



## PREMISE & FIBER OPTIC CABLE CATALOG



# PREMISE & FIBER OPTIC CABLE

Since 1986, Hitachi Cable has been developing technologically advanced copper and fiber optic communication cables. Our dedication to engineering perfection is evident in the consistent quality and performance of all the cable products we manufacture. Through the development of high-performance cable products, such as the world's first UL verified 10-gigabit Ethernet Category 6A cable, Hitachi Cable has established itself as a leader in the industry. These products and the others found in this catalog are the result of Hitachi Cable's relentless desire to manufacture the finest communication cables in the world. After using our products, we are confident you will agree.



**HITACHI**  
Inspire the Next

INTRO	• HCA Overview	<b>2</b>
	• Other HCA Products	<b>6</b>
COPPER	• Category 7A Copper	<b>8</b>
	• Category 7 Copper	<b>10</b>
	• Category 6A Copper	<b>14</b>
	• Category 6 Copper	<b>20</b>
	• Category 5e Copper	<b>30</b>
	• Multi-Net Copper	<b>40</b>
	• Category 3 Copper	<b>42</b>
	• Outdoor Copper	<b>45</b>
FIBER	• Fiber Selection Guide	<b>48</b>
	• Indoor Fiber Optic	<b>50</b>
	• Indoor NanoCore® Micro Distribution Fiber Optic	<b>64</b>
	• Indoor Armored Fiber Optic (including NanoCore®)	<b>76</b>
	• Indoor/Outdoor Fiber Optic	<b>82</b>
	• Outdoor Fiber Optic	<b>86</b>
	• Outdoor Armored Fiber Optic	<b>88</b>
REFERENCE	• Color Codes	<b>90</b>
	• Code References	<b>91</b>
	• Applications	<b>92</b>
	• Standards	<b>94</b>
	• Configurations	<b>95</b>
	• Glossary	<b>96</b>
	• Part Number Reference	<b>100</b>
	• Installation Reference and Cable Ampacity chart	<b>105</b>





**Hitachi Cable America has a long history** of designing innovation into our cables. All of our designs are carefully engineered for peak performance, ease of use, and reliability. No other cable manufacturer goes to the lengths that Hitachi Cable does to ensure our products surpass our customers expectations.

#### Hitachi's Manufacturing Advantage

Hitachi Cable America (Hitachi Cable) never stops innovating. Whether it's installing the very latest in cable twist technology, or designing and building custom equipment for a one-of-a-kind cable, Hitachi Cable has the resources to maintain a technological edge over the competition. Our in-house staff of electrical engineers keep the pipeline full with new cable designs. With new equipment frequently being installed, we can confidently satisfy increasing customer demand.

#### On-site Copper Extrusion

The Manchester, NH facility is one of a handful of cable manufacturing facilities in the U.S. that performs on-site drawing of copper. When drawing copper, Hitachi Cable starts with 13 AWG solid copper conductor on custom built deploying devices, called Stems. The copper is pulled into the drawing mills where it is reduced to the appropriate size, conditioned in what is called the annealing process, then insulated with the appropriate insulation. Drawing our own copper allows us to better control the performance of the primary conductors and maximize overall cable performance.



#### Better Materials and Practices for a Better Earth

All the products manufactured at the Manchester, NH facility are compliant to EU Directive 2011/65/EU, also known as the Restriction of Hazardous Substances (RoHS2) which regulates the use of harmful materials such as lead, cadmium and mercury. All products are also REACH compliant. Reach (Registration, Evaluation, Authorization and Restriction of Chemicals), formerly referred to as EC 1907/2006, identifies multiple chemicals that have been found harmful to people and/or the environment. Hitachi Cable endeavors to be compliant to any and all environmental regulations as soon as possible and typically prior to their formal release.

Hitachi Cable has also made advancements in waste reduction in both the raw materials used and the packaging. In the past 8 years, the Manchester facility has reduced landfill bound waste by 90% and dramatically increased recycling efforts, including the implementation of an employee aluminum can and plastic bottle recycling program. Recently, Manchester converted its entire fork truck fleet from propane to electric, significantly reducing the facilities carbon footprint and eliminating the monthly use of over 1,800 pounds of propane.



### The Advantage of Hitachi's Cable Packaging

When it comes to the performance of our products, Hitachi doesn't just evaluate the cable, we also evaluate the package from which it is dispensed. Hitachi's easy-payout boxes for Category 5e and Category 6 cables consistently receive positive reviews from distributors and installers. Designed with direct input from users, our boxes feature dual reinforced handles, vibrant, easy-to-read graphics and have proven to be as durable as the cable they contain. The boxes also have a product specific conduit fill chart printed right on the back of the box. When it comes to reels, we only use the best sanded wooden reels and durable thick-gauge plastic reels. When transporting large reels, we go to great lengths to ensure our product arrives safely. We don't cut corners when it comes to packaging and it shows.

### New Products in Development

Hitachi and its significant research and development team are constantly releasing new products and developing future ones. As wireless applications and power over Ethernet grows in popularity, Ethernet cables are finding their way into a wide range of physical environments. From oil refineries in Mississippi to cell towers in Anchorage, Ethernet cables are being required to perform in some extremely harsh environments. To meet this growing need, Hitachi is constantly developing new cable constructions. Hitachi offers a vast selection of industrial Ethernet cables. Designs include high-temp shielded cables, oil and chemical resistant cables, high flex cables that can accommodate millions of flex cycles and tactical cables that are designed for extreme environments. To accommodate various Ethernet data rates, cables are available in Category 5e, 6 and 6A designs. These cables and more can be found in our Industrial Ethernet Solution brochure and on our website. With dozens of cable constructions available and more on the way, Hitachi Cable will have the solution you need.



# The Open System Architecture Solution

Whether you are installing the highest-performing Category copper cabling or fiber optic infrastructure, there are a number of well-known brands available to choose from. What makes one brand a wiser choice than another? Which one offers maximum performance, while also providing the best value?

Open System Architecture (OSA) from Hitachi Cable America (Hitachi) provides world class performance using virtually any combination of Hitachi verified cables with verified connective hardware in the design of the network. The ANSI/TIA-568-C.1 standard specifies the performance requirements of all network components and defines interoperability base-line limits to ensure that combinations of cable with connectivity will meet or exceed the system's intended application. By employing a Hitachi OSA solution, end users have the freedom to choose from a wide range of quality connectivity products that best meet their specific needs and be confident that the chosen solution will support all applications designed to operate over that solution and be backed by an industry-leading lifetime warranty\*.

## Hitachi Open System Architecture

- Provides for standards-based verifiable cable performance
- Enables a range of connectivity options
- Opens up competitive solution offerings
- Delivers substantial benefits to the end user



## It's all in the Cable

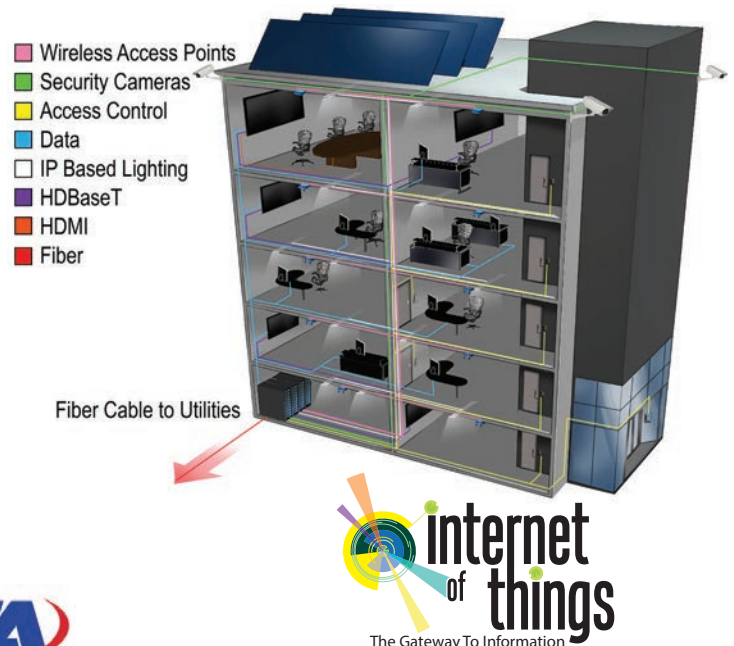
In virtually all cable based communication links, it is the cable that determines the ultimate performance of that link. It is the cable, not the connectors, that establishes how well the applications that run over it will be supported. This is the reason why many cable manufacturers make different performance levels of Category 6 cable while jack and plug manufacturers make only one jack or plug to mate to them. The desirable headroom that results from the link is provided by the cable. With a growing list of applications for Category 6, many of them critical to a facility's operation, selecting a quality cable from an established manufacturer is recommended. Additionally, with an increase in counterfeit and unestablished brands flooding the market, protect your investment by sourcing only through trusted distribution channels.

## Cable is Key!

- Cable is the highest cost component of passive infrastructures
- Cable determines margin of performance headroom in the link and channel
- Cable vendor should be lead warranty provider

\*Lifetime Warranty available only through Hitachi certified installers.

## Beyond-The-Link Building Systems







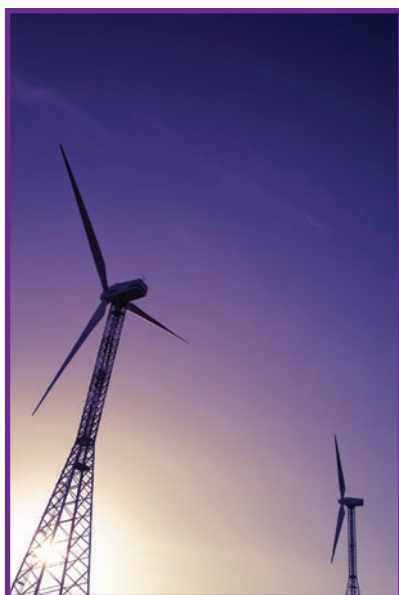
## Hitachi Cable Offers a LIFETIME WARRANTY

Hitachi Cable is pleased to offer a lifetime warranty on certified installations. The lifetime warranty, which is only available through Hitachi Cable Certified Installers and directly backed by Hitachi Cable, offers a product performance and application assurance warranty. This means that we guarantee that the solution will pass the appropriate category test for the life of the network as well as support all applications designed to operate over that solution. The warranty covers both the cables and all the connective hardware directly attached to the Hitachi cables. It also includes any labor that could be associated with a warranty claim. Only a manufacturer with exceptional confidence in their products would offer a warranty like this.



### Hitachi Cable Warranted Systems feature:

- Compliance to TIA and ISO Cabling Standards
- Lifetime Product Performance Warranty
- Lifetime Applications Support Warranty
- Open Architecture Connectivity Specification
- One Point-of-Contact for all Warranty Features

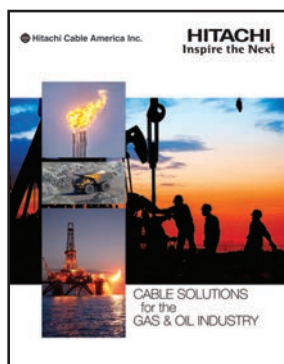


# Other Products offered by Hitachi Cable America



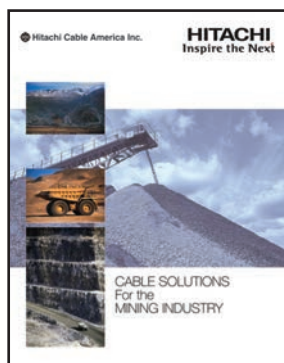
## Cabling Solutions for Rail & Rolling Stock

Hitachi's presence in rail and rolling stock transportation goes back many decades. With major rail engagement in Europe, Japan, China, Korea, India and the Americas, we are well positioned to support this expanding mass transit segment, especially for Canbus and Ethernet cable applications meeting the NFPA130-2010 requirements.



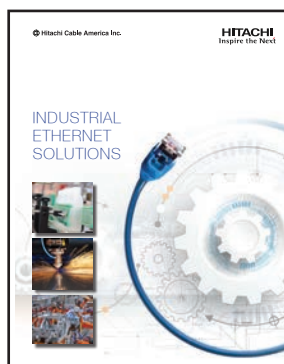
## Cabling Solutions for Gas & Oil Industry

Cable solutions for the oil and gas segment range from tiny bundles of 38 AWG microcoaxials used in the ultrasound detection of pipeline flaws to large, ruggedized fiber optic cable bundles used for 'walking' drilling rigs. Our specialty cable designs feature cut-through resistant thermoplastic polyurethane jackets with outstanding petrochemical and solvent resistance.



## Cabling Solutions for Mining Industry

Our mining cable designs feature cut through resistant thermoplastic polyurethane jackets for long application life. We offer "Leaky Coaxial" cables for wireless applications. Both fiber and copper communications cables are produced in the Americas. Rubber jacketed cable for large drum applications is available from our tried and true global production center in Japan.



## Cabling Solutions for Industrial Ethernet

To accommodate a wide variety of applications, Hitachi Cable offers dozens of unique designs intended to meet your specific needs. From high-flex to static, solid conductor to stranded, high and low temperature, oil and chemical resistant, we have the right industrial Ethernet solution.





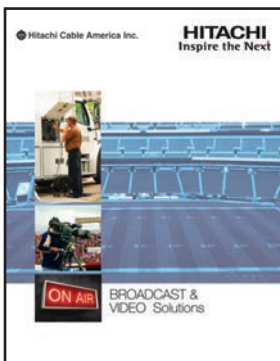
## Cabling Solutions for Direct Attach Cables/ Optical Active Cables/Transceivers

Fiber Optic Transceivers and Active Optical Cables perform the conversion between optical and electrical signals, incorporated in routers, switches, and servers. The best quality optical transceivers, intended for high-end markets, achieve transmission speeds of 40Gbps, 100Gbps and beyond.



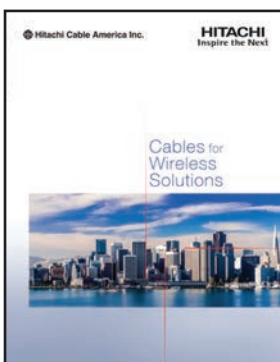
## Cabling Solutions for Defense

From our high-speed shielded Category 6A network cables to our armored fiber optic cables, Hitachi Cable's products are deployed not just in federal agencies across the U.S., but at its military installations both domestic and abroad.



## Cabling Solutions for Broadcast

Hitachi Cable offers a line of SMPTE products for the professional broadcast industry. With the rugged demands of professional broadcasting in mind, Hitachi manufactures cables with a flexible TPE jacket for in-studio applications and light to medium field use, or a rugged polyurethane jacket for outdoor and truck applications.



## Cabling Solutions for Wireless Applications

As more and more devices go wireless, the importance of the cable infrastructure supporting those wireless networks grows as well. Hitachi Cable manufactures fiber optic cables, coaxial cables, shielded and unshielded twisted pair cables and hybrid cables to support wireless applications, such as Distributed Antenna System (DAS) and Fiber to the Antenna (FTTA).

# Cat 7A S/FTP

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Low Smoke Plenum construction.
- Tested to 1 GHz.
- Compliant to ISO 11801 Class FA (Category 7A) Requirements.
- Conductor pairs are individually wrapped in foil.
- Overall braid.
- Supports up to 180 watts of power.

