

Wire and Cable for Vital Communication Applications

Specialty Premise Data Communications • Railway and Transit • Industrial Ethernet
Military / Shipboard • Low-Smoke, Zero-Halogen Designs • Multi-Pair Telephone
Sound and Security • Fire Alarm

Introduction

Comtran Cable LLC, located in Attleboro, MA, is a leading manufacturer of high-performance data communications, premise telephone, low-voltage and specialty wire and cable. We offer a diverse product selection supporting various market segments such as:

- Specialty Data Communications
- VITALink® Cables
- Multi-Pair Unshielded and Shielded Telephone
- Marine Military/Government Shipboard Communication Cable
- Low-Smoke, Zero-Halogen Designs
- Braided Constructions
- Railway and Public Transit Infrastructure
- Sound and Security
- Low-Voltage and Fire Alarm Cables
- Industrial Ethernet

These products are sold through authorized distributors throughout North America. Since its inception in 1985, Comtran Cable has gained a solid reputation for being a customer-oriented and reliable business partner supplying quality products shipped from stock. Our highly regarded customer service team is considered by many of our distributors to be the most responsive, knowledgeable and trustworthy in our industry. At Comtran, keeping The Customer #1 is not a tagline but a daily commitment that is taken very seriously throughout our organization. Our goal is to deliver the ultimate value to our distributors and their customers.

In 2001, Comtran became a member company of The Marmon Group, based in Chicago, IL, an international association of more than 130 business units that operate independently within diverse business sectors. Within Marmon's Engineered Wire and Cable Division reside other well-known cable manufacturers such as RSCC, Cable USA, Aetna, RSCC A&D and Harbour Industries. Harvesting all of the synergies between the various companies allows Comtran to be a specialty cable manufacturer to many high-tech industries.

In March 2008, Berkshire Hathaway Inc. acquired majority interest in The Marmon Group. Berkshire Hathaway and its subsidiaries engage in a number of diverse business activities including property and casualty insurance, utility and energy, finance, manufacturing, retailing and services.

Marmon Wire & Cable LLC includes more than 12 member companies that manufacture and market electrical and electronic wire and cable. Together, these companies employ about 2,300 people in North America and in Europe. As a member company, Comtran Cable has the management and financial strength needed to sustain its growth and leadership position in the marketplace.

Facilities

In June 2010, Comtran relocated to a modern 185,000-square-foot manufacturing facility in Attleboro, Massachusetts.

Comtran Cable has diverse manufacturing capabilities that are ever changing and expanding due to the dynamic markets that we serve. In addition to manufacturing, this location serves as headquarters, including finance and administration, sales/marketing, engineering and research and development. Products are maintained in our 40,000-square-foot warehouse and distribution center. Our unwavering commitment to maintain such a vast array of product in stock that can typically be shipped in less than 24 hours is a key element in our steady growth over the past 25+ years. Short lead-times and a strong commitment to on-time delivery has always been our priority.

Quality Commitment

Comtran Cable's reputation for quality is supported by a comprehensive Quality Management System and ISO 9001:2008 Registration.

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Comtran Cable LLC had made every effort to ensure the technical accuracy of the data and information contained in this catalog at the time of publishing.

Technical data, specifications, industry applications, drawing, weights, dimensions, packaging and part numbers detailed within are subject to change without notice due to product enhancements.

Comtran Cable LLC is not responsible for any typographical errors or inaccuracies that may occur. For the most current information, please contact Comtran Cable LLC at 508-399-7004.

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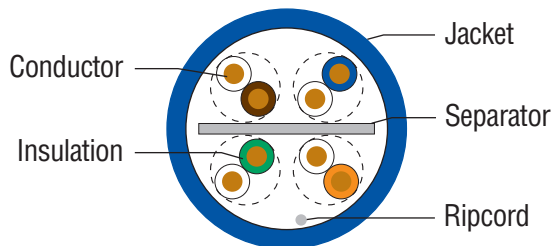
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COM-Link™ Category 6e UTP Premise Data Cables

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT



Construction

- Conductor: 23 AWG Solid Bare Copper
- Tape Separator
- Color Code Per TIA-568-C.2

Insulation

- Plenum: Fluoropolymer
- Riser: Polyolefin

Jacket

- Plenum: Low-Smoke, Flame-Retardant PVC
- Riser: Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Electrical Characteristics

DC Resistance (max.): 9.38 Ohms/100m

DC Resistance Unbalance (max.) Individual Pair %: 5.0

Nominal Velocity of Propagation

% Speed of Light: Plenum: 70 Riser: 68

Propagation Delay Skew (max.) (ns/100m): 45

Part Numbers

Jacket Color	Riser	Plenum	Available Put-Ups		
			1,000' Box	1,000' Reel	Bulk Reels
BLUE	35196	34972	X	X	X
WHITE	35195	34971	X	X	X
GRAY	35197	34973	X	X	X
GREEN	35199	34975	X	X	X
YELLOW	35198	34974	X	X	X

Physical Data

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.200	.205
Nominal Cable Weight (lbs./1,000 ft.)	24.0	25.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Pulling Force (max. lbs.)	32	32

Transmission Throughput

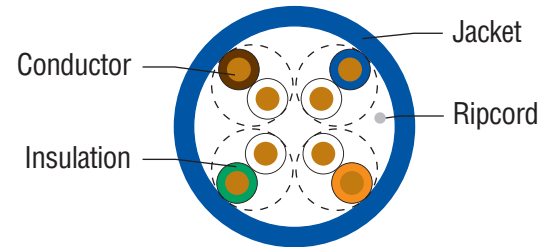
	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	74.3	72.3	67.8	64.8
4	100	23	3.8	65.3	63.3	55.7	52.7
8	100	24.5	5.3	60.8	58.8	49.7	46.7
10	100	25	6	59.3	57.3	47.8	44.8
16	100	25	7.6	56.3	54.3	43.7	40.7
20	100	25	8.5	54.8	52.8	41.7	38.7
25	100	24.3	9.5	53.3	51.3	39.8	36.8
31.25	100	23.6	10.7	51.9	49.9	37.9	34.9
62.5	100	21.5	15.4	47.4	45.4	31.8	28.8
100	100	20.1	19.8	44.3	42.3	27.8	24.8
125	100	19.4	22.4	42.9	40.9	25.8	22.8
155	100	18.8	25.2	41.4	39.4	23.9	20.9
175	100	18.4	26.9	40.7	38.7	22.9	19.9
200	100	18	29	39.8	37.8	21.7	18.7
250	100	17.3	32.8	38.3	36.3	19.8	16.8
300	100	16.8	36.4	37.1	35.1	18.3	15.3
350	100	16.3	39.8	36.1	34.1	16.9	13.9
400	100	15.9	43	35.3	33.3	15.8	12.8
450	100	15.5	46	34.5	32.5	14.7	11.7
500	100	15.2	48.9	33.8	31.8	13.8	10.8
550	100	14.9	51.8	33.2	31.2	13.0	10.0



RoHS Compliant

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT

COM-Link™ COM-Pact Category 6e UTP Premise Data Cables



Construction

- Conductor: 23 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Plenum: Fluoropolymer
- Riser: Polyolefin

Jacket

- Plenum: Flame-Retardant PVC
- Riser: Low-Smoke Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Electrical Characteristics

DC Resistance (max.): 9.38 Ohms/100m

DC Resistance Unbalance (max.) Individual Pair %: 5.0

Nominal Velocity of Propagation

% Speed of Light: Plenum: 70 Riser: 68

Propagation Delay Skew (max.) (ns/100m): 45

Part Numbers			Available Put-Ups		
Jacket Color	Riser	Plenum	1,000' Box	1,000' Reel	Bulk Reels
BLUE	36049	36046	X	X	X
WHITE	36048	36047	X	X	X

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.200	.190
Nominal Cable Weight (lbs./1,000 ft.)	25.0	23.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Pulling Force (Max. lbs.)	32	32

Transmission Throughput

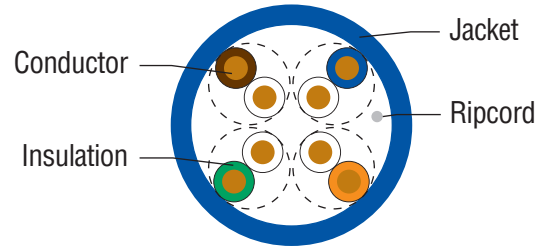
	Char. Impedance	Return Loss	Attenuation	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	74.3	72.3	67.8	64.8
4	100	23	3.8	65.3	63.3	55.7	52.7
8	100	24.5	5.3	60.8	58.8	49.7	46.7
10	100	25	6	59.3	57.3	47.8	44.8
16	100	25	7.6	56.3	54.3	43.7	40.7
20	100	25	8.5	54.8	52.8	41.7	38.7
25	100	24.3	9.5	53.3	51.3	39.8	36.8
31.25	100	23.6	10.7	51.9	49.9	37.9	34.9
62.5	100	21.5	15.4	47.4	45.4	31.8	28.8
100	100	20.1	19.8	44.3	42.3	27.8	24.8
125	100	19.4	22.4	42.9	40.9	25.8	22.8
155	100	18.8	25.2	41.4	39.4	23.9	20.9
175	100	18.4	26.9	40.7	38.7	22.9	19.9
200	100	18	29	39.8	37.8	21.7	18.7
250	100	17.3	32.8	38.3	36.3	19.8	16.8
300	100	16.8	36.4	37.1	35.1	18.3	15.3
350	100	16.3	39.8	36.1	34.1	16.9	13.9
400	100	15.9	43	35.3	33.3	15.8	12.8
450	100	15.5	46	34.5	32.5	14.7	11.7
500	100	15.2	48.9	33.8	31.8	16.8	10.8
550	100	14.9	51.8	33.2	31.2	13.0	10.0



RoHS Compliant

COM-Link™ Category 6 UTP Premise Data Cables

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
300 VOLT



Construction

- Conductor: 23 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Plenum: Fluoropolymer
- Riser: Polyolefin

Jacket

- Plenum: Low-Smoke, Flame-Retardant PVC
- Riser: Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Part Numbers		Available Put-Ups				
Jacket Color	Riser	Plenum	1,000' Box	1,000' Reel	Bulk Reels	
BLUE	38677	38600	X	X	X	
WHITE	38678	38601	X	X	X	
GRAY	35882	34932	X	X	X	
GREEN	35897	34277	X	X	X	
YELLOW	35184	34481	X	X	X	

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.200	.190
Nominal Cable Weight (lbs./1,000 ft.)	25.0	23.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Pulling Force (max. lbs.)	32	32

Transmission Throughput

	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	74.3	72.3	67.8	64.8
4	100	23	3.8	65.3	63.3	55.7	52.7
8	100	24.5	5.3	60.8	58.8	49.7	46.7
10	100	25	6	59.3	57.3	47.8	44.8
16	100	25	7.6	56.3	54.3	43.7	40.7
20	100	25	8.5	54.8	52.8	41.7	38.7
25	100	24.3	9.5	53.3	51.3	39.8	36.8
31.25	100	23.6	10.7	51.9	49.9	37.9	34.9
62.5	100	21.5	15.4	47.4	45.4	31.8	28.8
100	100	20.1	19.8	44.3	42.3	27.8	24.8
125	100	19.4	22.4	42.9	40.9	25.8	22.8
155.52	100	18.8	25.2	41.4	39.4	23.9	20.9
175	100	18.4	26.9	40.7	38.7	22.9	19.9
200	100	18	29	39.8	37.8	21.7	18.7
250	100	17.3	32.8	38.3	36.3	19.8	16.8

Electrical Characteristics

DC Resistance (max.): 9.38
Ohms/100m

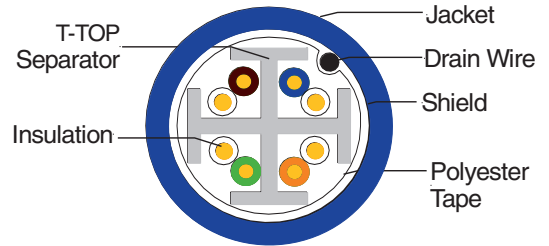
DC Resistance Unbalance
(max.) Individual Pair %: 5.0

Nominal Velocity of Propagation
% Speed of Light:
Plenum: 70 Riser: 68

Propagation Delay Skew (max.)
(ns/100m): 45

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT

COM-Link™ Category 6A F/UTP Premise Data Cables



Construction

- Conductor: 23 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2
- T-TOP Separator
- Polyester core wrap
- 24 AWG Tinned copper drain wire
- Aluminum/polyester (aluminum side in)

Insulation

- Plenum: Fluoropolymer
- Riser: Polyolefin

Jacket

- Plenum: Low-Smoke, Flame-Retardant PVC
- Riser: Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Part Numbers

Jacket Color	Riser	Plenum	Available Put-Ups	
			1,000' Reel	Bulk Reels
BLUE	36018	36021	X	X
WHITE	36019	36022	X	X
GRAY	36020	36023	X	X

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.295	.295
Nominal Cable Weight (lbs./1,000 ft.)	38.0	43.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Pulling Force (Max lbs)	32	32

