information follows on the next page

Category 3 Riser Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	5%
Insulation resistance (minimum):	500 Megohms/1000 feet @20°C
Mutual capacitance (typical):	19 pF/foot (5.6nF/100 meters) 20 pF/foot (5.6nF/100 meters)
Operating temperature (maximum):	60°C
Operating voltage (maximum):	300VDC

Frequency (MHz)	Impedance (Ohms)	Attenuation Max (dB/100m)	NEXT Min (dB)	SRL Min (dB)
1.0	85–115	2.6	41	12
4.0	85–115	5.6	32	12
8.0	85–115	8.5	27	12
10.0	85–115	9.7	26	12
16.0	85–115	13.1	23	10

Notes: (1) Compliance testing for the above parameters is based on Swept Frequency Measurements.
(2) NEXT = Near-End Crosstalk. NEXT requirements for cables up to and including 4 pair are for Worst-Case-Pair NEXT. Cables over 4 pair are subject to PowerSum NEXT requirements.

Ordering Information

Description	OD (Inches)	Weight (Lbs/kft)	Packaging	Catalog Number*
Category 3 riser cable Jacket color: gray				
2-pair	0.15	12	Reelex—1000'	D0224D0-GYR2
3-pair	0.16	16	Reelex—1000'	D0324D0-GYR2
4-pair	0.17	20	Reelex—1000'	D0424D0-GYR2
6-pair	0.20	28	Reelex—1000'	D0624D0-GYR2
2-pair	0.15	12	Spool	D0224D0-GYYY
3-pair	0.16	16	Spool	D0324D0-GYYY
4-pair	0.17	20	Spool	D0424D0-GYYY
6-pair	0.21	29	Reel	D0624D0-GYYY
8-pair	0.22	37	Reel	D0824D0-GYYY
12-pair	0.27	53	Reel	D1224D0-GYYY
25-pair	0.38	108	Reel	D2524D0-GYYY
50-pair	0.55	207	Reel	D5024D0-GYYY
100-pair	0.74	416	Reel	D0024D0-GYYY
200-pair	1.12	847	Reel	DCC24D0-GYYY
300-pair	1.26	1282	Reel	D3X24D0-GYYY
400-pair	1.62	1667	Reel	D4X24D0-GYYY

*To designate reel length, replace *YY* with:

02 = 1000'
10 = 5000'

Dimensions and weights are calculated nominals and do not imply any minimum or maximum tolerance

Copper Cable Solutions

Category 1 Horizontal and Backbone Cable

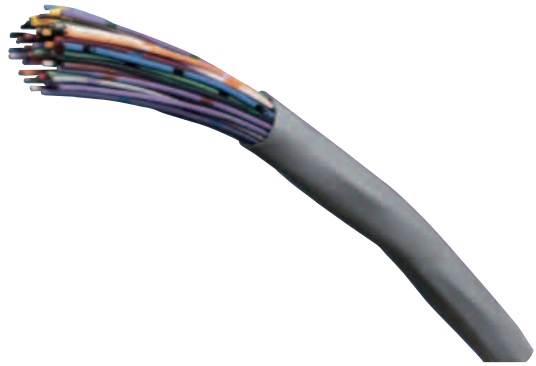
UTP Plenum Cable

Common Applications

- POTS
- Fractional T1
- Basic Rate ISDN
- 2-, 3-, 4- and 6-pair cables
  - 4Mbps Token Ring
  - Primary Rate ISDN
  - T1

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMP
- ICEA S-90-661
- NEC 800 Type CMP



Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	LS-flame retardant PVC
Pairing:	2 twists per foot (minimum)
Color-coding:	Standard telephony, bandmarked
Rip cord:	Applied under jacket
Jacket:	LS-flame retardant PVC (2- to 100-pair) PVDF Copolymer (Over 100-pair)

Performance information follows on the next page

UTP Plenum Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω/1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	5%
Insulation resistance (minimum):	500 Megohms/1000 feet @20°C
Mutual capacitance (typical):	19 pF/foot (5.6nF/100 meters) 21 pF/foot (5.6nF/100 meters)
Temperature rating:	60°C
Voltage rating:	300VDC

Frequency (MHz)	Impedance (Ohms, Typical) 2-to-6-Pair	Impedance (Ohms, Typical) Over 6-Pair	Attenuation (dB/100m, Typical) 2-to-6-Pair	Attenuation (dB/100m, Typical) Over 6-Pair
.256	105	100	1.3	1.4
.512	102	95	1.9	2.0
.772	100	92	2.2	2.3
1.0	97	87	2.6	2.7