### Packaging

- 1,000 foot (305m) reels

### Applications

- Including:
  - HDBase-T A & B
  - 10 Gigabit Ethernet (IEEE 802.3an)
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +105C (-4F to +221F)

## Cat 7A (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30250-8-XXY	4	.326	8.28	57.10	25.90

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30250	8	XX	Y

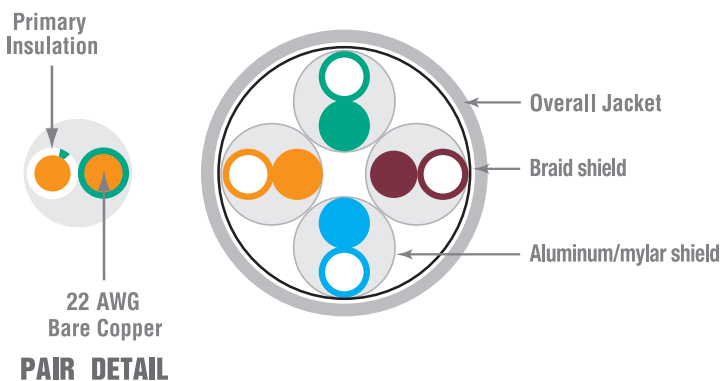
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reels(3)

## Features



DIELECTRIC MATERIALS	PLENUM
Primary Insulation	Plenum-rated fluoropolymer
Overall Jacket	Low-smoke, flame-retardant thermoplastic

Hitachi Cable America reserves the right to revise any specifications.



S/FTP

# Category 7A

Copper

## Electrical Characteristics

Maximum resistance unbalance	2% (Within Pairs), 4% (Between Pairs)
Maximum capacitance unbalance	160 pF/100 meters
Maximum delay skew	25 ns/100 meters
Nominal velocity of propagation (NVP)	82%
Voltage Rating	300 Volts
LP Rating (UL)	.9 Amps/conductor



## Transmission Specifications

IEC 61156-5, 2nd ed. Category 7A Compliant

	Ins. Loss	NEXT	PS NEXT	ACR	PSACR	ACRF	PS ACRF	TCL	ELTCTL	Return Loss	CA (Type1)
Freq. (MHz)	Max	Min	Min	Cal. Min	Cal. Min	Min	Min	Min	Min	Min	Min
4	3.7	78.0	75.0	74.3	71.3	78.0	75.0	34.0	23.0	23.0	-
8	5.2	78.0	75.0	72.8	69.8	77.2	74.2	31.0	16.9	24.5	-
10	5.8	78.0	75.0	72.2	69.2	75.3	72.3	30.0	15.0	25.0	-
16	7.3	78.0	75.0	70.7	67.7	71.2	68.2	28.0	10.9	25.0	-
20	8.2	78.0	75.0	69.8	66.8	69.3	66.3	27.0	9.0	25.0	-
25	9.2	78.0	75.0	68.8	65.8	67.3	64.3	26.0	7.0	24.3	-
31.25	10.3	78.0	75.0	67.7	64.7	65.4	62.4	25.1	5.1	23.6	85.0
62.5	14.6	78.0	75.0	63.4	60.4	59.4	56.4	22.0	-	21.5	85.0
100	18.5	75.4	72.4	56.9	53.9	55.3	52.3	20.0	-	20.1	85.0
200	26.5	70.9	67.9	44.4	41.4	49.3	46.3	17.0	-	18.0	79.0
300	32.7	68.2	65.2	35.6	32.6	45.8	42.8	-	-	17.3	75.5
400	38.0	66.4	63.4	28.4	25.4	43.3	40.3	-	-	17.3	73.0
500	42.8	64.9	61.9	22.2	19.2	41.3	38.3	-	-	17.3	71.0
600	47.1	63.7	60.7	16.6	13.6	39.7	36.7	-	-	17.3	69.4
700	51.1	62.7	59.7	11.6	8.6	38.4	35.4	-	-	17.3	68.1
800	54.9	61.9	58.8	7.0	3.9	37.2	34.2	-	-	17.3	66.9
900	58.5	61.1	58.1	2.6	-	36.2	33.2	-	-	17.3	65.9
1000	61.9	60.4	57.4			35.3	32.3			17.3	65.0

All values are dB/100m.

# Cat 7 S/FTP

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Low Smoke Plenum construction.
- Tested to 600 MHz.
- Compliant to ISO 11801, Class F (Category 7) Requirements.
- Conductor pairs are individually wrapped in foil.
- Overall braid.
- Supports up to 180 watts of power.

### Packaging

- 1,000 foot (305m) reels

### Applications

- Including:
  - HDBase-T A & B
  - 10 Gigabit Ethernet (IEEE 802.3an)
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature  
-40C to +60C (-40F to +140F)
- Installation Temperature  
0C to +60C (+32F to +140F)
- Operation Temperature  
-20C to +105C (-4F to +221F)

## Cat 7 (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30245-8-XXY	4	.326	8.28	57.10	25.90

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30245	8	XX	Y

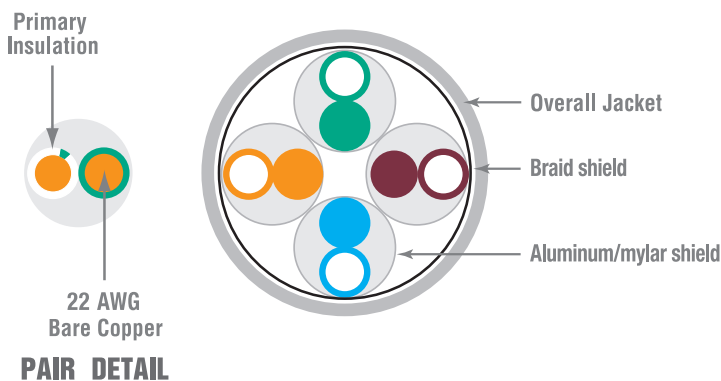
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reels(3)

## Features



DIELECTRIC  
MATERIALS

PLENUM

Primary Insulation

Plenum-rated fluoropolymer

Overall Jacket

Low-smoke, flame-retardant thermoplastic

Hitachi Cable America reserves the right to revise any specifications.



S/FTP

# Category 7

Copper

## Electrical Characteristics

Maximum resistance unbalance	2% (Within Pairs), 4% (Between Pairs)
Maximum capacitance unbalance	160 pF/100 meters
Maximum delay skew	25 ns/100 meters
Nominal velocity of propagation (NVP)	82%
Voltage Rating	300 Volts
LP Rating (UL)	.9 Amps/conductor



## Transmission Specifications

IEC 61156-5, 2nd ed. Category 7 Compliant

	Ins. Loss	NEXT	PS NEXT	ACR	PSACR	ACRF	PS ACRF	TCL	ELTCTL	Return Loss	CA (Type2)
Freq. (MHz)	Max	Min	Min	Cal. Min	Cal. Min	Min	Min	Min	Min	Min	Min
1	2.0	78.0	75.0	76.0	73.0	78.0	75.0	40.0	35.0	-	-
4	3.7	78.0	75.0	74.3	71.3	78.0	75.0	34.0	23.0	-	-
8	5.2	78.0	75.0	72.8	69.8	77.2	74.2	31.0	16.9	-	-
10	5.9	78.0	75.0	72.1	69.1	75.3	72.3	30.0	15.0	-	-
16	7.4	78.0	75.0	70.6	67.6	71.2	68.2	28.0	10.9	-	-
20	8.3	78.0	75.0	69.7	66.7	69.3	66.3	27.0	9.0	25.0	-
25	9.3	78.0	75.0	68.7	65.7	67.3	64.3	26.0	7.0	24.3	-
31.25	10.4	78.0	75.0	67.6	64.6	65.4	62.4	25.1	-	23.6	85.0
62.5	14.9	75.5	72.5	60.6	57.6	59.4	56.4	22.0	-	21.5	85.0
100	19.0	72.4	69.4	53.4	50.4	55.3	52.3	20.0	-	20.1	85.0
200	27.5	67.9	64.9	40.4	37.4	49.3	46.3	17.0	-	18.0	79.0
250	31.0	66.4	63.4	35.5	32.5	47.3	44.3	16.0	-	17.3	77.0
300	34.2	65.2	62.2	31.1	28.1	45.8	42.8	-	-	17.3	75.5
400	40.0	63.4	60.4	23.4	20.4	43.3	40.3	-	-	17.3	73.0
500	45.3	61.9	58.9	16.7	13.7	41.3	38.3	-	-	17.3	71.0
600	50.1	60.7	57.7	10.6	7.6	39.7	36.7	-	-	17.3	69.4
600	50.1	60.7	57.7	10.6	7.6	39.7	36.7	-	-	17.3	39.4

All values are dB/100m.

# Cat 7 StratoGig-HD®

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Low Smoke Plenum construction.
- Tested from 1 MHz to 600 MHz.
- Compliant to ISO 11801 Class F (Category 7) Requirements.
- 3rd Party Certified HDBaseT performance to 100 meters.
- Conductor pairs are individually wrapped in foil.
- Overall braid.
- Color-coded stripe extruded on each white conductor.
- Larger gauge conductor ideal for heat dissipation for POE++ applications.
- Higher heat rating than standard category cable.
- Supports up to 180 watts of power.

### Packaging

- 1,000 foot (305m) reels
- Inquire for custom reel lengths.

### Applications

- Including:
  - HDBase-T A & B
  - 10 Gigabit Ethernet (IEEE 802.3an)
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature  
-40C to +60C (-40F to +140F)
- Installation Temperature  
0C to +60C (+32F to +140F)
- Operation Temperature  
-20C to +105C (-4F to +221F)

## Cat 7 StratoGig-HD® (Plenum) HDBaseT-Ethernet-PoE

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
41684-8	4	.335	7.47	53.64	24.33

Standard jacket color is black. Custom colors are available.

StratoGig-HD® cable is designed to deliver maximum throughput up to 100 meters for today's and tomorrow's applications. Its construction allows it to accommodate industrial Ethernet, high-temp PoE++ (IEEE 802.3bt), HDBaseT 5Play and future high-speed Ethernet applications. The individually shielded pairs deliver exceptional noise immunity and ensure optimum signal transmissions.



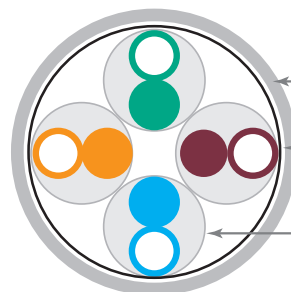
### Features

Primary  
Insulation



22 AWG  
Bare Copper

PAIR DETAIL



Overall Jacket

Braid shield

Aluminum/mylar shield

DIELECTRIC  
MATERIALS

PLENUM

Primary Insulation

Plenum-rated fluoropolymer

Overall Jacket

Low-smoke, flame-retardant thermoplastic

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Maximum resistance unbalance	2% (Within Pairs), 4% (Between Pairs)
Maximum capacitance unbalance	160 pF/100 meters
Maximum delay skew	25 ns/100 meters
Nominal velocity of propagation (NVP)	79%
Voltage Rating	300 Volts
LP Rating (UL)	.9 Amps/conductor



Copper

## Transmission Specifications

IEC 61156-5, 2nd ed. Category 7 Compliant. HDBaseT Certified.

	Ins. Loss	NEXT	PS NEXT	ACR	PSACR	ACRF	PS ACRF	TCL	ELTCTL	Return Loss	CA (Type1)
Freq. (MHz)	Max	Min	Min	Cal. Min	Cal. Min	Min	Min	Min	Min	Min	Min
4	3.7	78.0	75.0	74.3	71.3	78.0	75.0	34.0	23.0	23.0	-
8	5.2	78.0	75.0	72.8	69.8	77.2	74.2	31.0	16.9	24.5	-
10	5.9	78.0	75.0	72.2	69.2	75.3	72.3	30.0	15.0	25.0	-
16	7.4	78.0	75.0	70.7	67.7	71.2	68.2	28.0	10.9	25.0	-
20	8.3	78.0	75.0	69.8	66.8	69.3	66.3	27.0	9.0	25.0	-
25	9.3	78.0	75.0	68.8	65.8	67.3	64.3	26.0	7.0	24.3	-
31.25	10.4	78.0	75.0	67.7	64.7	65.4	62.4	25.1	5.1	23.6	85.0
62.5	14.9	75.5	72.5	63.4	60.4	59.4	56.4	22.0	-	21.5	85.0
100	19.0	72.4	69.4	56.9	53.9	55.3	52.3	20.0	-	20.1	85.0
200	27.5	67.9	64.9	44.4	41.4	49.3	46.3	17.0	-	18.0	79.0
300	34.2	65.2	62.2	35.6	32.6	45.8	42.8	-	-	17.3	75.5
400	40.0	63.4	60.4	28.4	25.4	43.3	40.3	-	-	17.3	73.0
500	45.3	61.9	58.9	22.2	19.2	41.3	38.3	-	-	17.3	71.0
600	50.1	60.7	57.7	16.6	13.6	39.7	36.7	-	-	17.3	69.4

All values are dB/100m.



# Supra 10G<sup>TM</sup> F/UTP

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Tested from 1 to 660 MHz.
- Small O.D. allows more cables per conduit.
- Proven shield technology improves RFI, EMI and alien crosstalk performance.
- Supports up to 100 watts of power.