Transmission Throughput

	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	74.3	72.3	67.8	64.8
4	100	23	3.8	65.3	63.3	55.8	52.8
8	100	24.5	5.3	60.8	58.8	49.7	46.7
10	100	25	6	59.3	57.3	47.8	44.8
16	100	25	7.5	56.2	54.2	43.7	40.7
20	100	25	8.4	54.8	52.8	41.8	38.8
25	100	24.3	9.4	53.3	51.3	39.8	36.8
31.25	100	23.6	10.5	51.9	49.9	37.9	34.9
62.5	100	21.5	15	47.4	45.4	31.9	28.9
100	100	20.1	19.1	44.3	42.3	27.8	24.8
200	100	18	27.6	39.8	37.8	21.8	18.8
250	100	17.3	31.1	38.3	36.3	19.8	16.8
300	100	16.8	34.3	37.1	35.1	18.3	15.3
400	100	15.9	40	35.3	33.3	15.8	12.8
500	100	15.2	45.3	33.8	31.8	13.8	10.8

Electrical Characteristics

DC Resistance (max.): 9.38 Ohms/100m

DC Resistance Unbalance (max.) Individual Pair %: 5.0

Nominal Velocity of Propagation % Speed of Light:

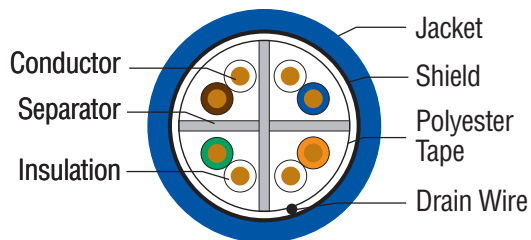
Plenum: 70 Riser: 68

Propagation Delay Skew (max.) (ns/100m): 45



COM-Link™ Category 6 Shielded Premise Data Cables

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
300 VOLT



Construction

- Conductor: 23 AWG Solid Bare Copper
- Cross Web Separator
- Color Code Per TIA-568-C.2
- Polyester Core Wrap
- 24 AWG Tinned Copper Drain Wire
- Aluminum/Polyester (aluminum side in)

Insulation

- Plenum: Fluoropolymer
- Riser: Polyolefin

Jacket

- Plenum: Low-Smoke, Flame-Retardant PVC
- Riser: Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Feature

- Shield reduces electromagnetic interference (EMI) for superior performance

Jacket Color	Part Numbers		Available Put-Ups	
	Riser	Plenum	1,000' Reel	Bulk Reels
BLUE	35930	35941	X	X
WHITE	35946	35940	X	X
GRAY	35931	35942	X	X
GREEN	35928	35939	X	X

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.280	.265
Nominal Cable Weight (lbs./1,000 ft.)	36.0	35.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Pulling Force (max. lbs.)	32	32

Transmission Throughput

	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	74.3	72.3	67.8	64.8
4	100	23	3.8	65.3	63.3	55.7	52.7
8	100	24.5	5.3	60.8	58.8	49.7	46.7
10	100	25	6	59.3	57.3	47.8	44.8
16	100	25	7.6	56.3	54.3	43.7	40.7
20	100	25	8.5	54.8	52.8	41.7	38.7
25	100	24.3	9.5	53.3	51.3	39.8	36.8
31.25	100	23.6	10.7	51.9	49.9	37.9	34.9
62.5	100	21.5	15.4	47.4	45.4	31.8	28.8
100	100	20.1	19.8	44.3	42.3	27.8	24.8
125	100	19.4	22.4	42.9	40.9	25.8	22.8
155	100	18.8	25.2	41.4	39.4	23.9	20.9
175	100	18.4	26.9	40.7	38.7	22.9	19.9
200	100	18	29	39.8	37.8	21.7	18.7
250	100	17.3	32.8	38.3	36.3	19.8	16.8

Electrical Characteristics

DC Resistance (max.): 9.38 Ohms/100m

DC Resistance Unbalance (max.) Individual Pair %: 5.0

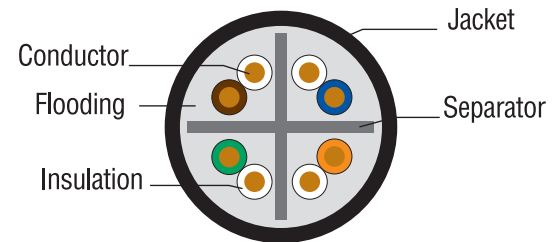
Nominal Velocity of Propagation % Speed of Light: Plenum: 70 Riser: 68

Propagation Delay Skew (max.) (ns/100m): 45



RoHS Compliant

COM-Link™ Category 6 OSP Outside Plant Premise Data Cables



Construction

- Conductor: 23 AWG Solid Bare Copper
- Crossweb Separator
- Color Code Per TIA-568-C.2

Insulation

- Polyolefin

Jacket

- UV Resistant Polyethylene

Flooding Compound

- Waterproof Gel

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing
- Conduit and Duct Installations
- Not to be used Aerially or Direct Buried

Compliances

- ETL Verified ANSI/TIA-568-C.2
- ICEA S-102-700
- RoHS Compliant

Feature

- Protects against harmful environments that can cause electrical failures

Part Numbers	Available Put-Ups	
	1,000' Reel	Bulk Reels
Jacket Color		
	35911	X X

Physical Data	
Nominal Cable Diameter (inches)	.260
Nominal Cable Weight (lbs./1,000 ft.)	29
Temperature Rating (Celsius)	
Installation:	-30 to +60
Operation:	-45 to +80
Pulling Force (max. lbs.)	32

Transmission Throughput

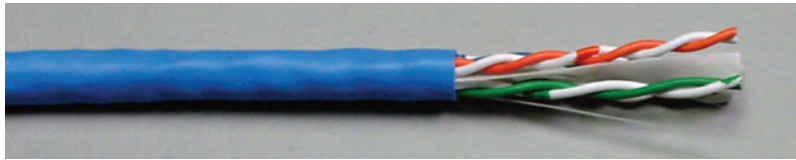
	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	74.3	72.3	67.8	64.8
4	100	23	3.8	65.3	63.3	55.7	52.7
8	100	24.5	5.3	60.8	58.8	49.7	46.7
10	100	25	6	59.3	57.3	47.8	44.8
16	100	25	7.6	56.3	54.3	43.7	40.7
20	100	25	8.5	54.8	52.8	41.7	38.7
25	100	24.3	9.5	53.3	51.3	39.8	36.8
31.25	100	23.6	10.7	51.9	49.9	37.9	34.9
62.5	100	21.5	15.4	47.4	45.4	31.8	28.8
100	100	20.1	19.8	44.3	42.3	27.8	24.8
125	100	19.4	22.4	42.9	40.9	25.8	22.8
155.52	100	18.8	25.2	41.4	39.4	23.9	20.9
175	100	18.4	26.9	40.7	38.7	22.9	19.9
200	100	18	29	39.8	37.8	21.7	18.7
250	100	17.3	32.8	38.3	36.3	19.8	16.8

Electrical Characteristics

DC Resistance (max.): 9.38	Nominal Velocity of Propagation % Speed of Light: 68	Propagation Delay Skew (max.) (ns/100m): 45
DC Resistance Unbalance (max.) Individual Pair %: 5.0	Characteristic Impedance (Ohms): 100 +/- 15	



COM-Link™ Category 6 Patch Premise Data Cables



Part Numbers		Available Put-Ups			
Jacket Color	Riser	1,000' Box	1,000' Reel	Bulk Reels	
BLUE	35800	X	X	X	
WHITE	35802	X	X	X	

Construction

- Conductor: 24 AWG Stranded Tinned Copper
- Tape Separator
- Color Code Per TIA-568-C.2

Insulation

- Riser: Polyolefin

Jacket

- Riser: Low-Smoke, Flame-Retardant PVC

Applications

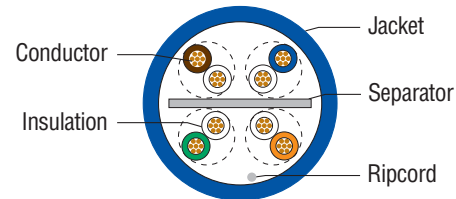
- Gigabit Ethernet (1000Base-T)

- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

RISER: UL TYPE CMR
300 VOLT



Physical Data	Riser
Nominal Cable Diameter (inches)	.220
Nominal Cable Weight (lbs./1,000 ft.)	22.0
Temperature Rating (Celsius)	
Installation:	0 to +60
Operation:	-20 to +75

COM-Link™ Category 5e Patch Premise Data Cables



Part Numbers		Available Put-Ups			
Jacket Color	Riser	1,000' Box	1,000' Reel	Bulk Reels	
BLUE	32579	X	X	X	
BLACK	32580	X	X	X	

Construction

- Conductor: 24 AWG Stranded Copper
- Color Code Per TIA-568-C.2

Insulation

- Riser: Polyolefin

Jacket

- Riser: Low-Smoke, Flame-Retardant PVC

Applications

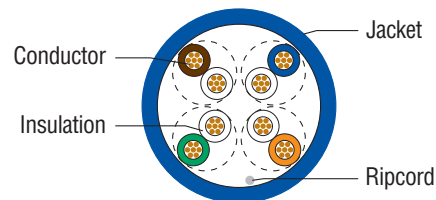
- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN

- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- ICEA S-90-661
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

RISER: UL TYPE CMR
300 VOLT



Physical Data	Riser
Nominal Cable Diameter (inches)	.215
Nominal Cable Weight (lbs./1,000 ft.)	22.0
Temperature Rating (Celsius)	
Installation:	0 to +60
Operation:	-20 to +75

Electrical Characteristics Category 6 and 5e Patch Premise Data Cables

DC Resistance (max.): 9.38 Ohms/100m

Nominal Velocity of Propagation % Speed of Light: Riser: 68

Characteristic Impedance (Ohms): 100 +/- 15

Propagation Delay Skew (max.) (ns/100m): 45

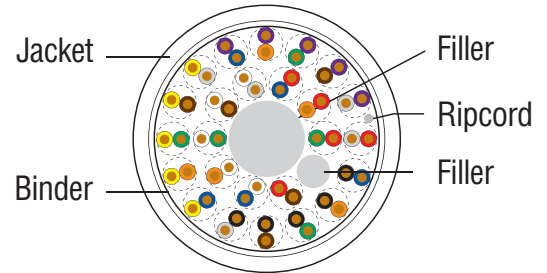
DC Resistance Unbalance (max.) Individual Pair %: 5.0



RoHS Compliant

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT

COM-Link™ Category 5e, 25 Pair Powersum Premise Data Cables



Construction

- Conductor: 24 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2 (all solid colors)

Insulation

- Plenum: Fluoropolymer
- Riser: Polyolefin

Jacket

- Plenum: Fluoropolymer
- Riser: Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-90-661
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Feature

- Used in system backbones that have more stringent design requirements and are more complex than voice system backbones

Part Numbers

Jacket Color	Riser	Plenum	Available Put-Ups	
			1,000' Reel	Bulk Reels
BLUE	35303	35480	X	X
WHITE	35301	35479	X	X
GRAY	35302	35481	X	X

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.510	.455
Nominal Cable Weight (lbs./1,000 ft.)	151	152
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75

Transmission Throughput

	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	65.3	62.3	63.8	60.8
4	100	23	4.1	56.3	53.3	51.7	48.7
8	100	24.5	5.8	51.8	48.8	45.7	42.7
10	100	25	6.5	50.3	47.3	43.8	40.8
16	100	25	8.2	47.3	44.3	39.7	36.7
20	100	25	9.3	45.8	42.8	37.7	34.7
25	100	24.3	10.4	44.3	41.3	35.8	32.8
31.25	100	23.6	11.7	42.9	39.9	33.9	30.9
62.5	100	21.5	17	38.4	35.4	27.8	24.8
100	100	20.1	22	35.3	32.3	23.8	20.8

Electrical Characteristics

DC Resistance (max.): 9.38
 DC Resistance Unbalance (max.) Individual Pair %: 5.0

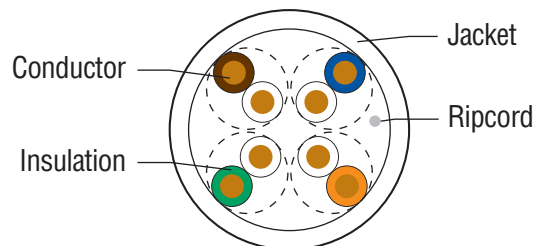
Nominal Velocity of Propagation % Speed of Light:
 Plenum: 72 Riser: 70

Characteristic Impedance (Ohms): 100 +/- 15
 Propagation Delay Skew (max.) (ns/100m): 45



COM-Link™ Category 5e 350 MHz UTP Premise Data Cables

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT



Construction

- Conductor: 24 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Plenum: Fluoropolymer/FRPP
- Riser: Polyolefin