Ordering Information

Description	OD (Inches)	Weight (Lbs/kft)	Packaging	Catalog Number*
24 AWG UTP Plenum cable Jacket color: white				
2-pair	0.14	11	Spool	VXV0224-18*YY*
3-pair	0.15	15	Spool	VXV0324-18*YY*
4-pair	0.16	18	Spool	VXV0424-18*YY*
6-pair	0.19	27	Spool	VXV0624-18*YY*
8-pair	0.21	31	Reel	VXV0824-18*YY*
12-pair	0.24	45	Reel	VXV1224-18*YY*
25-pair	0.33	100	Reel	VXV2524-18*YY*
50-pair	0.49	192	Reel	VXV5024-18*YY*
100-pair	0.66	380	Reel	VXV0024-18*YY*
200-pair	0.95	793	Reel	VXVCC24-18*YY*

*To designate reel length, replace *YY* with:

02 = 1000'
10 = 5000'

Dimensions and weights are calculated nominals and do not imply any minimum or maximum tolerance

Copper Cable Solutions

Category 1 Horizontal and Backbone Cable

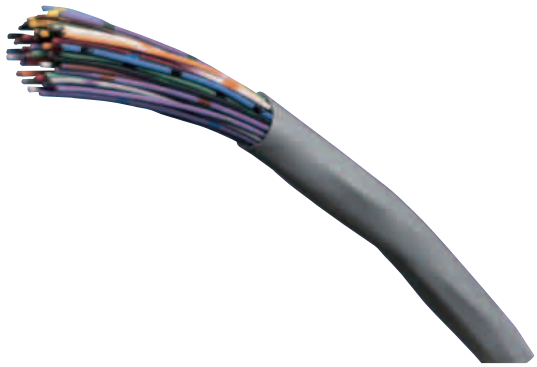
UTP Riser Cable

Common Applications

- POTS
- Fractional T1
- Basic Rate ISDN
- 2-, 3-, 4- and 6-pair cables
  - 4 Mbps Token Ring
  - Primary Rate ISDN
  - T1

Compliances

- UL Subject 444
- (UL)-C(UL) Type CMR/CMG
- ICEA S-90-661
- NEC 800 Type CMR



Specifications

CONSTRUCTION

Conductors:	24 AWG solid bare copper
Insulation:	Lead-free, semi-rigid PVC
Pairing:	2 twists per foot (minimum)
Color-coding:	Standard telephony, bandmarked
Rip cord:	Applied under jacket
Jacket:	Lead-free, flame retardant PVC

Performance information follows on the next page

Copper Cable Solutions

Category 1 Horizontal and Backbone Cable

UTP Riser Cable

Specifications

ELECTRICAL CHARACTERISTICS

Conductor DC resistance (maximum):	28.6Ω /1000 feet (9.38Ω/100 meters) @20°C
DC resistance unbalance (maximum):	5%
Insulation resistance (minimum):	500 Megohms/1000 feet @20°C
Mutual capacitance (typical):	19 pF/foot (5.6nF/100 meters) 21 pF/foot (5.6nF/100 meters)
Temperature rating:	60°C
Voltage rating:	300VDC

Frequency (MHz)	Impedance (Ohms, Typical) 2-To-6-Pair	Impedance (Ohms, Typical) Over 6-Pair	Attenuation (dB/100m, Typical) 2-To-6-Pair	Attenuation (dB/100m, Typical) Over 6-Pair
.256	105	100	1.3	1.4
.512	102	95	1.9	2.0
.772	100	92	2.2	2.3
1.0	97	87	2.6	2.7

Ordering Information

Description	OD (Inches)	Weight (Lbs/kft)	Packaging	Catalog Number*
24 AWG UTP riser cable Jacket color: white				
2-pair	0.13	10	Spool	D0224H0-GY*YY*
3-pair	0.14	14	Spool	D0324H0-GY*YY*
4-pair	0.16	17	Spool	D0424H0-GY*YY*
6-pair	0.18	24	Spool	D0624H0-GY*YY*
8-pair	0.20	31	Reel	D0824H0-GY*YY*
12-pair	0.23	47	Reel	D1224H0-GY*YY*
25-pair	0.32	96	Reel	D2524H0-GY*YY*
50-pair	0.45	177	Reel	D5024H0-GY*YY*
100-pair	0.62	352	Reel	D0024H0-GY*YY*
200-pair	0.91	708	Reel	DCC24H0-GY*YY*
300-pair	1.06	1052	Reel	D3X24H0-GY*YY*
400-pair	1.28	1477	Reel	D4X24H0-GY*YY*

*To designate reel length, replace *YY* with:
02 = 1000'
10 = 5000'

Dimensions and weights are calculated nominals and do not imply any minimum or maximum tolerance

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