### Packaging

- 1,000 foot (305m) reels

### Options

- Available in LSZH

### Applications

- Including:
  - HDBase-T A & B
  - 10 Gigabit Ethernet (IEEE 802.3an)
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

## Category 6A F/UTP (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30233-8-XXY	4	.275	6.98	40.34	18.29

## Category 6A F/UTP (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30234-8-XXY	4	.28	7.11	39.02	17.70

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30233	8	XX	Y

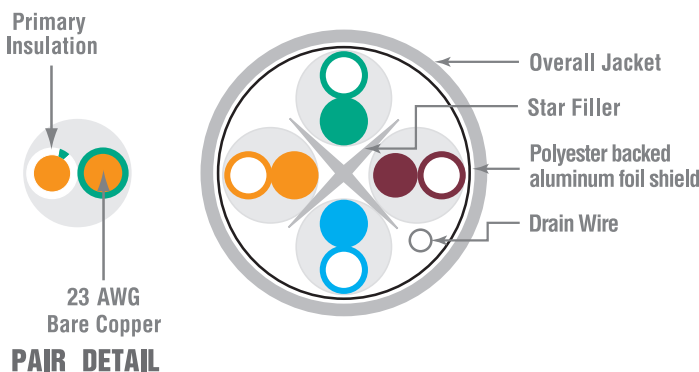
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reels(3)

## Features



DIELECTRIC MATERIALS	RISER	PLENUM
Primary Insulation	Polyolefin	Plenum-rated fluoropolymer
Overall Jacket	Flame-retardant thermoplastic	Low-smoke, flame-retardant thermoplastic
Star Filler	Flame-retardant thermoplastic	Plenum-rated polymer

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input impedance	$100 \pm 15\Omega$ (1.0 to 100 MHz) $100 \pm 20\Omega$ (100 to 250 MHz) $100 \pm 25\Omega$ (251 to 500 MHz)
Maximum resistance unbalance	3%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	68%, riser 70%, plenum
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.5 Amps/conductor



## Transmission Specifications

ANSI/TIA 568-C.2 Category 6A Verified

ISO/IEC 11801, 2nd ed. Class EA Compliant

	Ins. Loss	NEXT	PSNEXT	ACR	PSACR	ACRF	PSACRF	Return Loss	PSANEXT	PSANEXT	PSAACRF	PSAACRF
Freq. (MHz)	Max.	Min.	Min.	Min.	Min.	Min.	Min.	Min.	TIA Std.	Min	TIA Std.	Min
1	2.1	74.3	72.3	72.2	70.2	67.8	64.8	20.0	67.0	73.0	67.0	73.0
4	3.8	65.3	63.3	61.5	59.5	55.8	52.8	23.0	67.0	73.0	66.2	72.2
8	5.3	60.8	58.8	55.4	53.4	49.7	46.7	24.5	67.0	73.0	60.1	66.1
10	5.9	59.3	57.3	53.4	51.4	47.8	44.8	25.0	67.0	73.0	58.2	64.2
16	7.5	56.2	54.2	48.8	46.8	43.7	40.7	25.0	67.0	73.0	54.1	60.1
20	8.4	54.8	52.8	46.4	44.4	41.8	38.8	25.0	67.0	73.0	52.2	58.2
25	9.4	53.3	51.3	44.0	42.0	39.8	36.8	24.3	67.0	73.0	50.2	56.2
31.25	10.5	51.9	49.9	41.4	39.4	37.9	34.9	23.6	67.0	73.0	48.3	54.3
62.5	15.0	47.4	45.4	32.4	30.4	31.9	28.9	21.5	65.6	71.6	42.3	48.3
100	19.1	44.3	42.3	25.2	23.2	27.8	24.8	20.1	62.5	68.5	38.2	44.2
155	24.1	41.4	39.4	17.4	15.4	24.0	21.0	18.8	59.6	65.6	34.4	40.4
200	27.6	39.8	37.8	12.2	10.2	21.8	18.8	18.0	58.0	64.0	32.2	38.2
250	31.1	39.3	36.3	7.3	5.3	19.8	16.8	17.3	56.5	62.5	30.2	36.2
300	34.3	37.1	35.1	2.9	0.9	18.3	15.3	16.8	55.3	61.3	28.7	34.7
350	37.2	36.1	34.1	-	-	16.9	13.9	16.3	54.3	60.3	27.3	33.3
400	40.1	35.3	33.3	-	-	15.8	12.8	15.9	53.5	59.3	26.2	32.2
500	45.3	33.8	31.8	-	-	13.8	10.8	15.2	52.0	58.0	24.2	30.2
555*	47.9	33.1	31.1	-	-	12.9	9.9	14.9	51.3	57.3	23.3	29.3
660*	52.8	32.0	30.0	-	-	11.4	8.4	14.4	50.2	56.2	21.8	27.8

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

# Supra 10G-XE™

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified TIA-568-C.2.
- Low Smoke Plenum construction.
- Tested from 1 to 660 MHz.
- Small O.D. allows more cables per conduit.
- Noise Control Barrier (NCB™) technology allows for a reduced outside diameter and electrical performance that is superior to discontinuous shield designs.
- UL Tested (LP) for maximum power support.
- Supports up to 120 watts for Power Over Ethernet (PoE).

### Packaging

- 1,000 foot (305m) reels

### Options

- Available in LSZH

### Applications

- Including:
  - HDBase-T A & B
  - 10 Gigabit Ethernet (IEEE 802.3an)
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

## Category 6A (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30303-8-XXY	4	.275	6.985	40.34	18.29

## Category 6A (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30304-8-XXY	4	.275	6.985	39.02	17.70

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30303	8	XX	Y

Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reels(3)

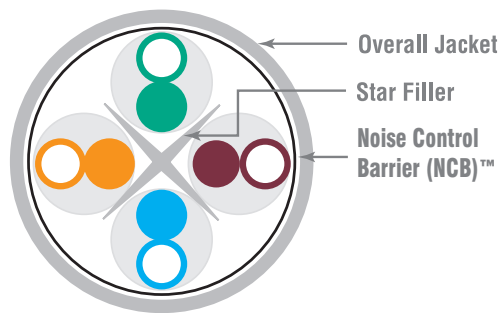
## Features

Primary  
Insulation



23 AWG  
Bare Copper

PAIR DETAIL



DIELECTRIC  
MATERIALS

Primary Insulation

Overall Jacket

Star Filler

RISER

Polyolefin

Flame-retardant thermoplastic

Flame-retardant thermoplastic

PLENUM

Plenum-rated fluoropolymer

Low-smoke, flame-retardant thermoplastic

Plenum-rated polymer

Hitachi Cable America reserves the right to revise any specifications.



## Electrical Characteristics

Input impedance	100 $\pm$ 15 $\Omega$ (1.0 to 100 MHz) 100 $\pm$ 20 $\Omega$ (100 to 250 MHz) 100 $\pm$ 25 $\Omega$ (251 to 500 MHz)
Maximum resistance unbalance	3%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	68%, riser 70%, plenum
Voltage Rating	300 Volts
LP Rating (UL)	.6 Amps/conductor



## Transmission Specifications

ANSI/TIA 568-C.2 Category 6A Verified

ISO/IEC 11801, 2nd ed. Class EA Compliant

	Ins. Loss	NEXT	PSNEXT	ACR	PSACR	ACRF	PSACRF	Return Loss	PSANEXT	PSANEXT	PSAACRF	PSAACRF
Freq. (MHz)	Max.	Min.	Min.	Min.	Min.	Min.	Min.	Min.	TIA Std.	Min	TIA Std.	Min
1	2.1	74.3	72.3	72.2	70.2	67.8	64.8	20.0	67.0	73.0	67.0	73.0
4	3.8	65.3	63.3	61.5	59.5	55.8	52.8	23.0	67.0	73.0	66.2	72.2
8	5.3	60.8	58.8	55.4	53.4	49.7	46.7	24.5	67.0	73.0	60.1	66.1
10	5.9	59.3	57.3	53.4	51.4	47.8	44.8	25.0	67.0	73.0	58.2	64.2
16	7.5	56.2	54.2	48.8	46.8	43.7	40.7	25.0	67.0	73.0	54.1	60.1
20	8.4	54.8	52.8	46.4	44.4	41.8	38.8	25.0	67.0	73.0	52.2	58.2
25	9.4	53.3	51.3	44.0	42.0	39.8	36.8	2.3	67.0	73.0	50.2	56.2
31.25	10.5	51.9	49.9	41.4	39.4	37.9	34.9	23.6	67.0	73.0	48.3	54.3
62.5	15.0	47.4	45.4	32.4	30.4	31.9	28.9	21.5	65.6	71.6	42.3	48.3
100	19.1	44.3	42.3	25.2	23.2	27.8	24.8	20.1	62.5	68.5	38.2	44.2
155	24.1	41.4	39.4	17.4	15.4	24.0	21.0	18.8	59.6	65.6	34.4	40.4
200	27.6	39.8	37.8	12.2	10.2	21.8	18.8	18.0	58.0	64.0	32.2	38.2
250	31.1	38.3	36.3	7.3	5.3	19.8	16.8	17.3	56.5	62.5	30.2	36.2
300	34.3	37.1	35.1	2.9	0.9	18.3	15.3	16.8	55.3	61.3	28.7	34.7
350	37.2	36.1	34.1	-	-	16.9	13.9	16.3	54.3	60.3	27.3	33.3
400	40.1	35.3	33.3	-	-	15.8	12.8	15.9	53.5	59.3	26.2	32.2
500	45.3	33.8	31.8	-	-	13.8	10.8	15.2	52.0	58.0	24.2	30.2
555*	47.9	33.1	31.1	-	-	12.9	9.9	14.9	51.3	57.3	23.3	29.3
660*	52.8	32.0	30.0	-	-	11.4	8.4	14.4	50.2	56.2	21.8	27.8

\*Frequencies beyond the TIA and ISO requirements are for information only.  
All values are dB/100m.

# Supra 10G™

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Unique spline construction is installation and termination friendly.
- Guaranteed minimum performance.
- Tested from 1 to 660 MHz.
- Performance that exceeds TIA and ISO Category 6A requirements.
- Patented non-concentric design increases alien crosstalk performance.
- Supports up to 100 watts of power.

### Packaging

- 1,000 foot (305m) reels

### Options

- CMP-50 rated cables available
- Low smoke zero halogen available; Part #30224-8

### Applications

- Including:
  - HDBase-T A & B
  - 10 Gigabit Ethernet (IEEE 802.3an)
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

## Supra 10G™ (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30218-8-XXY	4	.31	7.87	47.25	21.43

## Supra 10G™ (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30222-8-XXY	4	.32	8.13	36.72	16.65

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30218	8	XX	Y

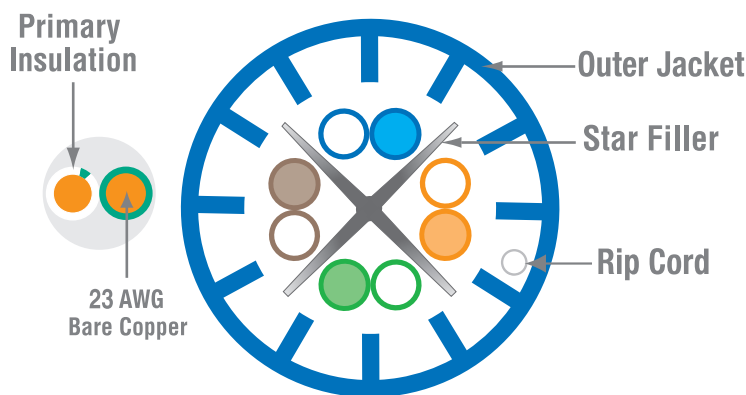
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reels(3)

### Features



#### PAIR DETAIL

DIELECTRIC MATERIALS	RISER	PLENUM
Primary Insulation	Polyolefin	Plenum-rated fluoropolymer
Overall Jacket	Flame-retardant thermoplastic	Low-smoke, flame-retardant thermoplastic
Star Filler	Flame-retardant thermoplastic	Plenum-rated polymer

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input Impedance	100 ± 15Ω (1.0 to 100 MHz) 100 ± 20Ω (100 to 250 MHz) 100 ± 25Ω (251 to 500 MHz)
Maximum conductor resistance	9.38 Ω/100 meters @ 20C
Maximum resistance unbalance	3%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	riser, 68% plenum, 71%
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.5 Amps/conductor

Unique patented non-concentric design produces alien crosstalk performance that far exceeds the TIA standard.

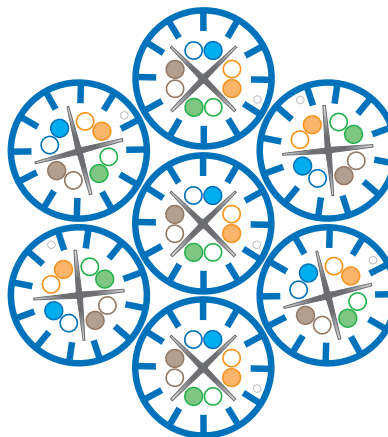


Photo is for representation purposes only.

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6A Verified

ISO/IEC 11801, 2nd ed. Class EA Compliant

	Ins. Loss	NEXT	PSNEXT	ACR	PSACR	ACRF	PSACRF	Return Loss	PSANEXT	PSAACRF
Freq. (MHz)	Max.	Min.	Min.	Min.	Min.	Min.	Min.	Min.	Min.	Min.
1	2.1	74.3	72.3	72.2	70.2	67.8	64.8	20.0	67.0	67.0
4	3.8	65.3	63.3	61.5	59.5	55.8	52.8	23.0	67.0	66.2
8	5.3	60.8	58.8	55.4	53.4	49.7	46.7	24.5	67.0	60.1
10	5.9	59.3	57.3	53.4	51.4	47.8	44.8	25.0	67.0	58.2
16	7.5	56.2	54.2	48.8	46.8	43.7	40.7	25.0	67.0	54.1
20	8.4	54.8	52.8	46.4	44.4	41.8	38.8	25.0	67.0	52.2
25	9.4	53.3	51.3	44.0	42.0	39.8	36.8	2.3	67.0	50.2
31.25	10.5	51.9	49.9	41.4	39.4	37.9	34.9	23.6	67.0	48.3
62.5	15.0	47.4	45.4	32.4	30.4	31.9	28.9	21.5	65.6	42.3
100	19.1	44.3	42.3	25.2	23.2	27.8	24.8	20.1	62.5	38.2
155	24.1	41.4	39.4	17.4	15.4	24.0	21.0	18.8	59.6	34.4
200	27.6	39.8	37.8	12.2	10.2	21.8	18.8	18.0	58.0	32.2
250	31.1	38.3	36.3	7.3	5.3	19.8	16.8	17.3	56.5	30.2
300	34.3	37.1	35.1	2.9	0.9	18.3	15.3	16.8	55.3	28.7
350	37.2	36.1	34.1	-	-	16.9	13.9	16.3	54.3	27.3
400	40.1	35.3	33.3	-	-	15.8	12.8	15.9	53.5	26.2
500	45.3	33.8	31.8	-	-	13.8	10.8	15.2	52.0	24.2
555*	47.9	33.1	31.1	-	-	12.9	9.9	14.9	51.3	23.3
660*	52.8	32.0	30.0	-	-	11.4	8.4	14.4	50.2	21.8

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.



# Cat 6 F/UTP

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Tested from 1 to 555 MHz.
- Proven shield technology improves RFI and EMI performance.
- Supports up to 100 watts of power.

### Packaging

- 1,000 foot (305m) reels

### Applications

- Including:

HDBase-T A & B  
5 Gigabit Ethernet (IEEE 802.3bz)  
2.5 Gigabit Ethernet (IEEE 802.3bz)  
Gigabit Ethernet (IEEE 802.3ab)  
100 Mbps Ethernet (IEEE 802.3u)  
1000 Mbps ATM  
622 Mbps ATM  
15W PoE (IEEE 802.3af)  
30W PoE+ (IEEE 802.3at)  
60W PoE++ (IEEE 802.3bt Type 3)  
100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature  
-40C to +60C (-40F to +140F)
- Installation Temperature  
0C to +60C (+32F to +140F)
- Operation Temperature  
-20C to +75C (-4F to +167F)

## Category 6 F/UTP (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30154-8-XXY	4	.275	6.98	40.33	18.29

## Category 6 F/UTP (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30129-8-XXY	4	.29	7.37	39.02	17.70

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30154	8	XX	Y

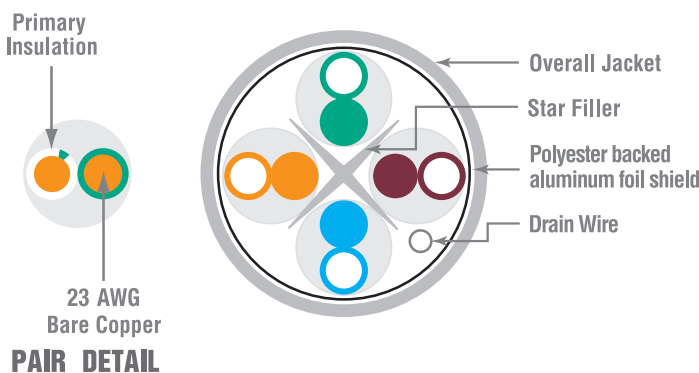
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reels(3)

## Features



#### DIELECTRIC MATERIALS

Primary Insulation  
Overall Jacket  
Star Filler

#### RISER

Flame-retardant thermoplastic  
Flame-retardant thermoplastic  
Flame-retardant thermoplastic

#### PLENUM

Plenum-rated fluoropolymer  
Low-smoke, flame-retardant thermoplastic  
Plenum-rated polymer

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input impedance	100 ± 15Ω (1.0 to 100 MHz) 100 ± 20Ω (101 to 250 MHz)
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	68%, riser 70%, plenum
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.5 Amps/conductor



Photo is for representation purposes only.