Jacket

- Plenum: Low-Smoke, Flame-Retardant PVC
- Riser: Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-90-661
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Part Numbers				Available Put-Ups		
Jacket Color	Riser	Plenum	1,000' Box	1,000' Reel	Bulk Reels	
BLUE	32883	32567	X	X	X	
WHITE	32881	32347	X	X	X	
GRAY	32882	32644	X	X	X	
GREEN	38654	32539	X	X	X	
YELLOW	38653	32820	X	X	X	

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.185	.180
Nominal Cable Weight (lbs./1,000 ft.)	18.0	20.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Pulling Force (max. lbs.)	25.0	25.0

Transmission Throughput

Freq.	Char. Impedance (Ohms)	Return Loss (dB)	Insertion Loss (dB/100m)	NEXT (dB/100m)	PSNEXT (dB/100m)	ACRF (dB/100m)	PSACRF (dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	65.3	62.3	63.8	60.8
4	100	23	4.1	56.3	53.3	51.7	48.7
8	100	24.5	5.8	51.8	48.8	45.7	42.7
10	100	25	6.5	50.3	47.3	43.8	40.8
16	100	25	8.2	47.3	44.3	39.7	36.7
20	100	25	9.3	45.8	42.8	37.7	34.7
25	100	24.3	10.4	44.3	41.3	35.8	32.8
31.25	100	23.6	11.7	42.9	39.9	33.9	30.9
62.5	100	21.5	17	38.4	35.4	27.8	24.8
100	100	20.1	22	35.3	32.3	23.8	20.8
200	100	18	32.4	30.8	27.8	20	14.7
350	100	16.3	44.8	27.5	24.2	17	9.9

Electrical Characteristics

DC Resistance (max.): 9.38 Ohms/100m

DC Resistance Unbalance (max.) Individual Pair %: 5.0

Nominal Velocity of Propagation % Speed of Light:
 Plenum: 72 Riser: 70

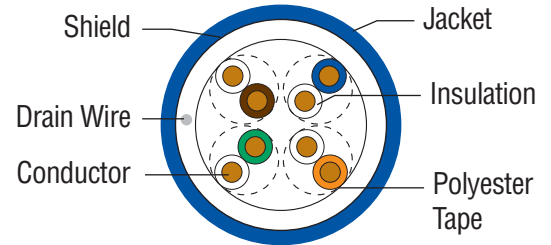
Propagation Delay Skew (max.) (ns/100m): 45



RoHS Compliant

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT

COM-Link™ Category 5e Shielded Premise Data Cables



Construction

- Conductor: 24 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2
- Polyester Core Wrap
- 24 AWG Tinned Copper Drain Wire
- Aluminum/Polyester (aluminum side in)

Insulation

- Plenum: Fluoropolymer
- Riser: Polyolefin

Jacket

- Plenum: Low-Smoke, Flame-Retardant PVC
- Riser: Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-90-661
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Feature

- Shield reduces electromagnetic interference (EMI) for superior performance

Part Numbers

Jacket Color		Riser	Plenum	Available Put-Ups	
				1,000' Reel	Bulk Reels
BLUE		32070	32854	X	X
WHITE		32906	32648	X	X
GRAY		38676	35973	X	X
GREEN		35905	35903	X	X

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.220	.215
Nominal Cable Weight (lbs./1,000 ft.)	26.0	29.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Pulling Force (max. lbs.)	25.0	25.0

Transmission Throughput

	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq. (MHz)	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	65.3	62.3	63.8	60.8
4	100	23	4.1	56.3	53.3	51.7	48.7
8	100	24.5	5.8	51.8	48.8	45.7	42.7
10	100	25	6.5	50.3	47.3	43.8	40.8
16	100	25	8.2	47.3	44.3	39.7	36.7
20	100	25	9.3	45.8	42.8	37.7	34.7
25	100	24.3	10.4	44.3	41.3	35.8	32.8
31.25	100	23.6	11.7	42.9	39.9	33.9	30.9
62.5	100	21.5	17	38.4	35.4	27.8	24.8
100	100	20.1	22	35.3	32.3	23.8	20.8

Electrical Characteristics

DC Resistance (max.): 9.38 Ohms/100m

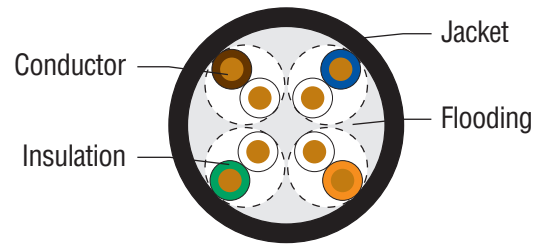
DC Resistance Unbalance (max.) Individual Pair %: 5.0

Nominal Velocity of Propagation % Speed of Light:
 Plenum: 70 Riser: 68

Propagation Delay Skew (max.) (ns/100m): 45



COM-Link™ Category 5e OSP Premise Data Cables



Construction

- Conductor: 24 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Polyolefin

Jacket

- UV Resistant Polyethylene

Flooding Compound

- Waterproof Gel

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing
- Aerial and Duct Installations
- Not to be Direct Buried

Compliances

- ETL Verified ANSI/TIA-568-C.2
- ICEA S-90-661
- RoHS Compliant

Feature

- Protects against harmful environments that can cause electrical failures

Part Numbers	Available Put-Ups		
	Jacket Color	1,000' Reel	Bulk Reels
	35794	X	X

Physical Data	
Nominal Cable Diameter (inches)	.225
Nominal Cable Weight (lbs./1,000 ft.)	26.0
Temperature Rating (Celsius)	
Installation:	-30 to +60
Operation:	-45 to +80
Pulling Force (max. lbs.)	25.0

Transmission Throughput

	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	65.3	62.3	63.8	60.8
4	100	23	4.1	56.3	53.3	51.7	48.7
8	100	24.5	5.8	51.8	48.8	45.7	42.7
10	100	25	6.5	50.3	47.3	43.8	40.8
16	100	25	8.2	47.3	44.3	39.7	36.7
20	100	25	9.3	45.8	42.8	37.7	34.7
25	100	24.3	10.4	44.3	41.3	35.8	32.8
31.25	100	23.6	11.7	42.9	39.9	33.9	30.9
62.5	100	21.5	17	38.4	35.4	27.8	24.8
100	100	20.1	22	35.3	32.3	23.8	20.8

Electrical Characteristics

DC Resistance (max.): 9.38
Ohms/100m

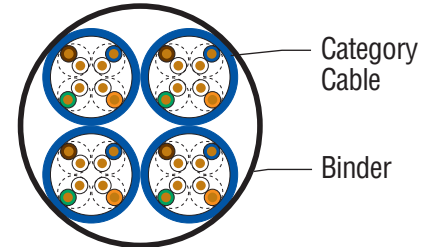
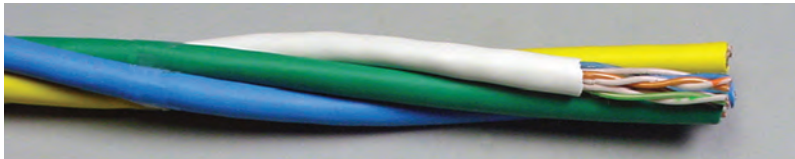
Nominal Velocity of Propagation
% Speed of Light: 68

Propagation Delay Skew (max.)
(ns/100m): 45

DC Resistance Unbalance
(max.) Individual Pair %: 5.0

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT

COM-Link™ Category 5e and 6 Bundled Premise Data Cables



Construction

- Category 5e or 6 (up to 6 cables)
- Helically Applied Binder

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-90-661
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Features

- Offered in color-coded bundles for ease of installation
- Simplifies cable management

Electrical Characteristics

DC Resistance (max.): 9.38 Ohms/100m

DC Resistance Unbalance (max.)

Individual Pair %: 5.0

Nominal Velocity of Propagation

% Speed of Light: Plenum: 72 Riser: 70

Propagation Delay Skew (max.) (ns/100m): 45

Physical Data	Riser	Plenum
Category 5e Data		
Nominal Cable Diameter (inches)	.185	.180
Nominal Cable Weight (lbs./1,000 ft.)	18.0	20.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75
Category 6 Data		
Nominal Cable Diameter (inches)	.200	.190
Nominal Cable Weight (lbs./1,000 ft.)	25.0	23.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75

Category 5e Transmission Throughput

	Char. Impedance	Return Loss	Insertion Loss	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	65.3	62.3	63.8	60.8
4	100	23	4.1	56.3	53.3	51.7	48.7
8	100	24.5	5.8	51.8	48.8	45.7	42.7
10	100	25	6.5	50.3	47.3	43.8	40.8
16	100	25	8.2	47.3	44.3	39.7	36.7
20	100	25	9.3	45.8	42.8	37.7	34.7
25	100	24.3	10.4	44.3	41.3	35.8	32.8
31.25	100	23.6	11.7	42.9	39.9	33.9	30.9
62.5	100	21.5	17	38.4	35.4	27.8	24.8
100	100	20.1	22	35.3	32.3	23.8	20.8

Category 6 Transmission Throughput

1	100	20	2	74.3	72.3	67.8	64.8
4	100	23	3.8	65.3	63.3	55.7	52.7
8	100	24.5	5.3	60.8	58.8	49.7	46.7
10	100	25	6	59.3	57.3	47.8	44.8
16	100	25	7.6	56.3	54.3	43.7	40.7
20	100	25	8.5	54.8	52.8	41.7	38.7
25	100	24.3	9.5	53.3	51.3	39.8	36.8
31.25	100	23.6	10.7	51.9	49.9	37.9	34.9
62.5	100	21.5	15.4	47.4	45.4	31.8	28.8
100	100	20.1	19.8	44.3	42.3	27.8	24.8
125	100	19.4	22.4	42.9	40.9	25.8	22.8
155.52	100	18.8	25.2	41.4	39.4	23.9	20.9
175	100	18.4	26.9	40.7	38.7	22.9	19.9
200	100	18	29	39.8	37.8	21.7	18.7
250	100	17.3	32.8	38.3	36.3	19.8	16.8



Datacom Warranty and Connectivity Partnerships

At Comtran, quality and customer satisfaction are the center of our team's focus. All of Comtran's data communication cable products have been independently third-party verified for performance to all applicable industry standards and codes. Comtran will warranty any of its data communication products Cat 5 and higher with all connectivity components that are also independently third-party verified and meet all applicable standards, codes, and specifications.

Comtran Offers Two Levels of Warranty Protection: Comtran Standard Cable Warranty

Comtran's Standard Cable Warranty guarantees that our data communication cables will be free from defects due to manufacture for a period of one (1) year from invoice date. Please contact Comtran directly for more information and a copy of the full warranty at 508-399-7004.

Comtran Cable Partner Preference 25-Year Extended Warranty

Comtran Cable offers a 25-year Network System Warranty that would include Link and Channel. These warranties will need to be registered by the end user with Comtran and will be administered by Comtran. Comtran will issue the system warranty in the event that the connectivity manufacturer of choice is not a current Comtran connectivity partner.

*(Contact Comtran and ask for the **Comtran Cable Partner Preference Warranty** for full details)*

Connectivity Partners

Comtran Cable LLC Network Cable System Warranty is in alliance with the following connectivity partners:

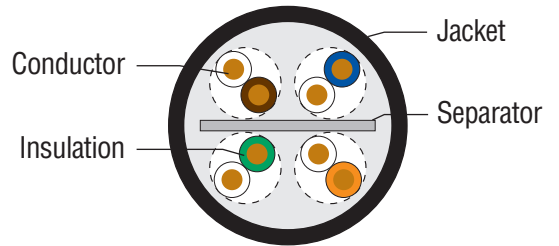
- Hellerman Tyton
- OCC
- Signamax
- Dynacom
- Other Third-Party Verified Performance Products

For the warranty to be provided, the system or cable must have been installed and tested in accordance with TIA/EIA 568C, ISO 11801, and BICSI specifications in effect at the time of the installation, and the connectivity components must be third-party verified to the appropriate TIA standards required by the category of the products.



UL TYPE CM-LS
300 VOLT

Category 6 and 5e LSZH Specialty Data Cables



Category 6 LSZH

Part Numbers		Available Put-Ups	
Jacket Color		1,000' Reel	Bulk Reels
BLACK	35950	X	X

Physical Data	
Nominal Cable Diameter (inches)	.230
Nominal Cable Weight (lbs./1,000 ft.)	27.0
Temperature Rating (Celsius)	
Installation:	-20 to +60
Operation:	-20 to +60

Construction

- Conductor: 23 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Polyolefin

Jacket

- Low-Smoke, Zero-Halogen

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN

- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CM-LS
- ICEA S-102-700
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Category 5e LSZH

Part Numbers		Available Put-Ups	
Jacket Color		1,000' Reel	Bulk Reels
BLACK	35951	X	X

Physical Data	
Nominal Cable Diameter (inches)	.215
Nominal Cable Weight (lbs./1,000 ft.)	25.0
Temperature Rating (Celsius)	
Installation:	-20 to +60
Operation:	-20 to +60

Construction

- Conductor: 24 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Polyolefin

Jacket

- Low-Smoke, Zero-Halogen

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN

- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CM-LS
- ICEA S-90-661
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Electrical Characteristics Category 6 and 5e LSZH Specialty Data Cables

DC Resistance (max.): 9.38
DC Resistance Unbalance (max.)
Individual Pair %: 5.0

Nominal Velocity of Propagation
% Speed of Light: 68

Characteristic Impedance
(Ohms): 100 +/- 15

Propagation Delay Skew (max.)
(ns/100m): 45



RoHS
Compliant

COMTRAN CABLE
ENGINEERED QUALITY
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Category 6 Indoor/Outdoor LSZH Specialty Data Cables



Part Numbers		Available Put-Ups	
Jacket Color		1,000' Reel	Bulk Reels
BLACK	35952	X	X

Construction

- Conductor: 23 AWG Solid Bare Copper
- Crossweb Separator
- Color Code Per TIA-568-C.2

Insulation

- Polyolefin

Jacket

- Low-Smoke, Zero-Halogen
- Tape Separator

Flooding Compound

- Waterproof Gel

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

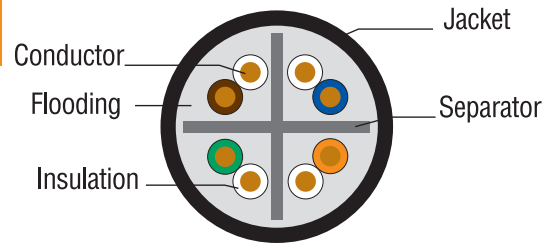
Compliances

- ETL Verified ANSI/TIA-568-C.2
- ICEA S-102-700
- RoHS Compliant
- UL Listed Type CM-LS
- California State Fire Marshal

Features

- Protects against harmful environments that can cause electrical failures
- Suitable for duct and aerial installations

UL TYPE CM-LS 300 VOLT



Physical Data	
Nominal Cable Diameter (inches)	.285
Nominal Cable Weight (lbs./1,000 ft.)	32
Temperature Rating (Celsius)	
Installation:	-20 to +60
Operation:	-20 to +60

Category 5e Indoor/Outdoor LSZH Specialty Data Cables



Part Numbers		Available Put-Ups	
Jacket Color		1,000' Reel	Bulk Reels
BLACK	35953	X	X

Construction

- Conductor: 24 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Polyolefin

Jacket

- Low-Smoke, Zero-Halogen

Flooding Compound

- Waterproof Gel

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN

- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

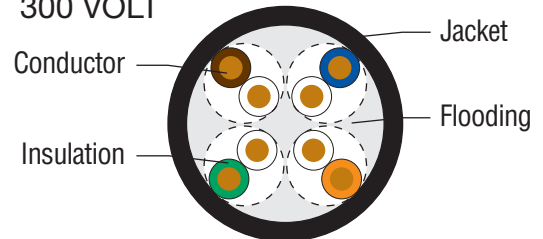
Compliances

- ETL Verified ANSI/TIA-568-C.2
- ICEA S-90-661

Features

- Protects against harmful environments that can cause electrical failures
- Suitable for duct and aerial installations

UL TYPE CM-LS 300 VOLT



Physical Data	
Nominal Cable Diameter (inches)	.225
Nominal Cable Weight (lbs./1,000 ft.)	26
Temperature Rating (Celsius)	
Installation:	-20 to +60
Operation:	-20 to +60

Electrical Characteristics Category 6 and 5e Indoor-Outdoor LSZH Specialty Data Cables

DC Resistance (max.): 9.38

DC Resistance Unbalance (max.)

Individual Pair %: 5.0

Nominal Velocity of Propagation

% Speed of Light: 68

Characteristic Impedance

(Ohms): 100 +/- 15

Propagation Delay Skew (max.)

ns/100m): 45

X-Link[®] Marine Military/Government Shipboard Communication Cables



Comtran Corporation provides specialty cable products developed for deployment on US Navy and NATO vessels throughout the world. Our cables are designed to handle extremes in temperatures, exposure to seawater and operating fluids, along with the rigors of use on ships intended for combat, while allowing transmission of gigabit speed data. A combination of materials science along with electrical design allows a multitude of irradiated crosslinked products that can be used in an infinite variety of transmission circuits, from mission-critical bridge-to-engine room communications to entertainment and internal communications. X-Link[®] Marine products are resistant to sunlight, seawater, fuels, hydraulic fluids, lubricants, and various solvents. A well-designed shielding system prevents electrical coupling from power circuits, jamming equipment, and electromagnetic pulse (EMP).

Comtran currently manufactures products to the requirements of the following specification pages:

- M24643/59*
- M24643/61*
- M24643/62*
- M24643/75*
- M24643/77**

Along with many specialty and made-to-spec/order communication cables.

* Comtran is currently pursuing QPL

** M24643/77 Cat 6A Draft Under Development

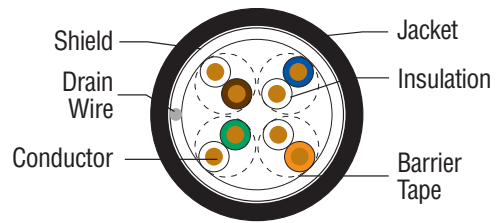
Our Low-Smoke, Zero-Halogen X-Link[®] Marine products are tested in accordance with M24643. These cables are suitable for up to 10Gb/s data rates. As demands for data communication content and speeds increase aboard ship, Comtran, with the full backing of the Marmon High Performance Cable Group, including RSCC Aerospace & Defense, is firmly in the lead position for development and approval of Cat 6A cables and beyond. Waterblocked variants are currently under development.

Comtran X-Link[®] Marine Data Cable Features and Benefits:

1. Replaces fluoropolymer and PVC insulations typically used in commercial communications cables, minimizing smoke density and toxicity in the event of combat conditions or fire.
2. Provides data transmission capabilities in accordance with ANSI/TIA/EIA 568-C.2 commercial communication cable standard.
3. Provides exceptional shielding effectiveness and EMP protection.
4. Can be used in compartments subject to exposure of fuel, hydraulic fluids, lubricants, and other fluids normally encountered aboard ships.
5. Cable identification ensures traceability per ISO and NAVSEA standards.

NAVSEA (Part Number)	Type	Part No.	Description	Cable OD (Nom.)	Cable Weight (Lbs./1,000 ft.)
MIL-DTL 24643/59-01UO	LSC5FS-4	36069	Cat5e 24 AWG 4-pair, foil shield, non-waterblocked	.305	18.0
MIL-DTL 24643/59-03UO	LSC5OS-4	36070	Cat5e 24 AWG 4-pair, foil and braided shield, non-waterblocked	.335	55
M24643/77-03UO	LSC6AFOS-4	36072	Cat6A 23 AWG 4-pair, foil and braided shield, non-waterblocked	.390	78

X-Link™ Industrial Ethernet Specialty Data Cables



Jacket Color	CAT5e UTP	CAT5e F/UTP	CAT6 UTP	CAT6 F/UTP
BLACK	35974	35954	35975	35976
Cat3 UTP 4 pair through 300 pair available upon request				

Physical Data	Cat5e F/UTP
Nominal Cable Diameter (inches)	.285
Nominal Cable Weight (lbs./1,000 ft.)	47
Temperature Rating (Celsius)	
Installation:	-25 to +90
Operation:	-40 to +90

Construction

- Conductor: 24 AWG Solid Bare Copper
- Flame Barrier Core Wrap
- 24 AWG Bare Copper Drain Wire
- Copper/Polyester (copper side in)
- Color Code Per TIA-568-C.2

Insulation

- Cross-Linked Polyethylene

Jacket

- Cross-Linked Polyethylene

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

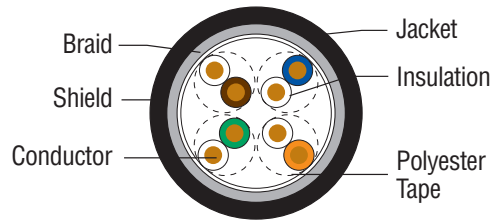
Compliances

- ETL Verified ANSI/TIA-568-C.2
- ICEA S-90-661, IEEE 383-1974 and 2003, IEEE 1202-1991 and FT-4

Features

- Shield reduces electromagnetic interference (EMI) for superior performance
- Thermoset insulation and jacket for enhanced thermal stability
- Improved fluid resistance
- Radiation resistant

Category 5e Industrial Ethernet Specialty Data Cables



Part Numbers		Available Put-Ups	
Jacket Color		1,000' Reel	Bulk Reels
BLACK	35955	X	X

Physical Data	
Nominal Cable Diameter (inches)	0.265
Nominal Cable Weight (lbs./1,000 ft.)	45
Temperature Rating (Celsius)	
Installation:	0 to +60
Operation:	-20 to +75

Construction

- Conductor: 24 AWG Solid Bare Copper
- Color Code Per TIA-568-C.2

Insulation

- Polyolefin

Cable Assembly

- Polyester Tape
- Shield #1: Aluminum/Polyester

- Shield #2: 60% Tinned Copper Braid

Jacket

- Black UV-Resistant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet

- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- ICEA S-90-661 RoHS Compliant

- UL CMX Outdoor - CMR

Features

- Shield reduces electromagnetic interference (EMI) for superior performance

Electrical Characteristics Category 6 and 5e LSZH Specialty Data Cables

DC Resistance (max.): 9.38

DC Resistance Unbalance (max.)

Individual Pair %: 5.0

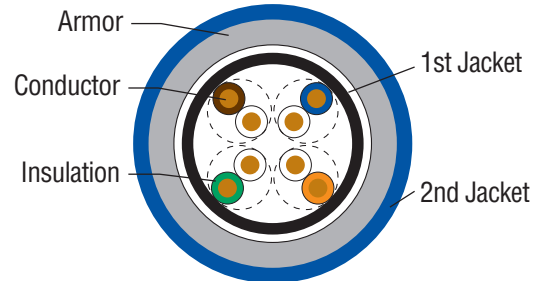
Nominal Velocity of Propagation
% Speed of Light: 68

Characteristic Impedance
(Ohms): 100 +/- 15

Propagation Delay Skew (max.)
(ns/100m): 45

300 VOLT

Industrial Continuously Welded/Corrugated Datacom and Telecommunications Cables



Applications

- Gigabit Transmissions (Category 6, 5e, and 3)
- High-Speed Voice/Data
- Broadband Video
- Cameras
- Sound
- Security
- Electronic

Construction

- Design-Dependent

Insulation

- Various Thermoplastic, Polyolefin, and Fluoropolymer

Inner Jacket

- Fluoropolymer

Armor

- Rugged Continuous Corrugated and Welded Aluminum or Copper Armor

Overall Jacket

- Thermoplastic and Fluoropolymer Industrial Jackets



Industrial Continuously Welded/Corrugated Datacom and Telecommunications Cables

Industrial continuously corrugated and welded telecommunication, sound, security, and electronic cables. These robust cables are designed for various applications and are suitable for harsh and industrial environments.

Features/Usage

- Welded armor forms an impervious barrier
- Self-contained conduit and wiring system
- Superior mechanical isolation
- Cable protection throughout
- Offers cut through protection
- Sunlight-resistant
- Armor is impact- and crush-resistant
- Oil- and moisture-resistant
- Industrial environments
- Cold temperatures



Hub-LINK™ Transit Communications for New York City Transit Authority (NYCT)

UL LISTED TYPE CMR-LS, CMG-LS, AND CM-LS (LOW-SMOKE, ZERO-HALOGEN)



Hub-LINK™, Transit Communications cables are designed to support the New York City Transit Authority (NYCT). These telecommunications cables are used in various telephone circuits and general communications services throughout the outside plant transit system. These cables are multiple-twisted-pair cables with solid copper conductors insulated with solid polyolefin surrounded by water-swellable tapes, low-smoke, low-toxicity, non-halogen inner and outer jacket with a 5-mil copper shield. These cables are also used in various outside and tunnel applications, placed in conduits, closets, and other enclosures.

Underwriters Laboratories: C(UL)US Type CMR-LS, CMG-LS, and CM-LS These products have undergone extensive physical testing per UL 444 (Communications Cables) and burn testing per UL1666 (test for flame propagation height of electrical cables installed vertically in shafts). They have also successfully passed the Limited Smoke testing to FT4/IEEE 1202 to carry the additional "LS" marking which is above and beyond NYCT TC-7 requirements.

Additional Physical/Smoke/Toxicity Testing (TC-7): These products have been subjected to Fluid Immersion (Lubricating and Hydraulic Oil, Gas, and Water), Tear Resistance, Smoke Generation (Flaming/Non-Flaming), Smoke and Toxicity Index, Acid Gas, Halogen Content, Horizontal Abrasion, Light Absorption (UV), Environmental Stress Crack Resistance, Cold/Hot Bend, Cable Impact, Water Absorption, Jacket Shrink-back, and Heat Distortion.

Electrical Testing per ANSI/TIA-568-C.2 (Category 3): Conductor Tolerances, DC Resistance, Attenuation, Impedance, Capacitance, Mutual Capacitance, Capacitance Unbalance (pair to pair), Capacitance Unbalance (pair to ground), Crosstalk, Insulation Resistance, Conductor-to-Conductor Proof Test, Core-to-Shield DC Proof, Shield Resistance, and Continuity.