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6 Verified

ISO/IEC 11801, 2nd ed. Class E Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	74.3	74.3	72.3	72.3	72.3	72.3	70.3	70.3	67.8	67.8	64.8	64.8	20.0	20.0
4	3.8	3.8	65.3	65.3	63.3	63.3	61.5	61.5	59.5	59.5	55.8	55.8	52.8	52.8	23.0	23.0
8	5.3	5.3	60.8	60.8	58.8	58.8	55.4	55.4	53.4	53.4	49.7	49.7	46.7	46.7	24.5	24.5
10	6.0	6.0	59.3	59.3	57.3	57.3	53.3	53.3	51.3	51.3	47.8	47.8	44.8	44.8	25.0	25.0
16	7.6	7.6	56.2	56.2	54.2	54.2	48.7	48.7	46.7	46.7	43.7	43.7	40.7	40.7	25.0	25.0
31.25	10.7	10.7	51.9	51.9	49.9	49.9	41.2	41.2	39.2	39.2	37.9	37.9	34.9	34.9	23.6	23.6
62.5	15.4	15.4	47.4	47.4	45.4	45.4	32.0	32.0	30.0	30.0	31.9	21.9	28.9	28.9	21.5	21.5
100	19.8	19.8	44.3	44.3	42.3	42.3	24.5	24.5	22.5	22.5	27.8	27.8	24.8	24.8	20.1	20.1
200	29.0	29.0	39.8	39.8	37.8	37.8	10.8	10.8	8.8	8.8	21.8	21.8	18.8	18.8	18.0	18.0
250	32.8	32.8	38.3	38.3	36.3	36.3	5.5	5.5	3.5	3.5	19.8	19.8	16.8	16.8	17.3	17.3
350*	-	39.8	-	36.1	-	34.1	-	-	-	-	-	16.9	-	13.9	-	16.3
555*	-	52.0	-	33.1	-	31.1	-	-	-	-	-	12.9	-	9.9	-	14.9
660*	-	57.7	-	32.0	-	30.0	-	-	-	-	-	11.4	-	8.4	-	14.4

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

# Supra™ 660

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Guaranteed minimum performance.
- Enhanced performance beyond TIA Standard.
- Tested from 1 to 660 MHz.

TIA PARAMETER	GUARANTEED HEADROOM
Insertion loss	+3%
NEXT loss	+9 dB
PSNEXT loss	+9 dB
ACRF	+8 dB
PSACRF	+8 dB

- Supports up to 100 watts of power.

### Packaging

- 1,000 foot (305m) reels
- 1,000 foot (305m) Reelex

### Options

- CMP-50 rated cables available

### Applications

- Including:
  - HDBase-T A & B
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

## Supra™ 660 (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30016-8-XXY	4	.22	5.59	25.49	11.56

## Supra™ 660 (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30022-8-XXY	4	.24	6.09	26.93	12.22

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30016	8	XX	Y

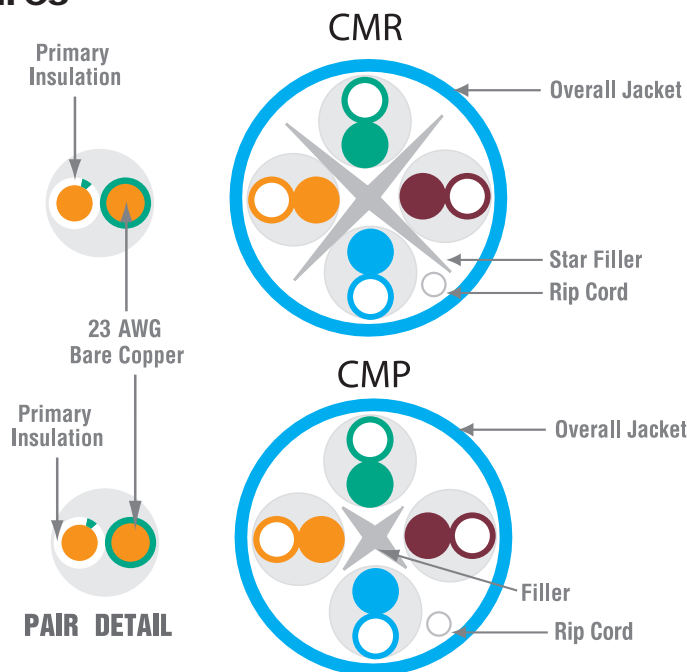
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reelex Boxes(2); Reels(3)

### Features



DIELECTRIC MATERIALS	RISER	PLENUM
Primary Insulation	Polyolefin	Plenum-rated fluoropolymer
Overall Jacket	Flame-retardant thermoplastic	Low-smoke, flame-retardant thermoplastic
Star Filler	Flame-retardant thermoplastic	Plenum-rated polymer

Hitachi Cable America reserves the right to revise any specifications.



## Electrical Characteristics

Input Impedance	100 ± 15Ω (1.0 to 100 MHz) 100 ± 20Ω (100 to 250 MHz)
Maximum conductor resistance	9.38 Ω/100 meters @ 20C
Maximum resistance unbalance	3%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	35 ns/100 meters (CMP)   45 ns/100 meters (CMR)
Nominal velocity of propagation (NVP)	riser, 68%, plenum, 70%
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.5 Amps/conductor

Hitachi Supra 660 cables offer +9 dB of NEXT loss and PSNEXT loss margin over Category 6 requirements.

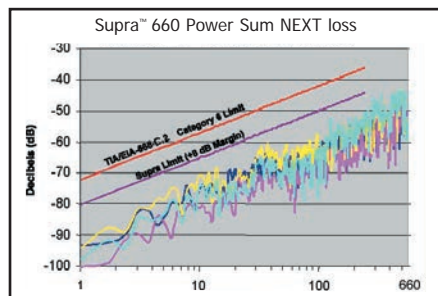


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Copper

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6 Verified

ISO/IEC 11801, 2nd ed. Class E Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	74.3	83.3	72.3	81.3	72.3	81.3	70.3	79.3	67.8	75.8	64.8	72.8	20.0	20.0
4	3.8	3.7	65.3	74.3	63.3	72.3	61.5	70.6	59.5	68.6	55.8	63.8	52.8	60.8	23.0	24.2
8	5.3	5.2	60.8	69.8	58.8	67.8	55.4	64.6	53.4	62.6	49.7	57.7	46.7	54.7	24.5	26.3
10	6.0	5.8	59.3	68.3	57.3	66.3	53.3	62.5	51.3	60.5	47.8	55.8	44.8	52.8	25.0	27.0
16	7.6	7.3	56.2	65.2	54.2	63.2	48.7	57.9	46.7	55.9	43.7	51.7	40.7	48.7	25.0	27.0
31.25	10.7	10.4	51.9	60.9	49.9	58.9	41.2	50.5	39.2	48.5	37.9	45.9	34.9	42.9	23.6	25.9
62.5	15.4	14.9	47.4	56.4	45.4	54.4	32.0	41.4	30.0	39.4	31.9	39.9	28.9	36.9	21.5	24.2
100	19.8	19.2	44.3	53.3	42.3	51.3	24.5	34.1	22.5	32.1	27.8	35.8	24.8	32.8	20.1	23.1
155	25.2	24.4	41.1	50.4	39.4	48.4	15.9	26.0	14.3	24.0	24.0	32.	21.0	29.0	18.8	22.0
200	29.0	28.1	39.8	48.8	37.8	46.8	10.8	20.7	8.8	18.7	21.8	29.8	18.8	26.8	18.0	21.4
250	32.8	31.9	38.3	47.3	36.3	45.3	5.5	15.5	3.5	13.5	19.8	27.8	16.8	24.8	17.3	20.9
300*	-	35.3	-	46.1	-	44.1	-	10.8	-	8.8	-	26.3	-	23.3	-	20.4
350*	-	38.6	-	45.1	-	43.1	-	6.5	-	4.5	-	24.9	-	21.9	-	20.1
400*	-	41.7	-	44.3	-	42.3	-	2.6	-	0.6	-	23.8	-	20.8	-	19.7
500*	-	47.5	-	42.8	-	40.8	-	-	-	-	-	21.8	-	18.8	-	19.2
555*	-	50.5	-	42.1	-	40.1	-	-	-	-	-	20.9	-	17.9	-	18.9
660*	-	55.9	-	41.0	-	39.0	-	-	-	-	-	19.4	-	16.4	-	18.5

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

# Premium

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Guaranteed minimum performance.
- Enhanced performance beyond TIA Standard.
- Tested from 1 to 660 MHz.

TIA PARAMETER	GUARANTEED HEADROOM
NEXT loss	+5 dB
PSNEXT loss	+5 dB
ACRF	+6 dB
PSACRF	+6 dB

- Supports up to 100 watts of power.

### Packaging

- 1,000 foot (305m) reels
- 1,000 foot (305m) Reelex (featuring reverse sequential numbering)

### Options

- CMP-50 rated cables available

### Applications

- Including:

HDBase-T A & B  
5 Gigabit Ethernet (IEEE 802.3bz)  
2.5 Gigabit Ethernet (IEEE 802.3bz)  
Gigabit Ethernet (IEEE 802.3ab)  
100 Mbps Ethernet (IEEE 802.3u)  
1000 Mbps ATM  
622 Mbps ATM  
15W PoE (IEEE 802.3af)  
30W PoE+ (IEEE 802.3at)  
60W PoE++ (IEEE 802.3bt Type 3)  
100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature  
-40C to +60C (-40F to +140F)
- Installation Temperature  
0C to +60C (+32F to +140F)
- Operation Temperature  
-20C to +75C (-4F to +167F)

## Premium (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30183-8-XXY	4	.20	5.1	25.74	11.68

## Premium (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30212-8-XXY	4	.24	6.22	26.93	12.22

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30183	8	XX	Y

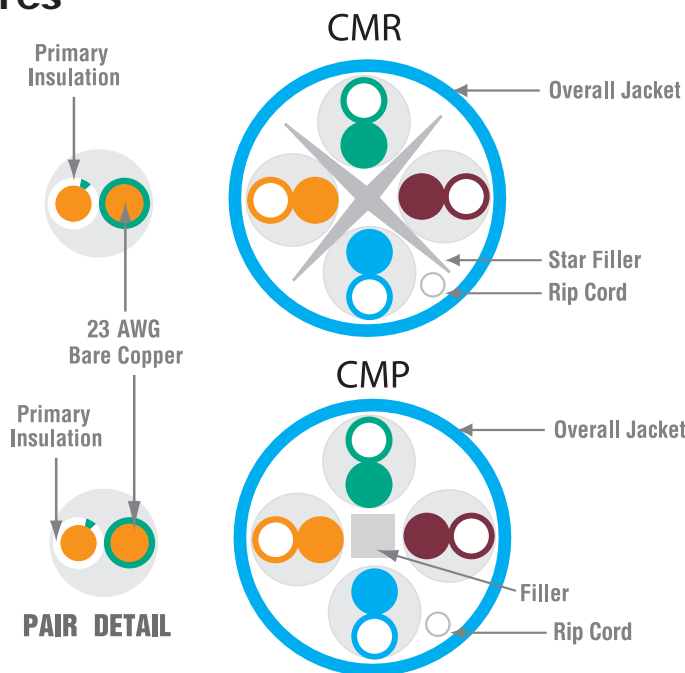
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reelex Boxes(2); Reels(3)

## Features



DIELECTRIC MATERIALS	RISER	PLENUM
Primary Insulation	Polyolefin	Plenum-rated fluoropolymer
Overall Jacket	Flame-retardant thermoplastic	Low-smoke, flame-retardant thermoplastic
Star Filler	Flame-retardant thermoplastic	Plenum-rated polymer

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input Impedance	100 ± 15Ω (1.0 to 100 MHz) 100 ± 20Ω (101 to 160 MHz) 100 ± 22Ω (161 to 250 MHz)
Maximum conductor resistance	9.38 Ω/100 meters @ 20C
Maximum resistance unbalance	3%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	35 ns/100 meters (CMP)   45 ns/100 meters (CMR)
Nominal velocity of propagation (NVP)	riser, 68% plenum, 70%
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.5 Amps/conductor



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Copper

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6 Verified

ISO/IEC 11801, 2nd ed. Class E Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	74.3	79.3	72.3	77.3	72.3	77.3	70.3	75.3	67.8	73.8	64.8	70.8	20.0	20.0
4	3.8	3.8	65.3	70.3	63.3	68.7	61.5	66.5	59.5	64.5	55.8	61.8	52.8	58.8	23.0	23.0
8	5.3	5.3	60.8	65.8	58.8	63.8	55.4	60.4	53.4	58.4	49.7	55.7	46.7	52.7	24.5	24.5
10	6.0	6.0	59.3	64.3	57.3	62.3	53.3	58.3	51.3	56.3	47.8	53.8	44.8	50.8	25.0	25.0
16	7.6	7.6	56.2	61.2	54.2	59.2	48.7	53.7	46.7	51.7	43.7	49.7	40.7	46.7	25.0	25.0
31.25	10.7	10.7	51.9	56.9	49.9	54.9	41.2	46.2	39.2	44.2	37.9	43.9	34.9	40.9	23.6	23.6
62.50	15.4	15.4	47.4	52.4	45.4	50.4	32.0	37.0	30.0	35.0	31.9	37.9	28.9	34.9	21.5	21.5
100	19.8	19.8	44.3	49.3	42.3	47.3	24.5	29.5	22.5	27.5	27.8	33.8	24.8	30.8	20.1	20.1
155	25.2	25.2	41.1	46.4	39.4	44.4	16.3	21.3	14.3	19.2	24.0	30.0	21.0	27.0	18.8	18.8
200	29.0	29.0	39.8	44.8	37.8	42.8	10.8	15.8	8.8	13.8	21.8	27.8	18.8	24.8	18.0	18.0
250	32.8	32.8	38.3	43.3	36.3	41.3	5.5	10.5	3.5	8.5	19.8	25.8	16.8	22.8	17.3	17.3
300*	-	36.4	-	42.1	-	40.1	0.7	5.7	-	3.7	-	24.3	-	21.3	-	16.8
350*	-	39.8	-	41.1	-	39.1	-	1.4	-	-	-	22.9	-	19.9	-	16.3
400*	-	43.0	-	40.3	-	38.3	-	-	-	-	-	21.8	-	18.8	-	15.9
500*	-	48.9	-	38.8	-	36.8	-	-	-	-	-	19.8	-	16.8	-	15.2
555*	-	52.0	-	38.1	-	36.1	-	-	-	-	-	18.9	-	15.9	-	14.9
660*	-	57.7	-	37.0	-	35.0	-	-	-	-	-	17.4	-	14.4	-	14.4

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Guaranteed minimum performance.
- Enhanced performance beyond TIA Standard.
- Tested from 1 to 555 MHz.

TIA PARAMETER	GUARANTEED HEADROOM
NEXT loss	+3 dB
PSNEXT loss	+3 dB
ACRF	+3 dB
PSACRF	+3 dB

- Supports up to 100 watts of power.