Hub-LINK™, Transit Communications approved for New York City Transit Authority (NYCT) Product Class 20 Group 72

Part No.	No. of Pairs	AWG	NYCT (Stock Number)	Maximum Overall Diameter (Inches)	Nominal Weight (Lbs./Ft.)
36071	12	22	20-72-0426	.67"	224
36053	25	22	20-72-0726	.83"	310
36054	50	22	20-72-0826	1.02"	485
36055	75	22	20-72-0926	1.20"	595
36040	100	22	20-72-1026	1.32"	695
36056	150	22	20-72-1126	1.57"	1,035
36061	200	22	20-72-1226	1.74"	1,280

Comtran also offers many other product types per the NYCT TC-7. They include:

- Twisted-Pair Telephone Wire (cross-connect)
- Multiple-Conductor, Foil-Shielded Cable
- T1/DS1 Interconnect Cable
- Data Grade Cables
- Communication Cable
- Power Supervisory Communication Cable
- Multiple-Pair, Individually Shielded Cable
- Multiple-Pair Inside Telephone Cable (Riser and Plenum)
- Inside-Outside Station Wire
- Alarm Cables for Fire Detection/Alarm
- High-Temperature Fan Control Cables

Applications

- Outside Plant Transit, Subways, and Tunnels
- Various Mass Transportation Facilities
- Voice and Data Telephone Circuits
- Installed in Pathways and Termination Closets

Performance Standards and Approvals

- UL Listed Type CMR-LS, CMG-LS, and CM-LS
- UL 444
- CSA C22.2 No. 218-08
- NFPA-130-2010
- IEEE 1202/FT-4
- Approved Limited Smoke Rating
- UL 1685

Construction

- Conductor: #22 AWG Solid Bare Copper (other AWG sizes available as well)
- 12 Pair thru 200 Pair (based on TC-7 designs)
- Cabled Core Wrapped with Water-Swellable Tapes

Insulation

- Proprietary Modified Polyolefin LSZH
- Color-Coded Conductors Twisted to Varying Lays

Inner Jacket

- Low-Smoke, Low-Toxicity, Non-Halogen Proprietary Modified Polyolefin

Shield

- 5-Mil. Copper Shield over Inner Jacket with an overall tape wrap

Outer Jacket

- Low-Smoke, Low-Toxicity, Non-Halogen Proprietary Modified Polyolefin



UL LISTED TYPE CM-LS
(LOW-SMOKE, ZERO-HALOGEN)
300 VOLT

Hub-LINK™ LSZH Telecommunication and Data Transmission Cables for Transit Applications



NFPA 130-2010 compliant
for general use circuits

Applications

- Transit, Subways and Tunnels
- Various Mass Transportation Facilities
- Voice and Data

Performance Standards and Approvals

- UL Listed Type CMG-LS, CM-LS, CMG, and CM
- UL 444
- NFPA-130-2010
- IEEE 1202/FT-4
- IEEE 383
- UL 1685
- Sunlight-Resistant Rated
- 90°C Rated Wet

Telecommunication Construction

- Conductor: #24 AWG through #16 AWG Sizes Available for Various Applications
- 2 through 100 Pairs Shielded and Unshielded Designs
- Conductors Available as well

Insulation

- Proprietary Blended LSZH Polyolefin
- Color-Coded Conductors Twisted to Varying Lays

Jacket

- Color-Coded Low-Smoke, Zero-Halogen Polyolefin

DataCom Construction

- Conductor: #23 AWG SBC 4PR (Cat. 6)
#24 AWG SBC 4PR (Cat. 5e)

Insulation

- Proprietary Blended LSZH Polyolefin
- Color-Coded Conductors Twisted to Varying Lays

Jacket

- Color-Coded Low-Smoke, Zero-Halogen Polyolefin

Hub-LINK™, LSZH 90°C wet-rated telecommunications and data transmission cables are designed for use in mass transit applications. These cables provide extremely low toxicity levels under fire conditions while meeting UL CM-LS and IEEE 1202/FT4-LS flame and smoke requirements. The cables are extremely stable in mass transit applications such as fixed guideway or passenger railway tunnels and stations, cable trays in airports or any mass transit hub location where reduced toxins and flame spread are required.

In a fire, these materials aid in the safe egress of occupants.

- Low Smoke: In a fire, people can see their way out
- Low Toxicity: In a fire, people are not overcome by toxic fumes
- Halogen-Free: In a fire, there are no acid gas emissions which can damage equipment/buildings
- Flame Retardancy: Helps prevent a fire or limits the damage if one starts

Hub-LINK™, LSZH Telecommunications Transmission Cables

Part No.	No. of Pairs	AWG	Jacket Color	Nominal Cable Diameter (inches)
35957	2	22	Chrome Gray	.270"
35958	4	22	Chrome Gray	.310"
35959	6	22	Chrome Gray	.360"
35960	12	22	Chrome Gray	.440"
35961	25	22	Chrome Gray	.570"
35962	50	22	Chrome Gray	.725"
35963	100	22	Chrome Gray	.970"

Hub-LINK™, LSZH Datacom Transmission Cables

Part No.	No. of Pairs	AWG	Jacket Color	Nominal Cable Diameter (inches)
35977 (Cat 6)	4	23	Chrome Gray	.265"
35978 (Cat 5e)	4	24	Chrome Gray	.288"

Note: Many AWG sizes are available. Please call for more information.



RoHS
Compliant

COMTRAN CABLE
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www.comtrancorp.com

Communications Cables

**PLENUM LOW-SMOKE
PVC JACKET
UL TYPE CMP
C(UL) CMP 300 VOLT**

Applications

- Voice
- 10BaseT
- 100Base VG AnyLAN
- 4 Mbps Token Ring
- 10 Mbps Ethernet
- 55 Mbps ATM
- ISDN
- Low-Speed Data
- RS-232
- ISDN (Basic Rate)
- Intermediate Speed Data

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Page 40

Product Description:

- Solid Bare Copper
- Insulation: Plenum Low-Smoke PVC
- Ripcord
- Jacket: Plenum Low-Smoke PVC or PVDF
- **32670** - Pairs Cabled with an Overall Aluminum/Polyester Shield and a 24 AWG Solid Tinned Copper Drain Wire

Specifications:

- UL Type CMP
- C(UL) CMP
- Passes NFPA 262 (UL 910) Flame Test
- TIA 568-C.2 Category 3 (4-pair ETL verified)
- RoHS Compliant



Plenum Category 3 Communications Cable

24 AWG Solid Bare Copper				
Part No.	No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
32113	2	.014	White	.135
32114	3	.014	White	.148
34757	3	.014	Green	.148
32115	4	.014	White	.165
32222	4	.014	Chrome Gray	.165
34758	4	.014	Green	.165
32628	6	.014	White	.189
32630	12	.014	White	.268
32631	25	.015	White	.375
34765	25	.015	Green	.375
32632	50	.020	White	.539
32633	100	.020	White	.775
32870	200	.050	White	1.041
32871	300	.050	White	1.533
35968	400	.050	White	1.69

Plenum Communications Cable

22 AWG Solid Bare Copper				
Part No.	No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
32675	2	.014	White	.150
32676	3	.014	White	.159



Plenum Shielded Communications Cable

24 AWG Solid Bare Copper				
Part No.	No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
32670	25	.016	White	.342

RISER FR PVC JACKET
 UL TYPE CMR
 C(UL) CMG 300 VOLT

Communications Cables



Applications

- Voice
- 10BaseT
- 100Base VG AnyLAN
- 4 Mbps Token Ring
- 10 Mbps Ethernet
- 55 Mbps ATM
- ISDN

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Page 40

Product Description:

- Solid Bare Copper
- Insulation: Semi-Rigid PVC
- Ripcord
- Jacket: Flame-Retardant PVC

Specifications:

- UL Type CMR
- C(UL) CMG
- Passes UL 1666 Flame Test
- RoHS Compliant
- TIA 568-C.2 Category 3 (4-pair ETL verified)

Riser Category 3 Communications Cable

24 AWG Solid Bare Copper				
Part No.	No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
33559	2	.014	Gray	.135
33560	3	.014	Gray	.140
33561	4	.014	Gray	.157
33570	25	.015	Gray	.343
33572	50	.022	Gray	.497
33574	100	.024	Gray	.695
33548	200	.032	Gray	1.014
33555	300	.032	Gray	1.220
35969	400	.032	Gray	1.354



Applications

- Analog Voice
- Low-Speed Data
- RS-232
- ISDN (Basic Rate)

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Page 40

Product Description:

- Solid Bare Copper
- Insulation: Semi-Rigid PVC
- Pairs Cabled with an Overall Aluminum/Polyester Shield and a 24 AWG Solid Tinned Copper Drain Wire
- Ripcord
- Jacket: Flame-Retardant PVC

Specifications:

- UL Type CMR
- C(UL) CMG
- Passes UL 1666 Flame Test
- RoHS Compliant

Shielded Riser Communications Cable

24 AWG Solid Bare Copper				
Part No.	No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
33579	2	.014	Gray	.138
33580	3	.014	Gray	.146
33589	25	.016	Gray	.339
24 AWG Solid Tinned Copper				
34061	32	.020	Gray	.385



RoHS Compliant

Fire Alarm Cables

**PLENUM LOW-SMOKE
PVC JACKET**
UL TYPE FPLP/CMP/CL3P
C(UL) CMP 300 VOLT



Applications

- Fire Alarm, Signal
- Monitor/Detection
- Audio or Control Circuits

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart F, Page 41

Product Description:

- Solid/Stranded Bare Copper
- Insulation: Plenum Low-Smoke PVC
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Plenum Low-Smoke PVC

Specifications:

- UL Type FPLP/CMP/CL3P
- C(UL) CMP (14 and 12 AWG FPLP/CL3P only)
- Passes NFPA 262 (UL 910) Flame Test
- RoHS Compliant

Plenum Fire Alarm Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
18 AWG Solid Bare Copper				
38704	2	.014	Red	.136
38705	4	.014	Red	.159
32763	2	.014	White	.136
32520	2	.014	Blue	.136
32523	2	.014	Orange	.136
32528	2	.014	Green	.136
33293	2	.014	Yellow	.136
33292	2	.014	Black	.136
16 AWG Solid Bare Copper				
38706	2	.014	Red	.158
32573	2	.014	White	.158
32521	2	.014	Blue	.158
32524	2	.014	Orange	.158
32529	2	.014	Green	.158
33291	2	.014	Yellow	.158
33290	2	.014	Black	.158
38708	4	.014	Red	.185
14 AWG Solid Bare Copper				
38709	2	.014	Red	.192
32035	2	.014	White	.192
32522	2	.014	Blue	.192
32525	2	.014	Orange	.192
32532	2	.014	Green	.192
33289	2	.014	Yellow	.192
33288	2	.014	Black	.192
38710	4	.014	Red	.226

Plenum Fire Alarm Cable (Mid-Cap)

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)	Nominal Capacitance (PF/FT)
16 AWG Solid Bare Copper					
34893	2	.014	Red	.166	24
14 AWG Solid Bare Copper					
34883	2	.014	Red	.200	27
12 AWG Solid Bare Copper					
34977	2	.014	Red	.234	28

**PLENUM LOW-SMOKE
PVC JACKET**
UL TYPE FPLP/CMP/CL3P
C(UL) CMP 300 VOLT

Shielded Fire Alarm Cables



Applications

- Fire Alarm, Signal
- Monitor/Detection
- Audio or Control Circuits

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart F, Page 41

Product Description:

- Solid Bare Copper
- Insulation: Plenum Low-Smoke PVC
- Conductors Cabled with an Overall Aluminum/Polyester Shield and a Drain Wire
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Plenum Low-Smoke PVC

Specifications:

- UL Type FPLP/CMP/CL3P
- C(UL)US CMP (14 and 12 AWG FPLP/CL3P only)
- Passes NFPA 262 (UL 910) Flame Test
- RoHS Compliant

Shielded Plenum Fire Alarm Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
18 AWG Solid Bare Copper				
34914	2	.014	Red	.139
38673	2	.014	White	.139
32026	2	.014	Blue	.139
33789	2	.014	Yellow	.139
16 AWG Solid Bare Copper				
34909	2	.014	Red	.161
32991	2	.014	Blue	.161
38667	2	.014	Yellow	.161
14 AWG Solid Bare Copper				
34888	2	.014	Red	.195



Fire Alarm Cables

RISER FR PVC JACKET
 UL TYPE FPLR/CMR/CL3R
 C(UL) CMG 300 VOLT



Applications

- Fire Alarm, Signal
- Monitor/Detection
- Audio or Control Circuits

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart F, Page 41

Product Description:

- Solid/Stranded Bare Copper
- Insulation: Semi-Rigid PVC
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Flame-Retardant PVC

Specifications:

- UL Type FPLR/CMR/CL3R
- C(UL) CMG (14 AWG FPLR/CL3R only)
- Passes UL 1666 Riser Flame Test
- RoHS Compliant