### Packaging

- 1,000 foot (305m) reels
- 1,000 foot (305m) Reelex (featuring reverse sequential numbering)

### Options

- CMP-50 rated cables available

### Applications

- Including:
  - HDBase-T A & B
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

### Plus™ (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30025-8-XXY	4	.20	5.1	25.74	11.67

### Plus™ (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30024-8-XXY	4	.23	5.84	22.87	10.37

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30025	8	XX	Y

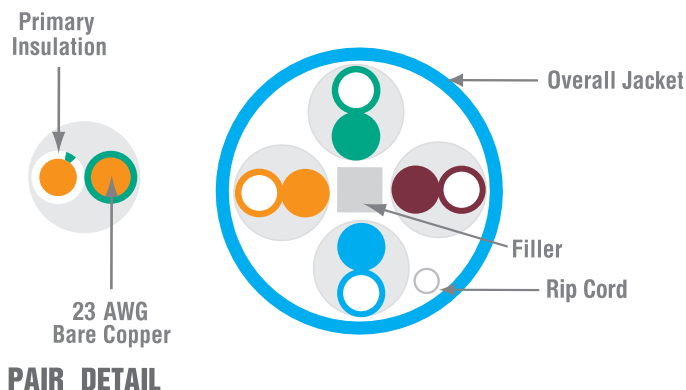
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reelex Boxes(2); Reels(3)

### Features



DIELECTRIC MATERIALS	RISER	PLENUM
Primary Insulation	Polyolefin	Plenum-rated fluoropolymer
Overall Jacket	Flame-retardant thermoplastic	Low-smoke, flame-retardant thermoplastic
Filler	Flame-retardant thermoplastic	Plenum-rated polymer

Hitachi Cable America reserves the right to revise any specifications.



## Electrical Characteristics

Input Impedance	100 ± 15Ω (1.0 to 250 MHz)
Maximum conductor resistance	9.38 Ω/100 meters @ 20C
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	riser, 68% plenum, 70%
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.5 Amps/conductor



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## Transmission Specifications

ANSI/TIA 568-C.2 Category 6 Verified

ISO/IEC 11801, 2nd ed. Class E Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	74.3	77.3	72.3	75.3	72.3	75.3	70.3	73.3	67.8	70.8	64.8	67.8	20.0	20.0
4	3.8	3.8	65.3	68.3	63.3	66.3	61.5	64.5	59.5	62.5	55.8	58.8	52.8	55.8	23.0	23.0
8	5.3	5.3	60.8	63.8	58.8	61.8	55.4	58.4	53.4	56.4	49.7	52.7	46.7	49.7	24.5	24.5
10	6.0	6.0	59.3	62.3	57.3	60.3	53.3	56.3	51.3	54.3	47.8	50.8	44.8	47.8	25.0	25.0
16	7.6	7.6	56.2	59.2	54.2	57.2	48.7	51.7	46.7	49.7	43.7	46.7	40.7	43.7	25.0	25.0
31.25	10.7	10.7	51.9	54.9	49.9	52.9	41.2	44.2	39.2	42.2	37.9	40.9	34.9	37.9	23.6	23.6
62.5	15.4	15.4	47.4	50.4	45.4	48.4	32.0	35.0	30.0	33.0	31.9	34.9	28.9	31.9	21.5	21.5
100	19.8	19.8	44.3	47.3	42.3	45.3	24.5	27.5	22.5	25.5	27.8	30.8	24.8	27.8	20.1	20.1
200	29.0	29.0	39.8	42.8	37.8	40.8	10.8	13.8	8.8	11.8	21.8	24.8	18.8	21.8	18.0	18.0
250	32.8	32.8	38.3	41.3	36.3	39.3	5.5	8.5	3.5	6.5	19.8	22.8	16.8	19.8	17.3	17.3
300*	-	36.4	-	40.1	-	38.1	-	3.7	-	1.7	-	21.3	-	18.3	-	16.8
350*	-	39.8	-	39.1	-	37.1	-	-	-	-	-	19.9	-	16.9	-	16.3
400*	-	43.0	-	39.3	-	36.3	-	-	-	-	-	18.8	-	15.8	-	15.9
500*	-	48.9	-	36.8	-	34.8	-	-	-	-	-	16.8	-	13.8	-	15.2
555*	-	52.0	-	36.1	-	34.1	-	-	-	-	-	15.9	-	12.9	-	14.9

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

## HITACHI

Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Guaranteed minimum performance.
- Tested from 1 to 555 MHz.
- No internal pair separator.
- Small outside diameter permits more cables per conduit than typical Category 6 cable.
- Standard Reelex package made with 100% post consumer materials.
- CMR-LSHF version offers a halogen free design for improved environmental performance.
- Supports up to 100 watts of power.

### Packaging

- 1,000 foot (305m) reels
- 1,000 foot (305m) Reelex (featuring reverse sequential numbering)

### Applications

- Including:
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

## ECO™ (Plenum)

c(UL)us Listed Type CMP, CSA Type FT6

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30237-8-XXY	4	.20	5.08	25.24	11.45

## ECO™ (Riser)

c(UL)us Listed Type CMR, CSA Type FT4

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30238-8-XXY	4	.21	5.48	23.12	10.5

## ECO™ (CMR-LSHF)

c(UL)us Listed Type CMR, CSA Type FT4

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30309-8-XXY	4	.21	5.26	23.12	10.5

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30237	8	XX	Y

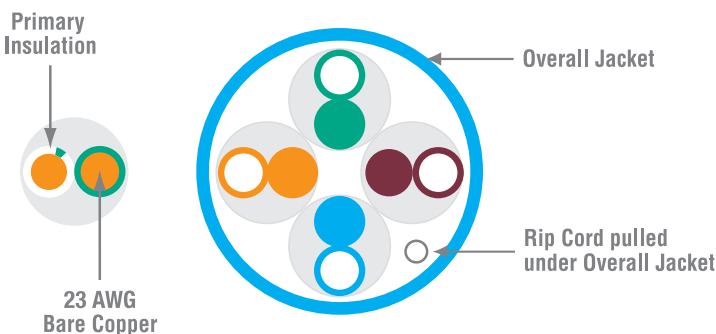
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reelex Boxes(2); Reels(3)

### Features



#### PAIR DETAIL

DIELECTRIC MATERIALS	RISER	PLENUM	LSHF
Primary Insulation	Polyolefin	Plenum-rated Fluoropolymer	Polyethylene
Overall Jacket	Flame-retardant Thermoplastic	Flame-retardant Thermoplastic	Zero-Halogen Flame-retardant Thermoplastic

Hitachi Cable America reserves the right to revise any specifications.

UTP

# Category 6

## Electrical Characteristics

Input Impedance	100 ± 15Ω (1.0 to 100 MHz) 100 ± 20Ω (101 to 250 MHz)
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	riser, 68% plenum, 70%
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.5 Amps/conductor



Photo is for representation purposes only.

Copper

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6 Verified

ISO/IEC 11801, 2nd ed. Class E Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	74.3	74.3	72.3	72.3	72.3	72.3	70.3	70.3	67.8	67.8	64.8	64.8	20.0	20.0
4	3.8	3.8	65.3	65.3	63.3	63.3	61.5	61.5	59.5	59.5	55.8	55.8	52.8	52.8	23.0	23.0
8	5.3	5.3	60.8	60.8	58.8	58.8	55.4	55.4	53.4	53.4	49.7	49.7	46.7	46.7	24.5	24.5
10	6.0	6.0	59.3	59.3	57.3	57.3	53.3	53.3	51.3	51.3	47.8	47.8	44.8	44.8	25.0	25.0
16	7.6	7.6	56.2	56.2	54.2	54.2	48.7	48.7	46.7	46.7	43.7	43.7	40.7	40.7	25.0	25.0
31.25	10.7	10.7	51.9	51.9	49.9	49.9	41.2	41.2	39.2	39.2	37.9	37.9	34.9	34.9	23.6	23.6
62.5	15.4	15.4	47.4	47.4	45.4	45.4	32.0	32.0	30.0	30.0	31.9	31.9	28.9	28.9	21.5	21.5
100	19.8	19.8	44.3	44.3	42.3	42.3	24.5	24.5	22.5	22.5	27.8	27.8	24.8	24.8	20.1	20.1
200	29.0	29.0	39.8	39.8	37.8	37.8	10.8	10.8	8.8	8.8	21.8	21.8	18.8	18.8	18.0	18.0
250	32.8	32.8	38.3	38.3	36.3	36.3	5.5	5.5	3.5	3.5	19.8	19.8	16.8	16.8	17.3	17.3
300*	-	36.4	-	37.1	-	35.1	-	-	-	-	-	18.3	-	15.3	-	16.8
350*	-	39.8	-	36.1	-	34.1	-	-	-	-	-	16.9	-	13.9	-	16.3
400*	-	43.0	-	35.3	-	33.3	-	-	-	-	-	15.8	-	12.8	-	15.9
500*	-	48.9	-	33.8	-	31.8	-	-	-	-	-	13.8	-	10.8	-	15.2
555*	-	52.0	-	33.1	-	31.1	-	-	-	-	-	12.9	-	9.9	-	14.9

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

# Cat 5e F/UTP

Copper

**HITACHI**  
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## Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Tested from 1 to 400 MHz.
- Proven shield technology improves RFI and EMI performance.
- Supports up to 80 watts of power.

## Packaging

- 1,000 foot (305m) reels

## Applications

- Including:
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)

## Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

## Category 5e F/UTP (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
38653-8-XXY	4	.25	6.48	33.33	15.12

## Category 5e F/UTP (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
39092-8-XXY	4	.25	6.48	30.93	14.03

## Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
38653	8	XX	Y

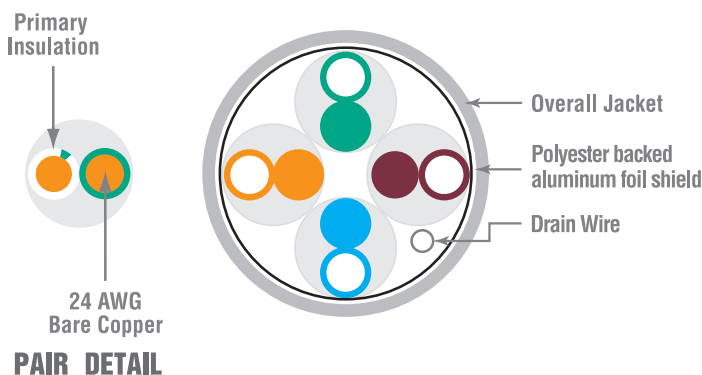
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reels(3)

## Features



DIELECTRIC  
MATERIALS

Primary Insulation  
Overall Jacket

RISER

Flame-retardant thermoplastic  
Flame-retardant thermoplastic

PLENUM

Plenum-rated fluoropolymer  
Low-smoke, flame-retardant thermoplastic

Hitachi Cable America reserves the right to revise any specifications.



## Electrical Characteristics

Input impedance	100 $\pm$ 15 $\Omega$ (1.0 to 100 MHz)
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	68%, riser 70%, plenum
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.4 Amps/conductor



Photo is for representation purposes only.

## Transmission Specifications

ANSI/TIA 568-C.2 Category 5e Verified

ISO/IEC 11801, 2nd ed. Class D Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	65.3	65.3	62.3	62.3	63.3	63.3	60.3	60.3	63.8	63.8	60.8	60.8	20.0	20.0
4	4.1	4.1	56.3	56.3	53.3	53.3	52.2	52.2	49.2	49.2	51.8	51.8	48.8	48.8	23.0	23.0
8	5.8	5.8	51.8	51.8	48.8	48.8	46.0	46.0	43.0	43.0	45.7	45.7	42.7	42.7	24.5	24.5
10	6.5	6.5	50.3	50.3	47.3	47.3	43.8	43.8	40.8	40.8	43.8	43.8	40.8	40.8	25.0	25.0
16	8.2	8.2	47.2	47.2	44.2	44.2	39.0	39.0	36.0	36.0	39.7	39.7	36.7	36.7	25.0	25.0
31.25	11.7	11.7	42.9	42.9	39.9	39.9	31.2	31.2	28.2	28.2	33.9	33.9	30.9	30.9	23.6	23.6
62.5	17.0	17.0	38.4	38.4	35.4	35.4	21.4	21.4	18.4	18.4	27.9	27.9	24.9	24.9	21.5	21.5
100	22.0	22.0	35.3	35.3	32.3	32.3	13.3	13.3	10.3	10.3	23.8	23.8	20.8	20.8	20.1	20.1
155*	-	28.1	-	32.4	-	29.4	4.3	4.3	1.3	1.3	-	20.0	-	17.0	-	18.8
200*	-	32.4	-	30.8	-	27.8	-	-	-	-	-	17.8	-	14.8	-	18.0
250*	-	36.9	-	29.3	-	26.3	-	-	-	-	-	15.8	-	12.8	-	17.3
400*	-	48.5	-	26.3	-	23.3	-	-	-	-	-	11.8	-	8.8	-	15.9

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

# Cat 5e Power+™

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Tested from 1 to 400 MHz.
- UL Tested (LP) for maximum power support.
- Specifically designed to accommodate higher power applications.
- Utilizes larger gauge copper (22 AWG).
- Supports up to 140 watts of power.

### Packaging

- 1,000 foot (305m) reels
- 1,000 foot (305m) Reelex (featuring reverse sequential numbering)

### Options

- CMP-50 rated cables available

### Applications

- Including:
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +105C (-4F to +221F)

## Category 5e (Plenum)

c(UL)us Listed Type CMP, CSA Type FT6

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30310-8-XXY	4	.225	5.71	20.36	9.24

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30310	8	XX	Y

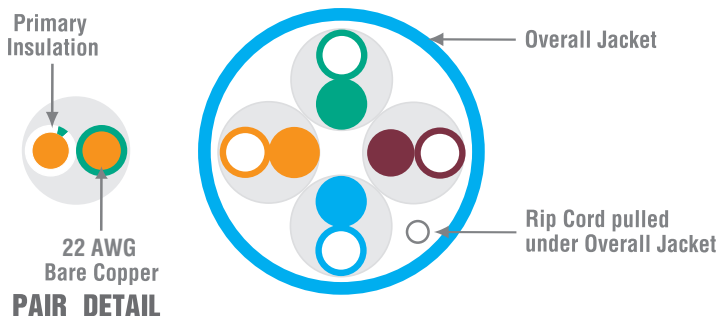
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reelex Boxes(2); Reels(3)

## Features



DIELECTRIC MATERIALS	PLENUM
Primary Insulation	Plenum-rated fluoropolymer
Overall Jacket	Low-smoke, flame-retardant thermoplastic

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input impedance	100 ± 15Ω (1.0 to 100 MHz)
Maximum resistance unbalance	3%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	68%, riser 70%, plenum
Voltage Rating	300 Volts
LP Rating (UL)	.7 Amps/conductor

Note: This is a 22 AWG cable with 105c rating. Its Ampacity performance exceeds the maximum listed in the Ampacity table found in NEC 725.144 of the current electrical code.

Photo is for representation purposes only.