Riser Fire Alarm Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
18 AWG Solid Bare Copper				
38696	2	.014	Red	.136
38697	4	.014	Red	.158
33658	2	.014	White	.136
32533	2	.014	Blue	.136
33817	2	.014	Yellow	.136
16 AWG Solid Bare Copper				
38698	2	.014	Red	.158
38699	4	.014	Red	.185
38860	2	.014	White	.158
32537	2	.014	Blue	.158
32542	2	.014	Orange	.158
32546	2	.014	Green	.158
33617	2	.014	Yellow	.158
14 AWG Solid Bare Copper				
38700	2	.014	Red	.192
33735	2	.014	White	.192
32538	2	.014	Blue	.192
32543	2	.014	Orange	.192
32548	2	.014	Green	.192
33551	2	.014	Yellow	.192
33779	2	.014	Black	.192

Riser Fire Alarm Cable (Mid-Cap)

Part No.	No. of Cond.	Jacket Thickness (inches)	Nominal Diameter (inches)	Nominal Capacitance (PF/FT)
22 AWG Solid Bare Copper				
34304	4	.014	.120	24
16 AWG Solid Bare Copper				
34236	4	.014	.194	20

RISER FR PVC JACKET
 UL TYPE FPLR/CMR/CL3R
 C(UL) CMG 300 VOLT

Shielded Fire Alarm Cables



Applications

- Fire Alarm, Signal
- Monitor/Detection
- Audio or Control Circuits

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart F, Page 41

Product Description:

- Solid Bare Copper
- Insulation: Semi-Rigid PVC
- Conductors Cabled with an Overall Aluminum/Polyester Shield and a Drain Wire
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Flame-Retardant PVC

Specifications:

- UL Type FPLR/CMR/CL3R
- C(UL) CMG
(14 AWG FPLR/CL3R only)
- Passes UL 1666 Riser Flame Test
- RoHS Compliant

Shielded Riser Fire Alarm Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
18 AWG Solid Bare Copper				
34228	2	.014	Red	.142
38622	2	.014	Blue	.142
33611	2	.014	Yellow	.142
16 AWG Solid Bare Copper				
34237	2	.014	Red	.161
33610	2	.014	Blue	.161
33612	2	.014	Yellow	.161
14 AWG Solid Bare Copper				
34242	2	.014	Red	.195



Fire Alarm/EVAC Cables

UL LISTED TYPE FPLR
LOW-SMOKE, ZERO-HALOGEN



Applications

- (EVAC) Emergency Voice-Alarm Communication
- Smoke/Fire Alarm Systems
- Emergency Lighting
- Fireman’s Telephone and Area of Refuge Communication Systems

Specifications

Conductors:

- 12 thru 18AWG Solid Cu. Specially Engineered to Minimize Embrittlement Due to Fire Exposure

Insulation:

- Proprietary Low-Smoke, Zero-Halogen Thermoset Fire-Roc™ Layer

Core Assembly:

- Color-Coded Conductors
2/C: Black, Red

Tape:

- Overall Clear Polyester Tape Applied over Core

Jacket:

- Red Low-Smoke, Zero-Halogen Polyolefin (Sequential Footage Marker Provided Every Several Feet)

Approvals

- UL 1424 Listed FPLR
- CSA C22.2 No 208-03 FT-4 (FAS 90)
- IEEE 1202
- California State Fire Marshall

Features

- Sunlight-resistant, wet location suitable cable rated for 90°C and easily pulled/stripped with low-friction jacket

VITALink® Cable is designed to support life and fire safety. These cables offer “survivability” for two hours in harsh environments while being fully operational in order to ensure safe evacuation of building occupants.

Two-Hour Fire-Rated Low-Smoke, Zero-Halogen

Part No.	No. of Cond.	AWG	Nominal Cable Diameter (inches)	Nominal Weight (lbs./ft.)	Nominal Capacitance (PF/FT)
35775	2	18	.311	44	15
35777	2	16	.313	53	17
35779	2	14	.339	66	19
35781	2	12	.373	91	21



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UL LISTED TYPE FPLR
LOW-SMOKE, ZERO-HALOGEN

Shielded Fire Alarm/EVAC Cables



Applications

- (EVAC) Emergency Voice-Alarm Communication
- Smoke/Fire Alarm Systems
- Emergency Lighting
- Fireman's Telephone and Area of Refuge Communication Systems

Specifications

Conductors:

- 12 thru 18AWG Solid Cu. Specially Engineered to Minimize Embrittlement Due to Fire Exposure

Insulation

- Proprietary Low-Smoke, Zero-Halogen Thermoset Fire-Roc™ Layer

Core Assembly:

- Color-Coded Conductors
2/C: Black, Red

Shield:

- Copper/Polyester Tape Applied over Core

Drain Wire:

- Stranded Bare Copper

Jacket:

- Red Low-Smoke, Zero-Halogen Polyolefin (Sequential Footage Marker Provided Every Several Feet)

Approvals

- UL 1424 Listed FPLR
- CSA C22.2 No 208-03 FT-4 (FAS 90)
- IEEE 1202
- California State Fire Marshall

Features

- Sunlight-resistant, wet location suitable cable rated for 90°C and easily pulled/stripped with low-friction jacket

VITALink® Cable is designed to support life and fire safety. These cables offer “survivability” for two hours in harsh environments while being fully operational in order to ensure safe evacuation of building occupants.

Two-Hour Fire-Rated Low-Smoke, Zero-Halogen

Part No.	No. of Cond	AWG	Nominal Cable Diameter (inches)	Nominal Weight (lbs./ft.)	Nominal Capacitance (PF/FT)
35783	2	18	.315	51	26
35785	2	16	.315	60	30
35787	2	14	.342	76	36
35789	2	12	.376	103	43



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Sound and Security Cables

**PLENUM LOW-SMOKE
PVC JACKET**
UL TYPE CL3P/FPLP/CMP
C(UL) CMP 300 VOLT



Applications

- Intercom/PA Systems
- Sound/Audio Systems

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart A, Page 41

Product Description:

- Solid, Stranded Bare Copper
- Insulation: Plenum Low-Smoke PVC
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Plenum Low-Smoke PVC

Specifications:

- UL Type CL3P/FPLP
- C(UL)US CMP (14 and 12 AWG UL only)
- Passes NFPA 262 (UL 910) Flame Test
- RoHS Compliant

* Color Code: Black, Red

Plenum Sound and Security Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
22 AWG 7-Strand Bare Copper				
34950	2	.014	White	.111
34952	4	.014	White	.128
34954	6	.014	White	.153
34956	8	.014	White	.165
18 AWG 7-Strand Bare Copper				
*34842	2	.014	White	.148
38748	2	.014	White	.148
34843	3	.014	White	.158
34844	4	.014	White	.172
34846	6	.014	White	.208
34848	8	.014	White	.227
34850	10	.014	White	.268
18 AWG Solid Bare Copper				
34829	2	.014	White	.136
34830	3	.014	White	.145
34833	6	.014	White	.190
32178	8	.014	White	.207
32180	10	.014	White	.244
16 AWG 19-Strand Bare Copper				
*32282	2	.014	White	.182
32284	4	.014	White	.214
14 AWG 19-Strand Bare Copper				
*32208	2	.014	White	.212
38752	2	.014	White	.212
32209	3	.014	White	.227
32210	4	.014	White	.250
12 AWG 19-Strand Bare Copper				
32729	2	.014	White	.248

**PLENUM LOW-SMOKE
PVC JACKET**
UL TYPE CL3P/FPLP/CMP
C(UL) CMP 300 VOLT

Shielded Sound and Security Cables



Applications

- Intercom/PA Systems
- Sound/Audio Systems

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart A, Page 41

Product Description:

- Stranded Bare Copper
- Insulation: Plenum PVC
- Conductors Cabled with an Overall Aluminum/Polyester Shield and a Drain Wire
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Plenum PVC
- Twisted Pairs Cabled with an Overall Aluminum/Polyester Shield and a Drain Wire

Specifications:

- UL Type CL3P/FPLP
- C(UL)US CMP (14 AWG CL3P/FPLP only)
- Passes NFPA 262 (UL 910) Flame Test
- RoHS Compliant

* Color Code: Pair 1, Black/White;
Pair 2, Red/Green

** Color Code: Black, Red

*** Color Code: Pair 1: Black/Red;
Pair 2, Black/White

Shielded Plenum Sound and Security Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
18 AWG 7-Strand Bare Copper				
**34853	2	.014	White	.151
38749	2	.014	White	.151
34854	3	.014	White	.161
34855	4	.014	White	.175
34857	6	.014	White	.211
34859	8	.014	White	.230
34861	10	.014	White	.271
16 AWG 19-Strand Bare Copper				
**32172	2	.014	White	.185
32174	4	.014	White	.217
14 AWG 19-Strand Bare Copper				
**32214	2	.014	White	.215

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)	Operating Temp.
22 AWG 7-Strand Bare Copper					
34869	2	.014	White	.114	-10°C to +60°C
34871	4	.014	White	.130	-10°C to +60°C
34873	6	.014	White	.156	-10°C to +75°C
34875	8	.014	White	.168	-10°C to +75°C

Part No.	No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
22 AWG 7-Strand Tinned Copper, Overall Shielded				
***32060	2	.014	White	.164
18 AWG 7-Strand Bare Copper, Overall Shielded				
*32708	2	.014	White	.223



RoHS
Compliant

Sound and Security Cables

RISER FR PVC JACKET
 UL TYPE CL3R/FPLR/CMR
 C(UL) CMG 300 VOLT



Applications

- Intercom/PA Systems
- Sound/Audio Systems

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart A, Page 41

Product Description:

- Stranded Bare Copper
- Insulation: Semi-Rigid PVC
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Flame-Retardant PVC

Specifications:

- UL Type CL3R /FPLR /CMR
- C(UL) CMG (14 AWG CL3R/FPLR only)
- Passes UL 1666 Flame Test
- RoHS Compliant

Riser Sound and Security Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
22 AWG 7-Strand Bare Copper				
32772	2	.014	Chrome Gray	.111
32774	4	.014	Chrome Gray	.128
32776	6	.014	Chrome Gray	.153
32778	8	.014	Chrome Gray	.165
18 AWG 7-Strand Bare Copper				
32794	2	.014	Chrome Gray	.148
32795	3	.014	Chrome Gray	.158
32796	4	.014	Chrome Gray	.172
32798	6	.014	Chrome Gray	.208
32800	8	.014	Chrome Gray	.227
16 AWG 19-Strand Bare Copper				
32836	2	.014	Chrome Gray	.182
32837	4	.014	Chrome Gray	.214
14 AWG 19-Strand Bare Copper				
32840	2	.014	Chrome Gray	.212

RISER FR PVC JACKET
 UL TYPE CL3R/FPLR/CMR
 C(UL) CMG 300 VOLT

Shielded Sound and Security Cables



Applications

- Intercom/PA Systems
- Sound/Audio Systems

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart A, Page 41

Product Description:

- Stranded Bare Copper
- Insulation: Semi-Rigid PVC
- Conductors Cabled with an Overall Aluminum/Polyester Shield and a Drain Wire
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Flame-Retardant PVC

Specifications:

- UL Type CL3R /FPLR /CMR
- C(UL) CMG
- Passes UL 1666 Flame Test
- RoHS Compliant

Shielded Riser Sound and Security Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
22 AWG 7-Strand Bare Copper				
32783	2	.014	Chrome Gray	.114
32785	4	.014	Chrome Gray	.131
32787	6	.014	Chrome Gray	.156
32789	8	.014	Chrome Gray	.168
18 AWG 7-Strand Bare Copper				
32805	2	.014	Chrome Gray	.151
32806	3	.014	Chrome Gray	.161
32807	4	.014	Chrome Gray	.175
32809	6	.014	Chrome Gray	.211
16 AWG 19-Strand Bare Copper				
32838	2	.014	Chrome Gray	.179



RoHS
Compliant

Composite Security Cables

**PLENUM LOW-SMOKE PVC JACKET
RISER FR PVC JACKET**
UL TYPE CL3P/CL3R
C(UL)US CMP/CMR 300 VOLT



Applications

- Multiple Door Control

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Color Code Chart below Table
- Inner Jackets Provided with Color-Coded Stripe for Easy Identification

Product Description:

- Stranded Bare Copper
- Insulation: Plenum Low-Smoke PVC, Riser FR PVC
- Overall Aluminum/Polyester Shield and Drain Wire on Selected Elements
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: #34269 Plenum Low-Smoke PVC
- Jacket: #35170 Riser Flame-Retardant PVC

Specifications:

- #34269: UL Type CL3P
- C(UL)US CMP
- #35170: UL Type CL3R
- C(UL)US CMR
- Passes NFPA 262 (UL 910) Flame Test (CMP)
- RoHS Compliant

Plenum/Riser 4 Element Composite Sound and Security Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
22 and 18 AWG 7-Strand Bare Copper 4 Cable Composite				
34269	16	.022	Yellow	.405
35170	16	.022	Green	.405

CABLE DESCRIPTION			
No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
CABLE #1 LOCK POWER 18 AWG 7-Strand Bare Copper, Unshielded, Ripcord			
4	.014	White w/Violet Stripe	.180
No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
CABLE #2 CARD READER 22 AWG 7-Strand Bare Copper, Shielded, Ripcord			
3	.014	White w/Yellow Stripe	.180
No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
CABLE #3 DOOR CONTACT 22 AWG 7-Strand Bare Copper, Unshielded, Ripcord			
2	.014	White w/Green Stripe	.120
CABLE #4 REX/SPARE 22 AWG 7-Strand Bare Copper, Unshielded, Ripcord			
4	.014	White w/Red Stripe	.140

CONDUCTOR COLOR CODE	
Cable 1 and 4	Black, White, Red, Green
Cable 2	Green-White, Black-Red, Brown-Orange
Cable 3	Black, Red

**PLENUM LOW-SMOKE
PVC JACKET**

Shielded Sound and Security Cables



UL TYPE CL3P/FPLP/CMP
C(UL) CMP 300 VOLT

Applications

- Intercom/PA Systems
- Sound/Audio Systems

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Product Description:

- Stranded Tinned Copper
- Insulation: Plenum PVC

- Individually Aluminum/ Polyester Shielded Pairs Cabled Together, Each with a Drain Wire or One Common Drain Wire
- Nylon Ripcord for Ease of Jacket Stripping
- Jacket: Plenum Low-Smoke PVC
- **Specifications:**
 - UL Type CL3P
 - C(UL)US CMP
 - Passes NFPA 262 (UL 910) Flame Test
 - RoHS Compliant

Individually Shielded Plenum Sound and Security Cable

Part No.	No. of Pairs	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
22 AWG 7-Strand Tinned Copper				
*†32065	2	.014	White	.135

* Color Code: Pair 1, Black/Red; Pair 2, Green/White
† Common drain wire



FLEXIBLE PVC JACKET
UL TYPE CM AND CL3,
C(UL) CMH 300 VOLT
AWM 2919 80°C 30 VOLT

Characteristics

Operating Temperature:

- -20°C to +80°C

Voltage Rating:

- CM: 300 Volts
- AWM 2919: 30 Volts

Color Description:

- Chart D, Page 41

Product Description:

- Stranded Tinned Copper
- Insulation: Polyethylene or Polypropylene

- Pairs Cabled with an Overall Aluminum/ Polyester Shield and a Drain Wire
- Jacket: Flexible PVC
- **Specifications:**
 - UL Type CM
 - C(UL) CMH
 - AWM Style 2919 80°C 30 Volts
 - Passes UL 1685 Flame Test
 - RoHS Compliant

Overall Shielded and Individually Shielded Multipair Cable

OVERALL SHIELD TYPE CL3, NO C(UL)				
Part No.	No. of Pairs	Jacket Thickness (in.)	Jacket Color	Nominal Diameter (in.)
24 AWG 7-Strand Tinned Copper, Overall Shielded				
35712	4 1/2	.032	Gray	.275
18 AWG 16-Strand Tinned Copper, Individually Shielded				
37302	3	.032	Chrome	.313



Specialty Electronic Cables

AWM STYLES



FLEXIBLE PVC JACKET
 UL TYPE CM, C(UL) CMG
 AWM 2464 80°C 300 VOLT

Characteristics

Operating Temperature:

- 30°C to +80°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart A, Page 41

Product Description:

- Stranded Tinned Copper
- Insulation: PVC
- Conductors Cabled with an Overall Aluminum/Polyester Shield and a Drain Wire
- Jacket: Flexible PVC

Specifications:

- UL Type CM
- C(UL) CMG
- AWM Style 2464 80°C 300 Volts
- Passes UL 1685 Flame Test
- RoHS Compliant

Overall Shielded Multipair/Multiconductor Cable

OVERALL SHIELD				
Part No.	No. of Cond.	Jacket Thickness (inches)	Nominal Diameter (inches)	Jacket Color
24 AWG 7-Strand Tinned Copper				
35244	4	.032	.173	Chrome Gray
35252	8	.032	.213	Chrome Gray
35254	9	.032	.226	Chrome Gray



FLEXIBLE PVC JACKET
 UL TYPE CM
 C(UL) CMG
 AWM 2598 60°C 300 VOLT

Characteristics

Operating Temperature:

- 30°C to +60°C

Voltage Rating:

- 300 Volts

Color Description:

- Chart A, Page 41

Product Description:

- Stranded Tinned Copper

- Insulation: PVC
- Jacket: Flexible PVC

Specifications:

- UL Type CM
- C(UL) CMG
- AWM Style 2598 60°C 300 Volts
- Passes UL 1685 Flame Test
- RoHS Compliant

Multiconductor Cable

Part No.	No. of Cond.	Jacket Thickness (inches)	Nominal Diameter (inches)	Jacket Color
18 AWG 16-Strand Tinned Copper				
37101	3	.032	.241	Chrome Gray
37103	4	.032	.262	Chrome Gray

Shielded Specialty Electronic Cables



Characteristics

Voltage Rating:

- 300 Volts

Product Description:

- Stranded Tinned Copper
- Insulation: PVC
- Conductors Cabled with an Overall Aluminum/Polyester Shield and a Drain Wire
- Jacket: Flexible PVC

Specifications:

- UL Type CM
- C(UL) CMG
- **36204/36230/37212/37208** - AWM Style 2092 and 2093 60°C 300 Volts
- **36202** - C(UL)CMH
- Passes UL 1685 Flame Test
- RoHS Compliant

UL TYPE CM • C(UL) CMH • AWM 2092 AND 2093 60°C 300 VOLT

Part No.	No. of Cond.	Jacket Thickness (inches)	Nominal Diameter (inches)	AWM Style	Jacket Color
22 AWG 7-Strand Tinned Copper					
36204	2	.025	.175	2092	Chrome Gray
36230	3	.032	.199	2093	Chrome Gray
20 AWG 7-Strand Tinned Copper					
37212	2	.030	.203	2092	Chrome Gray
18 AWG 16-Strand Tinned Copper					
37208	3	.030	.248	2093	Chrome Gray

Shielded Multiconductor Cable PVC Jacket

UL TYPE CM • C(UL) CMH • 300 VOLT

OVERALL SHIELD					
Part No.	No. of Cond.	Jacket Thickness (inches)	Nominal Diameter (inches)	Jacket Color	
22 AWG 7-Strand Tinned Copper Shielded					
36202	2	.021	.137	Chrome Gray	



RoHS Compliant

Bag Wire

RISER FR PVC JACKET
 UL TYPE CL3R/FPLR/CMR
 C(UL)US CMR 300 VOLT



Riser Sound and Security Cable Bag Wire

Part No.	No. of Cond.	Jacket Thickness (inches)	Jacket Color	Nominal Diameter (inches)
22 AWG 7-Strand Bare Copper				
35310	2	.016	White	.115
35411	2	.016	Yellow	.115
35413	2	.016	Green	.115
35414	2	.016	Blue	.115
35416	2	.016	Gray	.115
35308	4	.016	White	.132
22 AWG Solid Bare Copper				
35309	2	.016	White	.106
35307	4	.016	White	.121
35383	4	.016	Brown	.121
35405	4	.016	Yellow	.121
35406	4	.016	Orange	.121
35407	4	.016	Green	.121
35408	4	.016	Blue	.121
35409	4	.016	Gray	.121
35410	4	.016	Beige	.121
35423	4	.016	Red	.121

Applications

- Intercom/PA Systems
- Sound/Audio Systems

Characteristics

Operating Temperature:

- -10°C to +75°C

Voltage Rating:

- 300 Volts

Color Description:

- Color Code: Black, Red, Yellow and Light Blue
- Jacket Color: Specified in Table

Product Description:

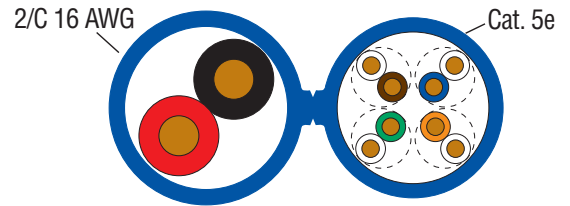
- Stranded or Solid Bare Copper
- Insulation: Polyethylene
- Jacket: Flame-Retardant PVC

Specifications:

- UL Type CL3R/FPLR
- C(UL)US CMR
- Passes UL 1666 Flame Test

RISER: UL TYPE CMR
PLENUM: UL TYPE CMP
 300 VOLT

Category 5e + 2/C Siamese Specialty Cables



5e Component

- Conductor: 24 AWG Solid Bare Copper
- Plenum Insulation: Fluoropolymer
- Riser Insulation: Polyolefin
- Color Code Per TIA-568-C.2

2 Conductor

- Conductor: 16 AWG 19-Strand Bare Copper
- Riser Insulation: Low-Smoke PVC
- Plenum Insulation: Flame-Retardant PVC
- Color Code: Black, Red

Jacket

- Plenum: Flame-Retardant PVC
- Riser: Low-Smoke, Flame-Retardant PVC

Applications

- Gigabit Ethernet (1000Base-T)
- Multimedia and ISDN
- High-Speed Voice/Data Applications
- 1.2 Gbps Ethernet
- Broadband Video
- Desktop Publishing

Compliances

- ETL Verified ANSI/TIA-568-C.2
- UL Listed Type CMR
- UL Listed Type CMP
- ICEA S-90-661
- NEC Article 800
- California State Fire Marshal
- RoHS Compliant

Part Numbers

Jacket Color	Part Numbers		Available Put-Ups	
	Riser	Plenum	1,000' Reel	Bulk Reels
BLUE	35965	35964	X	X

Physical Data	Riser	Plenum
Nominal Cable Diameter (inches)	.180 x .380	.180 x .370
Nominal Cable Weight (lbs./1,000 ft.)	41.0	43.0
Temperature Rating (Celsius)		
Installation:	0 to +60	0 to +60
Operation:	-20 to +75	-20 to +75

Transmission Throughput

	Char. Impedance	Return Loss	Attenuation	NEXT	PSNEXT	ACRF	PSACRF
Freq.	(Ohms)	(dB)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)
(MHz)	(+/-15)	(Min.)	(Max.)	(Min.)	(Min.)	(Min.)	(Min.)
1	100	20	2	65.3	62.3	63.8	60.8
4	100	23	4.1	56.3	53.3	51.7	48.7
8	100	24.5	5.8	51.8	48.8	45.7	42.7
10	100	25	6.5	50.3	47.3	43.8	40.8
16	100	25	8.2	47.3	44.3	39.7	36.7
20	100	25	9.3	45.8	42.8	37.7	34.7
25	100	24.3	10.4	44.3	41.3	35.8	32.8
31.25	100	23.6	11.7	42.9	39.9	33.9	30.9
62.5	100	21.5	17	38.4	35.4	27.8	24.8
100	100	20.1	22	35.3	32.3	23.8	20.8

Electrical Characteristics

DC Resistance (max.): 9.38
 DC Resistance Unbalance (max.) Individual Pair %: 5.0

Nominal Velocity of Propagation % Speed of Light:
 Plenum: 72 Riser: 70

Characteristic Impedance (Ohms): 100 +/- 15
 Propagation Delay Skew (max.) (ns/100m): 45



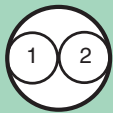
Color Code



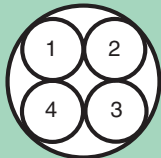
25-PAIR



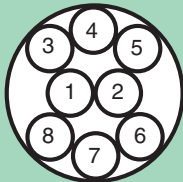
32-PAIR



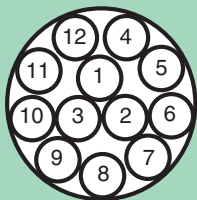
50-PAIR



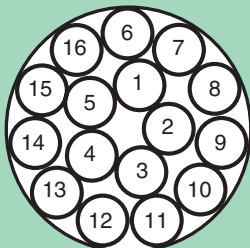
100-PAIR



200-PAIR



300-PAIR



400-PAIR

Inside Telephone Wire and Switchboard Cable – Band Marked – Plenum and Riser

Pair No.	Tip	Ring	Pair	Tip	Ring
1	White/Blue	Blue/White	14	Black/Brown	Brown/Black
2	White/Orange	Orange/White	15	Black/Slate	Slate/Black
3	White/Green	Green/White	16	Yellow/Blue	Blue/Yellow
4	White/Brown	Brown/White	17	Yellow/Orange	Orange/Yellow
5	White/Slate	Slate/White	18	Yellow/Green	Green/Yellow
6	Red/Blue	Blue/Red	19	Yellow/Brown	Brown/Yellow
7	Red/Orange	Orange/Red	20	Yellow/Slate	Slate/Yellow
8	Red/Green	Green/Red	21	Violet/Blue	Blue/Violet
9	Red/Brown	Brown/Red	22	Violet/Orange	Orange/Violet
10	Red/Slate	Slate/Red	23	Violet/Green	Green/Violet
11	Black/Blue	Blue/Black	24	Violet/Brown	Brown/Violet
12	Black/Orange	Orange/Black	25	Violet/Slate	Slate/Violet
13	Black/Green	Green/Black			

Telephone cables manufactured with more than 25 pairs are manufactured in groups with different binder colors around each group, as described below.