## Transmission Specifications

ANSI/TIA 568-C.2 Category 5e Verified

ISO/IEC 11801, 2nd ed. Class D Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	65.3	65.3	62.3	62.3	63.3	63.3	60.3	60.3	63.8	63.8	60.8	60.8	20.0	20.0
4	4.1	4.1	56.3	56.3	53.3	53.3	52.2	52.2	49.2	49.2	51.8	51.8	48.8	48.8	23.0	23.0
8	5.8	5.8	51.8	51.8	48.8	48.8	46.0	46.0	43.0	43.0	45.7	45.7	42.7	42.7	24.5	24.5
10	6.5	6.5	50.3	50.3	47.3	47.3	43.8	43.8	40.8	40.8	43.8	43.8	40.8	40.8	25.0	25.0
16	8.2	8.2	47.2	47.2	44.2	44.2	39.0	39.0	36.0	36.0	39.7	39.7	36.7	36.7	25.0	25.0
31.25	11.7	11.7	42.9	42.9	39.9	39.9	31.2	31.2	28.2	28.2	33.9	33.9	30.9	30.9	23.6	23.6
62.5	17.0	17.0	38.4	38.4	35.4	35.4	21.4	21.4	18.4	18.4	27.9	27.9	24.9	24.9	21.5	21.5
100	22.0	22.0	35.3	35.3	32.3	32.3	13.3	13.3	10.3	10.3	23.8	23.8	20.8	20.8	20.1	20.1
155*	-	28.1	-	32.4	-	29.4	4.4	4.4	1.4	1.4	-	20.0	-	17.0	-	18.8
200*	-	32.4	-	30.8	-	27.8	-	-	-	-	-	17.8	-	14.8	-	18.0
250*	-	36.9	-	29.3	-	26.3	-	-	-	-	-	15.8	-	12.8	-	17.3
400*	-	48.5	-	26.3	-	23.3	-	-	-	-	-	11.8	-	8.8	-	15.9

\*Frequencies beyond the TIA and ISO requirements are for information only.  
All values are dB/100m.

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Tested from 1 to 400 MHz.

TIA PARAMETER	GUARANTEED HEADROOM
NEXT loss	+6 dB
PSNEXT loss	+6 dB
ELFEXT	+4 dB
PSELFEXT	+4 dB
Return loss	N/A

- Supports up to 80 watts of power.

### Packaging

- 1,000 foot (305m) reels
- 1,000 foot (305m) Reelex (featuring reverse sequential numbering)

### Options

- CMP-50 rated cables available

### Applications

- Including:
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

## 350™ (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
38891-8-XXY	4	.18	4.67	20.36	9.24

## 350™ (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
38893-8-XXY	4	.179	4.547	17.86	8.10

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
38891	8	XX	Y

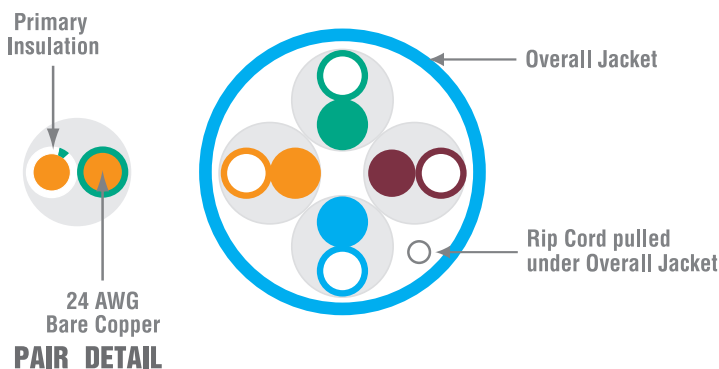
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reelex Boxes(2); Reels(3)

### Features



DIELECTRIC MATERIALS	RISER	PLENUM
Primary Insulation	Polyolefin	Plenum-rated fluoropolymer
Overall Jacket	Flame-retardant thermoplastic	Low-smoke, flame-retardant thermoplastic

Hitachi Cable America reserves the right to revise any specifications.



## Electrical Characteristics

Input Impedance	100 ± 15Ω (1.0 - 100 MHz)
Maximum conductor resistance	9.38 Ω/100 meters @ 20C
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Nominal velocity of propagation (NVP)	riser, 68% plenum, 70%
Maximum delay skew	25 ns/100 meters
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.4 Amps/conductor

Hitachi 350 cables offer +6 dB of NEXT loss and PSNEXT loss margin over Category 5e requirements.

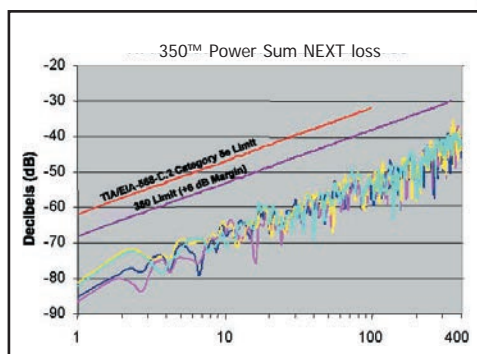


Photo is for representation purposes only.

Copper

## Transmission Specifications

ANSI/TIA 568-C.2 Category 5e Verified

ISO/IEC 11801, 2nd ed. Class D Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	65.3	71.3	62.3	68.3	63.3	69.3	60.3	66.3	63.8	67.8	60.8	64.8	20.0	20.0
4	4.1	4.1	56.3	62.3	53.3	59.3	52.2	58.2	49.2	55.2	51.8	55.8	48.8	52.8	23.0	23.0
8	5.8	5.8	51.8	57.8	48.8	54.8	46.0	52.0	43.0	49.0	45.7	49.7	42.7	46.7	24.5	24.5
10	6.5	6.5	50.3	56.3	47.3	53.3	43.8	49.8	40.8	46.8	43.8	47.8	40.8	44.8	25.0	25.0
16	8.2	8.2	47.2	53.2	44.2	50.2	39.0	45.0	36.0	42.0	39.7	43.7	36.7	40.7	25.0	25.0
31.25	11.7	11.7	42.9	48.9	39.9	45.9	31.2	37.2	28.2	34.2	33.9	37.9	30.9	34.9	23.6	23.6
62.5	17.0	17.0	38.4	44.4	35.4	41.4	21.4	27.4	18.4	24.4	27.9	31.9	24.9	28.9	21.5	21.5
100	22.0	22.0	35.3	41.3	32.3	38.3	13.3	19.3	10.3	16.3	23.8	27.8	20.8	24.8	20.1	20.1
155*	-	28.1	-	38.4	-	35.4	4.4	10.4	1.4	7.4	-	24.0	-	21.0	-	18.8
200*	-	32.4	-	36.8	-	33.8	-	4.4	-	1.4	-	21.8	-	18.8	-	18.0
250*	-	36.9	-	35.3	-	32.3	-	-	-	-	-	19.8	-	16.8	-	17.3
300*	-	41.0	-	34.1	-	31.1	-	-	-	-	-	18.3	-	15.3	-	16.8
350*	-	44.9	-	33.1	-	30.1	-	-	-	-	-	16.9	-	13.9	-	16.3
400*	-	48.5	-	32.3	-	29.3	-	-	-	-	-	15.8	-	12.8	-	15.9

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Tested from 1 to 400 MHz.
- CMR-LSHF version offers a halogen free design for improved environmental performance.
- Supports up to 80 watts of power.

### Packaging

- 1,000 foot (305m) reels
- 1,000 foot (305m) Reelex (featuring reverse sequential numbering)

### Options

- CMP-50 rated cables available

### Applications

- Including:  
Gigabit Ethernet (IEEE 802.3ab)  
100 Mbps Ethernet (IEEE 802.3u)  
1000 Mbps ATM  
622 Mbps ATM  
15W PoE (IEEE 802.3af)  
30W PoE+ (IEEE 802.3at)  
60W PoE++ (IEEE 802.3bt Type 3)

### Temp Range

- Storage Temperature  
-40C to +60C (-40F to +140F)
- Installation Temperature  
0C to +60C (+32F to +140F)
- Operation Temperature  
-20C to +75C (-4F to +167F)

### Category 5e (Plenum)

c(UL)us Listed Type CMP, CSA Type FT6

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
39419-8-XXY	4	.18	4.57	20.36	9.24

### Category 5e (Riser)

c(UL)us Listed Type CMR, CSA Type FT4

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
38696-8-XXY	4	.17	4.55	17.86	8.10

### Category 5e (Riser-Low Smoke Halogen Free)

c(UL)us Listed Type CMR-LSHF (LSHF: Low Smoke Halogen Free)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
30308-8-XXY	4	.189	4.80	20.37	9.24

### Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
39419	8	XX	Y

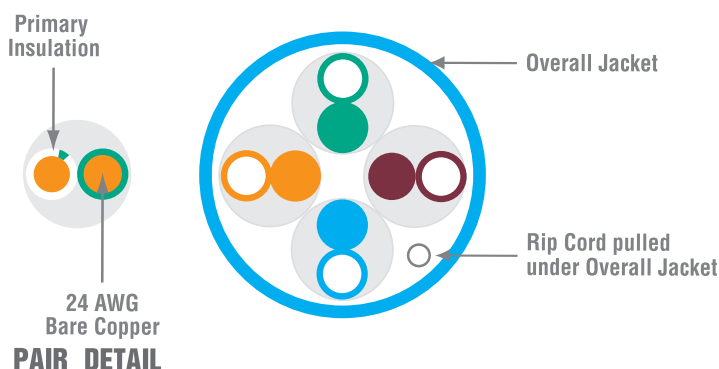
Jacket Colors (XX):

Black(BK); Blue(BL); Brown(BR); Gray(GA); Green(GR); Red(RD); White(WH); Yellow(YE)

Reel Type (Y):

Reelex Boxes(2); Reels(3)

### Features



DIELECTRIC MATERIALS	RISER	PLENUM	LSHF
Primary Insulation	Polyolefin	Plenum-rated Fluoropolymer	Polyethylene
Overall Jacket	Flame-retardant Thermoplastic	Flame-retardant Thermoplastic	Zero-Halogen Flame-retardant Thermoplastic

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input impedance	100 ± 15Ω (1.0 to 100 MHz)
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	68%, riser 70%, plenum
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.4 Amps/conductor

Photo is for representation purposes only.

## Transmission Specifications

ANSI/TIA 568-C.2 Category 5e Verified

ISO/IEC 11801, 2nd ed. Class D Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	65.3	65.3	62.3	62.3	63.3	63.3	60.3	60.3	63.8	63.8	60.8	60.8	20.0	20.0
4	4.1	4.1	56.3	56.3	53.3	53.3	52.2	52.2	49.2	49.2	51.8	51.8	48.8	48.8	23.0	23.0
8	5.8	5.8	51.8	51.8	48.8	48.8	46.0	46.0	43.0	43.0	45.7	45.7	42.7	42.7	24.5	24.5
10	6.5	6.5	50.3	50.3	47.3	47.3	43.8	43.8	40.8	40.8	43.8	43.8	40.8	40.8	25.0	25.0
16	8.2	8.2	47.2	47.2	44.2	44.2	39.0	39.0	36.0	36.0	39.7	39.7	36.7	36.7	25.0	25.0
31.25	11.7	11.7	42.9	42.9	39.9	39.9	31.2	31.2	28.2	28.2	33.9	33.9	30.9	30.9	23.6	23.6
62.5	17.0	17.0	38.4	38.4	35.4	35.4	21.4	21.4	18.4	18.4	27.9	27.9	24.9	24.9	21.5	21.5
100	22.0	22.0	35.3	35.3	32.3	32.3	13.3	13.3	10.3	10.3	23.8	23.8	20.8	20.8	20.1	20.1
155*	-	28.1	-	32.4	-	29.4	4.4	4.4	1.4	1.4	-	20.0	-	17.0	-	18.8
200*	-	32.4	-	30.8	-	27.8	-	-	-	-	-	17.8	-	14.8	-	18.0
250*	-	36.9	-	29.3	-	26.3	-	-	-	-	-	15.8	-	12.8	-	17.3
400*	-	48.5	-	26.3	-	23.3	-	-	-	-	-	11.8	-	8.8	-	15.9

\*Frequencies beyond the TIA and ISO requirements are for information only.

All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

# Cat 5e Multi-Pair

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- UL Verified.
- Low Smoke Plenum construction.
- Tested from 1 to 100 MHz.
- Power sum compliance ensures minimum signal corruption due to alien crosstalk.
- Supports up to 80 watts of power.

### Packaging

- 1,000 foot (305m) reels

### Options

- Consult factory for 50-pair design construction and availability

### Applications

- Including:
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)

### Temp Range

- Storage Temperature
  - 40C to +60C (-40F to +140F)
- Installation Temperature
  - 0C to +60C (+32F to +140F)
- Operation Temperature
  - 20C to +75C (-4F to +167F)

Hitachi Cable America reserves the right to revise any specifications.

## Category 5e Power Sum Multi-pair (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30203-50	25	.454	11.531	141.0	64.0

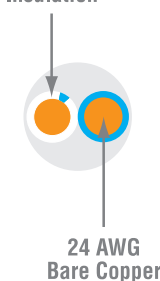
## Category 5e Power Sum Multi-pair (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT	
		in.	mm	lbs/1000ft	kg/305m
30093-50	25	.49	12.4	133.25	60.44
30172-100	50	.49 x .99	12.45 x 25.15	267.0	121.11

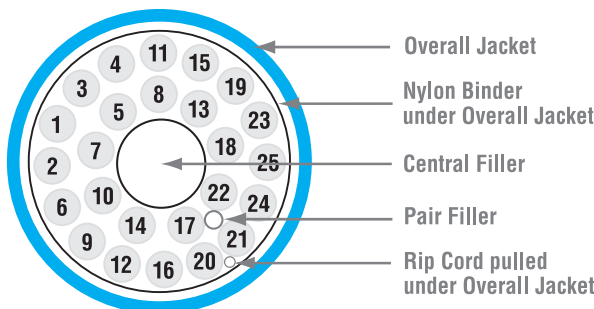
### Features

Primary Insulation



24 AWG  
Bare Copper

PAIR DETAIL



Overall Jacket

Nylon Binder  
under Overall Jacket

Central Filler

Pair Filler

Rip Cord pulled  
under Overall Jacket

DIELECTRIC MATERIALS

Primary Insulation

Overall Jacket

Central Filler

Pair Filler

RISER

Polyolefin

Flame-retardant thermoplastic

Flame-retardant thermoplastic

Flame-retardant thermoplastic

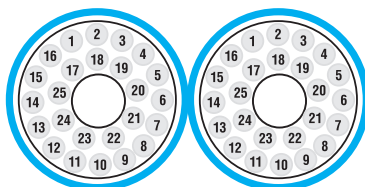
PLENUM

Plenum-rated fluoropolymer

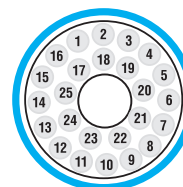
Plenum-rated fluoropolymer

Plenum-rated polymer

Plenum-rated polymer



50-pair



25-pair

Diagram scale approx. 3:1



## Electrical Characteristics

Input impedance	100 ± 15Ω (1.0 to 100 MHz)
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Nominal velocity of propagation (NVP)	68%, riser 70%, plenum
Voltage Rating	300 Volts
Ampacity <sup>1</sup>	.4 Amps/conductor



## Transmission Specifications

ANSI/TIA 568-C.2 Category 5e Verified

ISO/IEC 11801, 2nd ed. Class D Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	65.3	65.3	62.3	62.3	63.3	63.3	60.3	60.3	63.8	63.8	60.8	60.8	20.0	20.0
4	4.1	4.1	56.3	56.3	53.3	53.3	52.2	52.2	49.2	49.2	51.8	51.8	48.8	48.8	23.0	23.0
8	5.8	5.8	51.8	51.8	48.8	48.8	46.0	46.0	43.0	43.0	45.7	45.7	42.7	42.7	24.5	24.5
10	6.5	6.5	50.3	50.3	47.3	47.3	43.8	43.8	40.8	40.8	43.8	43.8	40.8	40.8	25.0	25.0
16	8.2	8.2	47.2	47.2	44.2	44.2	39.0	39.0	36.0	36.0	39.7	39.7	36.7	36.7	25.0	25.0
31.25	11.7	11.7	42.9	42.9	39.9	39.9	31.2	31.2	28.2	28.2	33.9	33.9	30.9	30.9	23.6	23.6
62.5	17.0	17.0	38.4	38.4	35.4	35.4	21.4	21.4	18.4	18.4	27.9	27.9	24.9	24.9	21.5	21.5
100	22.0	22.0	35.3	35.3	32.3	32.3	13.3	13.3	10.3	10.3	23.8	23.8	20.8	20.8	20.1	20.1

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.

# Multi-Net™

Copper

**HITACHI**  
Inspire the Next

## Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Low Smoke Plenum construction.
- Bonded leg constructions facilitate easier cable pulls.
- Easy-tear web allows quick cable separation in the field.
- Supports up to 100 watts (Category 6) and 80 watts (Category 5e).

## Packaging

- 1,000 foot (305m) reels

## Options

- Custom leg configurations available
- 2-pair leg constructions available

## Applications

- Including:  
Gigabit Ethernet (IEEE 802.3ab)  
100 Mbps Ethernet (IEEE 802.3u)  
1000 Mbps ATM  
622 Mbps ATM  
15W PoE (IEEE 802.3af)  
30W PoE+ (IEEE 802.3at)  
60W PoE++ (IEEE 802.3bt Type 3)

## Temp Range

- Storage Temperature  
-40C to +60C (-40F to +140F)
- Installation Temperature  
0C to +60C (+32F to +140F)
- Operation Temperature  
-20C to +75C (-4F to +167F)

## Multi-Net™ Bonded Jacket (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

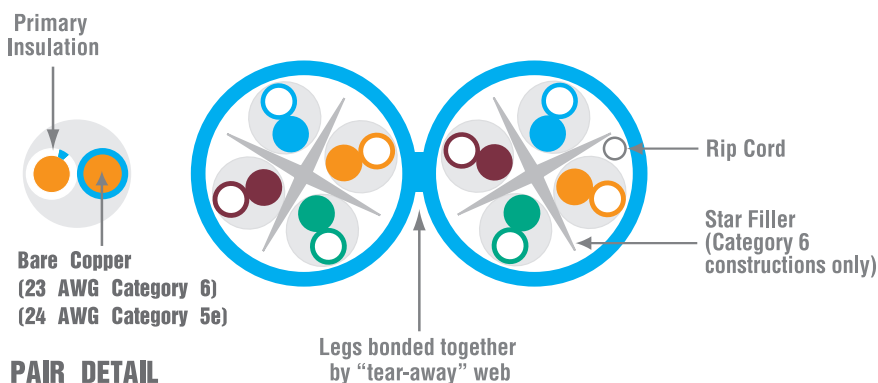
HITACHI PART NO.	CATEGORY OF EACH 4-PAIR UTP LEG	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
TWO LEG CONSTRUCTIONS					
30120	6 x 6	.215 x .450	5.461 x 11.430	57.60	26.12
38730	5e x 5e	.180 x .380	4.572 x 9.652	41.67	18.90

## Multi-Net™ Bonded Jacket (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	CATEGORY OF EACH 4-PAIR UTP LEG	CALCULATED CABLE O.D. in.	mm	CABLE WEIGHT lbs/1000ft	kg/305m
TWO LEG CONSTRUCTIONS					
30086	6 x 6	.25 x .52	6.4 x 13.2	50.0	22.7
38743	5e x 5e	.193 x .406	4.902 x 10.312	42.15	19.12

## Features



Hitachi Cable America reserves the right to revise any specifications.

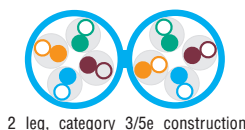


Diagram scale approx. 2:1

## Electrical Characteristics

Input impedance	100 ± 15 Ω (1.0 to 100 MHz)	Maximum capacitance unbalance	330 pF/100 meters
	100 ± 20 Ω (101 to 250 MHz)	Maximum delay skew	45 ns/100 meters
Maximum resistance unbalance	5%	Nominal velocity of propagation (NVP)	63%
Voltage Rating	300 Volts	Ampacity <sup>1</sup> (Category 5e)	.4 Amps/Conductor
		Ampacity <sup>1</sup> (Category 6)	.5 Amps/Conductor

## Transmission Specifications

ANSI/TIA 568-C.2 Category 5e Compliant

ISO/IEC 11801, 2nd ed. Class D Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	65.3	65.3	62.3	62.3	63.3	63.3	60.3	60.3	63.8	63.8	60.8	60.8	20.0	20.0
4	4.1	4.1	56.3	56.3	53.3	53.3	52.2	52.2	49.2	49.2	51.8	51.8	48.8	48.8	23.0	23.0
8	5.8	5.8	51.8	51.8	48.8	48.8	46.0	46.0	43.0	43.0	45.7	45.7	42.7	42.7	24.5	24.5
10	6.5	6.5	50.3	50.3	47.3	47.3	43.8	43.8	40.8	40.8	43.8	43.8	40.8	40.8	25.0	25.0
16	8.2	8.2	47.2	47.2	44.2	44.2	39.0	39.0	36.0	36.0	39.7	39.7	36.7	36.7	25.0	25.0
31.25	11.7	11.7	42.9	42.9	39.9	39.9	31.2	31.2	28.2	28.2	33.9	33.9	30.9	30.9	23.6	23.6
62.5	17.0	17.0	38.4	38.4	35.4	35.4	21.4	21.4	18.4	18.4	27.9	27.9	24.9	24.9	21.5	21.5
100	22.0	22.0	35.3	35.3	32.3	32.3	13.3	13.3	10.3	10.3	23.8	23.8	20.8	20.8	20.1	20.1
155*	-	28.1	-	32.4	-	29.4	4.4	4.4	1.4	1.4	-	20.0	-	17.0	-	18.8
200*	-	32.4	-	30.8	-	27.8	-	-	-	-	-	17.8	-	14.8	-	18.0
250*	-	36.9	-	29.3	-	26.3	-	-	-	-	-	15.8	-	12.8	-	17.3
400*	-	48.5	-	26.3	-	23.3	-	-	-	-	-	11.8	-	8.8	-	15.9

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6 Compliant

ISO/IEC 11801, 2nd ed. Class E Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	74.3	74.3	72.3	72.3	72.3	72.3	70.3	70.3	67.8	67.8	64.8	64.8	20.0	20.0
4	3.8	3.8	65.3	65.3	63.3	63.3	61.5	61.5	59.5	59.5	55.8	55.8	52.8	52.8	23.0	23.0
8	5.3	5.3	60.8	60.8	58.8	58.8	55.4	55.4	53.4	53.4	49.7	49.7	46.7	46.7	24.5	24.5
10	6.0	6.0	59.3	59.3	57.3	57.3	53.3	53.3	51.3	51.3	47.8	47.8	44.8	44.8	25.0	25.0
16	7.6	7.6	56.2	56.2	54.2	54.2	48.7	48.7	46.7	46.7	43.7	43.7	40.7	40.7	25.0	25.0
31.25	10.7	10.7	51.9	51.9	49.9	49.9	41.2	41.2	39.2	39.2	37.9	37.9	34.9	34.9	23.6	23.6
62.5	15.4	15.4	47.4	47.4	45.4	45.4	32.0	32.0	30.0	30.0	31.9	31.9	28.9	28.9	21.5	21.5
100	19.8	19.8	44.3	44.3	42.3	42.3	24.5	24.5	22.5	22.5	27.8	27.8	24.8	24.8	20.1	20.1
155	25.2	25.2	41.1	41.1	39.4	39.4	16.3	16.3	14.3	14.3	24.0	24.0	21.0	21.0	18.8	18.8
200	29.0	29.0	39.8	39.8	37.8	37.8	10.8	10.8	8.8	8.8	21.8	21.8	18.8	18.8	18.0	18.0
250	32.8	32.8	38.3	38.3	36.3	36.3	5.5	5.5	3.5	3.5	19.8	19.8	16.8	16.8	17.3	17.3
350*	-	39.8	-	36.1	-	34.1	-	-	-	-	-	16.9	-	13.9	-	16.3
555*	-	52.0	-	33.1	-	31.1	-	-	-	-	-	12.9	-	9.9	-	14.9
660*	-	57.7	-	32.0	-	30.0	-	-	-	-	-	11.4	-	8.4	-	14.4

\*Frequencies beyond the TIA and ISO requirements are for information only.  
All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.



# Cat 3 Multi-Pair

Copper

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Low Smoke Plenum construction.
- Tested from 1 to 16 MHz.

### Packaging

- 1,000 foot (305m) reels

### Options

- Available in 25-, 50-, 100-, 200- and 300-pair constructions
- Consult factory for design and availability of 400-pair constructions

### Applications

- Including:
  - 10 BASE-T
  - 4/16 Mbps Token Ring
  - 25.6 Mbps ATM

### Temp Range

- Storage Temperature  
-40C to +60C (-40F to +140F)
- Installation Temperature  
0C to +60C (+32F to +140F)
- Operation Temperature  
-20C to +75C (-4F to +167F)

## Category 3 Power Sum Multi-pair (Plenum)

(c(UL)us Listed Type CMP, CSA Type FT6)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT lbs/1000ft	kg/305m
		in.	mm		
30134-50	25	.38	9.7	111.43	50.54
30134-100	50	.446 x .646	11.316 x 16.396	219.95	99.77
30134-200	100	.810	20.57	436.63	198.05
30134-400	200	1.151	29.235	874.94	396.87
30134-600	300	1.33	33.7	1275.83	578.71

Note: Standard/stock color for plenum cable is white.

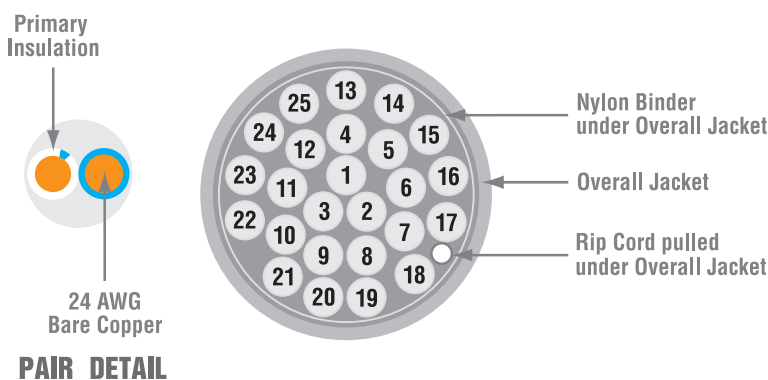
## Category 3 Power Sum Multi-pair (Riser)

(c(UL)us Listed Type CMR, CSA Type FT4)

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D.		CABLE WEIGHT lbs/1000ft	kg/305m
		in.	mm		
39228-50	25	.371	9.423	104.95	47.60
39228-100	50	.420 x .641	10.669 x 16.280	202.43	91.82
39228-200	100	.743	18.872	402.01	182.34
39228-400	200	1.040	26.416	794.70	360.46
39228-600	300	1.310	33.274	1176.73	533.76

Note: Standard/stock color for riser cable is gray.

## Features



DIELECTRIC MATERIALS	RISER	PLENUM
Primary Insulation	PVC	Low-smoke, flame-retardant thermoplastic
Overall Jacket (< 100-pair)	Flame-retardant thermoplastic	Low-smoke, flame-retardant thermoplastic
Overall Jacket (≥ 100-pair)	Flame-retardant thermoplastic	PvDF

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Characteristic impedance	$100 \pm 15\Omega$ (1.0 to 16 MHz)
Maximum resistance unbalance	5%
Maximum capacitance unbalance	330 pF/100 meters
Maximum delay skew	45 ns/100 meters
Voltage Rating	300 Volts

## Transmission Specifications

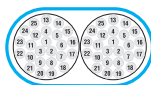
ANSI/TIA 568-C.2 Category 3 Compliant

FREQ. (MHz)	INS. LOSS	NEXT LOSS	ACR	STRUCTURAL RETURN LOSS
1	2.6	41.3	38.7	12.0
4	5.6	32.3	26.7	12.0
8	8.5	27.8	19.3	12.0
10	9.7	26.3	16.6	12.0
16	13.1	23.2	10.1	10.0

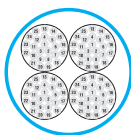
All values are dB/100m.



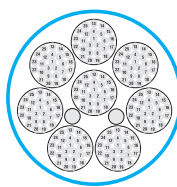
25-pair



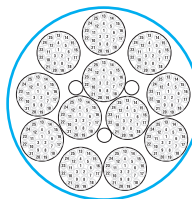
50-pair



100-pair



200-pair



300-pair



Copper



# Cat 6A Outdoor

Copper

**HITACHI**  
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## Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Suitable for direct burial, lashed aerial, duct and underground conduit applications.
- Cable core is filled with non-conductive, water-blocking gel.
- Rugged black polyolefin jacket.
- UV resistant jacket.
- Proven shield technology improves RFI and EMI performance.
- Supports up to 100 watts of power.