BINDER COLOR CODE	
1	White/Blue
2	White/Orange
3	White/Green
4	White/Brown
5	White/Gray
6	Red/Blue
7	Red/Orange
8	Red/Green
9	Red/Brown
10	Red/Gray
11	Black/Blue
12	Black/Orange
13	Black/Green
14	Black/Brown
15	Black/Gray
16	Yellow/Black

Color Code Charts Electronic Cables

Chart A

Conductor	Color	Conductor	Color
1st	Black	7th	Orange
2nd	White	8th	Yellow
3rd	Red	9th	Violet
4th	Green	10th	Gray
5th	Brown	11th	Pink
6th	Blue	12th	Tan

Chart B

Conductor	Color	Conductor	Color	Conductor	Color
1st	Black	18th	Orange/Red	35th	Wht/Red/Org
2nd	White	19th	Blue/Red	36th	Org/Wht/Blue
3rd	Red	20th	Red/Green	37th	Wht/Red/Blue
4th	Green	21st	Orange/Green	38th	Blk/Wht/Grn
5th	Orange	22nd	Blk/Wht/Red	39th	Wht/Blk/Grn
6th	Blue	23rd	Wht/Blk/Red	40th	Red/Wht/Grn
7th	White/Black	24th	Red/Blk/Wht	41st	Grn/Wht/Blue
8th	Red/Black	25th	Grn/Blk/Wht	42nd	Org/Red/Grn
9th	Green/Black	26th	Org/Blk/Wht	43rd	Blue/Red/Grn
10th	Orange/Black	27th	Blue/Blk/Wht	44th	Blk/Wht/Blue
11th	Blue/Black	28th	Blk/Red/Grn	45th	Wht/Blk/Blue
12th	Black/White	29th	Wht/Red/Grn	46th	Red/Wht/Blue
13th	Red/White	30th	Red/Blk/Grn	47th	Grn/Org/Red
14th	Green/White	31st	Grn/Blk/Org	48th	Org/Red/Blue
15th	Blue/White	32nd	Org/Blk/Grn	49th	Blue/Red/Org
16th	Black/Red	33rd	Blue/Wht/Org	50th	Blk/Org/Red
17th	White/Red	34th	Blk/Wht/Org		

Chart C

Pair No.	Color Combination	Pair No.	Color Combination	Pair No.	Color Combination
1	Black/Red	14	Green/White	27	Brown/Orange
2	Black/White	15	Green/Blue	28	Orange/Yellow
3	Black/Green	16	Green/Yellow	29	Violet/Orange
4	Black/Blue	17	Green/Brown	30	Violet/Red
5	Black/Yellow	18	Green/Orange	31	Violet/White
6	Black/Brown	19	White/Blue	32	Violet/Dark Green
7	Black/Orange	20	White/Yellow	33	Violet/Light Blue
8	Red/White	21	White/Brown	34	Violet/Yellow
9	Red/Green	22	White/Orange	35	Violet/Brown
10	Red/Blue	23	Blue/Yellow	36	Violet/Black
11	Red/Yellow	24	Blue/Brown	37	Gray/White
12	Red/Brown	25	Blue/Orange		
13	Red/Orange	26	Brown/Yellow		

Chart D

COLOR CODE			
PR1-Black	Black/White	PR7-Orange	White/Orange
PR2-White	White/Black	PR8-Yellow	White/Yellow
PR3-Red	White/Red	PR9-Violet	White/Violet
PR4-Green	White/Green	PR10-Gray	White/Gray
PR5-Brown	White/Brown	PR11-Pink	White/Pink
PR6-Blue	White/Blue	PR12-Tan	White/Tan
1/Cond – Green/Yellow			

Chart F

FPL, FPLR, FPLP	
1-Black	7-Green
2-Red	8-White
3-Yellow	9-Violet
4-Blue	10-Gray
5-Brown	11-Pink
6-Orange	12-Tan

Chart E

Base No.	1st Color	2nd Stripe	Stripe
1	Black	—	—
2	Red	—	—
3	White	—	—
4	Green	—	—
5	Orange	—	—
6	Blue	—	—
7	Brown	—	—
8	Yellow	—	—
9	Violet	—	—
10	Gray	—	—
11	Pink	—	—
12	Tan	—	—
13	Red	Green	—
14	Red	Yellow	—
15	Red	Black	—
16	White	Black	—
17	White	Red	—
18	White	Green	—
19	White	Yellow	—
20	White	Blue	—
21	White	Brown	—
22	White	Orange	—
23	White	Gray	—
24	White	Violet	—
25	White	Black	Red
26	White	Black	Green
27	White	Black	Yellow
28	White	Black	Blue
29	White	Black	Brown
30	White	Black	Orange
31	White	Black	Gray
32	White	Black	Violet
33	White	Black	Black
34	White	Red	Black
35	White	Red	Red
36	White	Red	Green
37	White	Red	Blue
38	White	Red	Brown
39	White	Red	Violet
40	White	Green	Black
41	White	Green	Red
42	White	Green	Green
43	White	Green	Blue
44	White	Green	Brown
45	White	Green	Violet
46	White	Blue	Black
47	White	Blue	Red
48	White	Blue	Green
49	White	Blue	Blue
50	White	Blue	Brown
51	White	Blue	Violet
52	White	Brown	Black
53	White	Brown	Red
54	White	Brown	Green
55	White	Brown	Blue
56	White	Brown	Brown
57	White	Brown	Violet
58	White	Violet	Red
59	White	Violet	Green
60	White	Violet	Blue

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32520	24	32774	32	33548	23	34833	30
32521	24	32776	32	33551	26	34842	30
32522	24	32778	32	33555	23	34843	30
32523	24	32783	33	33559	23	34844	30
32524	24	32785	33	33560	23	34846	30
32525	24	32787	33	33561	23	34848	30
32528	24	32789	33	33570	23	34850	30
32529	24	32794	32	33572	23	34853	31
32532	24	32795	32	33574	23	34854	31
32533	26	32796	32	33579	23	34855	31
32537	26	32798	32	33580	23	34857	31
32538	26	32800	32	33589	23	34859	31
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34974	2	35779	28	35969	23	38653	10
34975	2	35781	28	35973	11	38654	10
34977	24	35783	29	35974	18	38667	25
35170	34	35785	29	35975	18	38673	25
35184	4	35787	29	35976	18	38676	11
35195	2	35789	29	35977	21	38677	4
35196	2	35794	12	35978	21	38678	4
35197	2	35800	8	36018	5	38696	26
35198	2	35802	8	36019	5	38697	26
35199	2	35882	4	36020	5	38698	26
35244	36	35897	4	36021	5	38699	26
35252	36	35903	11	36022	5	38700	26
35254	36	35905	11	36023	5	38704	24
35301	9	35911	7	36040	20	38705	24
35302	9	35928	6	36046	3	38706	24
35303	9	35930	6	36047	3	38708	24
35307	38	35931	6	36048	3	38709	24
35308	38	35939	6	36049	3	38710	24
35309	38	35940	6	36053	20	38748	30
35310	38	35941	6	36054	20	38749	31
35383	38	35942	6	36055	20	38752	30
35405	38	35946	6	36056	20	38860	26
35406	38	35950	15	36061	20		

NEC Substitution Chart

Communications wire and cable for premise installations are in accordance with Article 800 and other applicable parts of the National Electrical Code (NEC), latest issue. Communications wire and cables for Canada are in accordance with the harmonized Canadian Standard Association C22.2 No. 214, Underwriters Laboratories UL 444, latest issue.

Designations

CM

Communication Wires and Cables

CL2 and CL3

Class 2 and Class 3 Remote-Control, Signaling and Power-Limited Cables

FPL

Power-Limited Fire Alarm Cables

PLTC

Power-Limited Cables

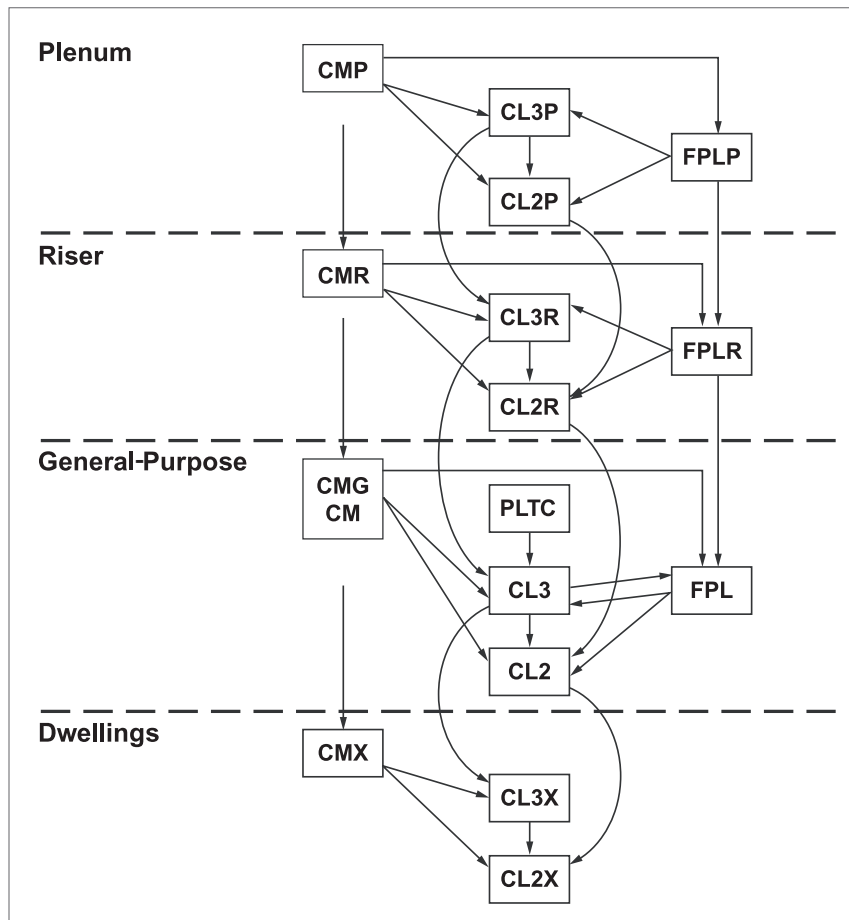


Cable A shall be permitted to be used in place of Cable B

Fire Resistance Level	Test Requirement	NEC Article		
		725	760	800
1 (Highest) Plenum Cables	CSA-FT6 (Steiner Tunnel) NFPA 262 (Steiner Tunnel)	CL2P CL3P	FPLP	CMF
Riser Cables – Multiple Floors	CSA-FT4 (Vertical Tray) UL-1666 (Vertical Shaft)	CL2R CL3R	FPLR	CMR
General-Purpose Cables	CSA-FT4 (Vertical Tray) UL-1581 (Vertical Tray)	CL2 CL3	FPL	CMG
(Lowest) Residential Cables – Restricted Use	CSA-FT UL-1581 VW-1	CL2X CL3X	–	CMX

Notes:

1. Cables with a higher fire resistance level may be substituted for those with a lower fire resistance level.
2. Non-fire-rated outside plant telephone cables may not run outside of a rigid metal conduit more than 50 feet from the point of entrance into a building.
3. Cables rated CMG or CM may be used in runs penetrating one floor (NEC 800-53).



Comtran is proud to be an ISO 9001 Certified Company. In order to meet the requirements of ISO 9001:2008, and to ensure quality, we established, implemented and documented a comprehensive quality management system. We are committed to continually improving our quality performance using this system.

Quality Policy

Comtran Corporation, a leading manufacturer of insulated wire and cable, is committed to providing the highest quality of products and services which meet or exceed our customers' expectations. By investing in the training and education of our employees, we will achieve continuous improvement of all areas of our business. By monitoring and measuring ourselves against defined goals, we will continually improve our performance. The quality management system is fully supported by top management and defines the entire organization's commitment to customer satisfaction.



NSAI

Certificate of Registration of Quality Management System to I.S. EN ISO 9001:2008

The National Standards Authority of Ireland certifies that:

Comtran Cable, LLC
330A Turner Street
South Attleboro, MA 02703
USA

has been assessed and deemed to comply with the requirements of the above standard in respect of the scope of operations given below:

**Design and Manufacture of Wire and Cable for
Electrical, and Voice and Data Communications
Applications**

Approved by:
Kevin D. Mullaney
Chief Executive Officer

Approved by:
Theresa Feely-Naismith
Operations Manager

Registration Number: 19.4288
Certification Granted: Apr 03, 2007
Effective Date: Apr 03, 2013
Expiry Date: Apr 02, 2016



National Standards Authority of Ireland, 402 Amherst Street, Nashua, New Hampshire, NH 03063, USA T +1 603 882 4412



A Marmon Wire & Cable/Berkshire Hathaway Company