## Packaging

- 1,000 foot (305m) reels

## Applications

- Including:
  - 5 Gigabit Ethernet (IEEE 802.3bz)
  - 2.5 Gigabit Ethernet (IEEE 802.3bz)
  - Gigabit Ethernet (IEEE 802.3ab)
  - 100 Mbps Ethernet (IEEE 802.3u)
  - 1000 Mbps ATM
  - 622 Mbps ATM
  - 15W PoE (IEEE 802.3af)
  - 30W PoE+ (IEEE 802.3at)
  - 60W PoE++ (IEEE 802.3bt Type 3)
  - 100W PoE++ (IEEE 802.3bt Type 4)

## Temp Range

- Storage Temperature
  - 40C to +70C (-40F to +158F)
- Installation Temperature
  - 20C to +70C (-4F to +158F)
- Operation Temperature
  - 40C to +70C (-40F to +158F)

## Category 6A F/UTP Outdoor

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	CABLE mm	WEIGHT lbs/1000ft	kg/305m
Category 6					
30287-8-XXY	4	0.360	9.144	56.87	25.8

## Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30287	8	XX	Y

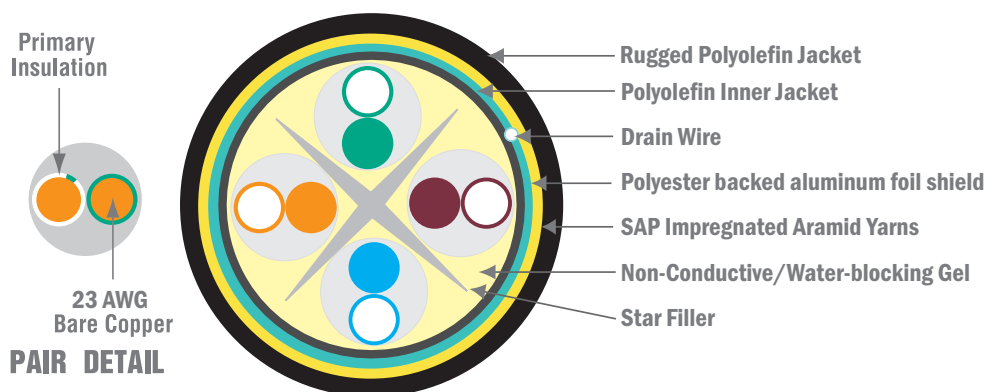
Jacket Colors (XX):

Black(BK)

Reel Type (Y):

Reels(3)

## Features



DIELECTRIC MATERIALS

Primary Insulation

Overall Jacket

OUTDOOR F/UTP CABLES

Polyolefin and/or Fluoropolymer

Medium density polyolefin

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input impedance	100+/-15 $\Omega$ (1.0-100 MHz)
	100+/-20 $\Omega$ (101-250 MHz)
	100+/-25 $\Omega$ (251-500 MHz)
Maximum Conductor Resistance:	9.38 $\Omega$ /100 Meters @ 20C
Maximum Resistance Unbalance:	3%
Maximum Mutual Capacitance:	5.6 nF/100 Meters @ 1 kHz
Maximum Capacitance Unbalance:	330 pF/100 Meters
Maximum Delay Skew:	45 ns/100 Meters
Nominal Velocity of Propagation:	67%
Ampacity <sup>1</sup>	.5 Amps/conductor

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6A Compliant

ISO/IEC 11801, 2nd ed. Class EA Compliant

Frequency (MHz)	Insertion Loss Max. (dB / 100 m)	NEXT Loss Min. (dB / 100 m)		ACR Min. (dB / 100 m)		ACRF Min. (dB / 100 m)		Return Loss Min. (dB / 100 m)	Delay Max. (ns / 100 m)
		WP	PS	WP	PS	WP	PS		
1	2.1	74.3	72.3	72.2	70.2	67.8	64.8	20.0	599
4	3.8	65.3	63.3	61.5	59.5	55.8	52.8	23.0	580
8	5.3	60.8	58.8	55.4	53.4	49.7	46.7	24.5	574
10	5.9	59.3	57.3	53.4	51.4	47.8	44.8	25.0	573
16	7.5	56.2	54.2	48.8	46.8	43.7	40.7	25.0	570
20	8.4	54.8	52.8	46.4	44.4	41.8	38.8	25.0	569
25	9.4	53.3	51.3	44.0	42.0	39.8	36.8	24.3	568
31.25	10.5	51.9	49.9	41.4	39.4	37.9	34.9	23.6	567
62.5	15.0	47.4	45.4	32.4	30.4	31.9	28.9	21.5	565
100	19.1	44.3	42.3	25.2	23.2	27.8	24.8	20.1	564
155	24.1	41.4	39.4	17.4	15.4	24.0	21.0	18.8	564
200	27.6	39.8	37.8	12.2	10.2	21.8	18.8	18.0	563
250	31.1	38.3	36.3	7.3	5.3	19.8	16.8	17.3	563
300	34.3	37.1	35.1	2.9	0.9	18.3	15.3	16.8	563
350	37.2	36.1	34.1	---	---	16.9	13.9	16.3	563
400	40.1	35.3	33.3	---	---	15.8	12.8	15.9	563
500	45.3	33.8	31.8	---	---	13.8	10.8	15.2	562
555*	47.9	33.1	31.1	---	---	12.9	9.9	14.9	562
660*	52.8	32.0	30.0	---	---	11.4	8.4	14.4	562

\*Frequencies beyond the TIA and ISO requirements are for information only.  
All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.



# Cat 6 & 5e Outdoor

Copper

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## Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Suitable for direct burial, lashed aerial, duct and underground conduit applications.
- Cable core is filled with non-conductive, water-blocking gel.
- Rugged black polyolefin jacket.
- UV resistant jacket.
- Supports up to 80 watts of power.

## Packaging

- 1,000 foot (305m) reels

## Applications

- Including:

HDBase-T A & B (Cat 6)  
5 Gigabit Ethernet (IEEE 802.3bz) (Cat 6)  
2.5 Gigabit Ethernet (IEEE 802.3bz)  
Gigabit Ethernet (IEEE 802.3ab)  
100 Mbps Ethernet (IEEE 802.3u)  
1000 Mbps ATM  
622 Mbps ATM  
15W PoE (IEEE 802.3af)  
30W PoE+ (IEEE 802.3at)  
60W PoE++ (IEEE 802.3bt Type 3)  
100W PoE++ (IEEE 802.3bt Type 4)

## Temp Range

- Storage Temperature  
-40C to +70C (-40F to +158F)
- Installation Temperature  
-20C to +70C (-4F to +158F)
- Operation Temperature  
-40C to +70C (-40F to +158F)

## Category 6 and Category 5e Outdoor

HITACHI PART NO.	NO. OF PAIRS	CALCULATED CABLE O.D. in.	CABLE mm	WEIGHT lbs/1000ft	kg/305m
Category 5e					
30145-8-XXY	4	0.23	5.8	25.75	11.68
Category 6					
30180-8-XXY	4	0.270	6.858	34.65	15.72

## Building a Part Number

Base Part Number Ex.	No. of Conductors	Jacket Color	Reel Type
30145	8	XX	Y

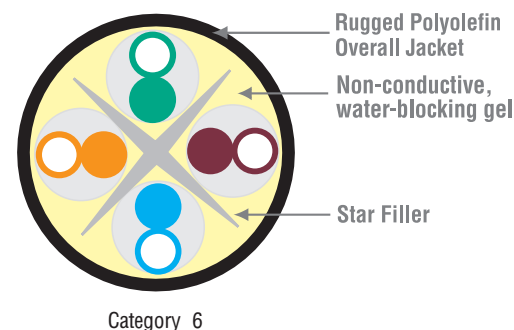
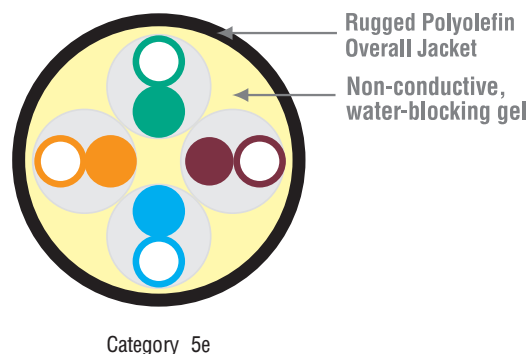
Jacket Colors (XX):

Black(BK)

Reel Type (Y):

Reels(3)

## Features



DIELECTRIC MATERIALS

Primary Insulation

Overall Jacket

OUTDOOR UTP CABLES

Polyolefin

Medium density polyolefin

Hitachi Cable America reserves the right to revise any specifications.

## Electrical Characteristics

Input impedance	100 ± 15 Ω (1.0 to 100 MHz)	Maximum capacitance unbalance	330 pF/100 meters
	100 ± 20 Ω (101 to 250 MHz)	Maximum delay skew	45 ns/100 meters
Maximum resistance unbalance	5%	Nominal velocity of propagation (NVP)	63%
Voltage Rating	300 Volts	Ampacity <sup>1</sup>	.4 Amps/conductor



## Transmission Specifications

ANSI/TIA 568-C.2 Category 5e Compliant

ISO/IEC 11801, 2nd ed. Class D Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	65.3	65.3	62.3	62.3	63.3	63.3	60.3	60.3	63.8	63.8	60.8	60.8	20.0	20.0
4	4.1	4.1	56.3	56.3	53.3	53.3	52.2	52.2	49.2	49.2	51.8	51.8	48.8	48.8	23.0	23.0
8	5.8	5.8	51.8	51.8	48.8	48.8	46.0	46.0	43.0	43.0	45.7	45.7	42.7	42.7	24.5	24.5
10	6.5	6.5	50.3	50.3	47.3	47.3	43.8	43.8	40.8	40.8	43.8	43.8	40.8	40.8	25.0	25.0
16	8.2	8.2	47.2	47.2	44.2	44.2	39.0	39.0	36.0	36.0	39.7	39.7	36.7	36.7	25.0	25.0
31.25	11.7	11.7	42.9	42.9	39.9	39.9	31.2	31.2	28.2	28.2	33.9	33.9	30.9	30.9	23.6	23.6
62.5	17.0	17.0	38.4	38.4	35.4	35.4	21.4	21.4	18.4	18.4	27.9	27.9	24.9	24.9	21.5	21.5
100	22.0	22.0	35.3	35.3	32.3	32.3	13.3	13.3	10.3	10.3	23.8	23.8	20.8	20.8	20.1	20.1
155*	-	28.1	-	32.4	-	29.4	4.4	4.4	1.4	1.4	-	20.0	-	17.0	-	18.8
200*	-	32.4	-	30.8	-	27.8	-	-	-	-	-	17.8	-	14.8	-	18.0
250*	-	36.9	-	29.3	-	26.3	-	-	-	-	-	15.8	-	12.8	-	17.3
400*	-	48.5	-	26.3	-	23.3	-	-	-	-	-	11.8	-	8.8	-	15.9

## Transmission Specifications

ANSI/TIA 568-C.2 Category 6 Compliant

ISO/IEC 11801, 2nd ed. Class E Compliant

Freq. (MHz)	Ins. Loss		NEXT		PSNEXT		ACR		PSACR		ACRF		PSACRF		Return Loss	
	Std.	Max.	Std.	Min.	Std.	Min.	Cal.	Min.	Cal.	Min.	Std.	Min.	Std.	Min.	Std.	Min.
1	2.0	2.0	74.3	74.3	72.3	72.3	72.3	72.3	70.3	70.3	67.8	67.8	64.8	64.8	20.0	20.0
4	3.8	3.8	65.3	65.3	63.3	63.3	61.5	61.5	59.5	59.5	55.8	55.8	52.8	52.8	23.0	23.0
8	5.3	5.3	60.8	60.8	58.8	58.8	55.4	55.4	53.4	53.4	49.7	49.7	46.7	46.7	24.5	24.5
10	6.0	6.0	59.3	59.3	57.3	57.3	53.3	53.3	51.3	51.3	47.8	47.8	44.8	44.8	25.0	25.0
16	7.6	7.6	56.2	56.2	54.2	54.2	48.7	48.7	46.7	46.7	43.7	43.7	40.7	40.7	25.0	25.0
31.25	10.7	10.7	51.9	51.9	49.9	49.9	41.2	41.2	39.2	39.2	37.9	37.9	34.9	34.9	23.6	23.6
62.5	15.4	15.4	47.4	47.4	45.4	45.4	32.0	32.0	30.0	30.0	31.9	21.9	28.9	28.9	21.5	21.5
100	19.8	19.8	44.3	44.3	42.3	42.3	24.5	24.5	22.5	22.5	27.8	27.8	24.8	24.8	20.1	20.1
155	25.2	25.2	41.1	41.1	39.4	39.4	16.3	16.3	14.3	14.3	24.0	24.0	21.0	21.0	18.8	18.8
200	29.0	29.0	39.8	39.8	37.8	37.8	10.8	10.8	8.8	8.8	21.8	21.8	18.8	18.8	18.0	18.0
250	32.8	32.8	38.3	38.3	36.3	36.3	5.5	5.5	3.5	3.5	19.8	19.8	16.8	16.8	17.3	17.3
350*	-	39.8	-	36.1	-	34.1	-	-	-	-	-	16.9	-	13.9	-	16.3
555*	-	52.0	-	33.1	-	31.1	-	-	-	-	-	12.9	-	9.9	-	14.9
660*	-	57.7	-	32.0	-	30.0	-	-	-	-	-	11.4	-	8.4	-	14.4

\*Frequencies beyond the TIA and ISO requirements are for information only.  
All values are dB/100m.

1. Ampacity rating per NEC 725.144 of NFPA NEC (2017) up to 192 cable bundle.



# Fiber Selection GUIDE

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## Fiber Selection Guide

### How much fiber do you need?

- Fiber optic cables are frequently cut to length by the manufacturer or by an authorized distributor. This allows you to get exactly the length you need for each cable run. You can also order a reel equivalent in length to all your cable run lengths and cut your own cable segments.
- Even though extreme care may have been taken when measuring the distances between termination points, it is highly recommended to build in a safety buffer when ordering fiber optic cable. An additional 10% is typical.

### How many strands of fiber do you need?

- Fiber optic cables typically come in multiples of 2 fiber increments and are commonly available in 6, 12, 24, 48, 72 and 144 fiber configurations.
- Design engineers allow for a number of spare fibers to accommodate possible fiber breaks and for future upgrades to the system. Migration from one Ethernet application to another, such as 1 gigabit to 10 gigabit, may require additional fibers. Accounting for future growth when pulling in the cables now is very cost effective.
- Non-standard fiber counts can be manufactured to specific minimum quantities. Lead times may apply, however. Sometimes using multiple cables to achieve the total fiber count, such as combining a 24-fiber and a 48-fiber cable rather than using a 72-fiber, results in quicker access to product and, depending on the cable pathways, an easier installation.

### Determine the type of fiber (optical glass) you need.

- Fibers come in two primary categories: singlemode and multimode. Singlemode is typically used in high bandwidth/ long distance applications. Multimode, which can also be used for high bandwidth applications, is typically used in instances where cable runs do not exceed 550 meters. Multimode and singlemode utilize different electronics. Hitachi Cable's standard singlemode glass is the higher performing OS2.
- Multimode is available in different performance levels starting with low performing OM1 (62.5 micron core) and then increasing performance levels of 50 micron core designs including OM2, OM3, OM4. The designation OM is short for Optical Fiber Multimode. Likewise, OS for singlemode fiber stands for Optical Fiber Singlemode. See the Optical Specifications for each product for more information. Due to the different core size, OM1 fibers cannot be mated to OM2, OM3 or OM4 fibers.

### Do you want loose tube or tight buffered fibers?

- Tight buffered refers to the type of cable in which the fiber strands have an additional layer of material applied to the fiber, similar to insulation around a copper conductor. This layer usually increases the size of the fiber strand from 250 micron to 900 micron. The 900 micron size is the standard size for terminating fibers on a job site.
- Loose tube refers to cable designs where the fibers are 250 micron in diameter. They are color-coded to differentiate one fiber from another. The small fiber diameter usually permits smaller cable diameters than tight buffered designs. Originally used in high-fiber outside plant cables, loose tube fibers are now used indoors or anywhere where cable pathway space is limited. Termination of loose tubes requires either a fan-out kit or the ability to splice connectors.

FIBER





## In what environment will the fiber optic cable be installed?

- Cables constructions are specific to an environment, such as indoor, outdoor or both indoor/outdoor environments.
- Many cables are also available in armored constructions for additional protection. Interlock armoring is typically used for indoor and indoor/outdoor cables while corrugated armoring is used for traditional outside plant cables.
- When installing cables indoor or indoor/outdoor, ensure the cables are labeled with the appropriate National Electrical Code (NEC) rating required for that location. Ratings such as OFNP (Optical Fiber Non-conductive Plenum) or OFNR (Optical Fiber Non-conductive Riser) are standard designs. Cables that are armored or contain metal must be identified with a C in the rating instead of an N. C stands for conductive.
- Outdoor cables do not require an NEC rating, but must be terminated within 50 feet of entering the building.

## Need help choosing the right fiber optic cable?

- The Optical Specifications table below is an example of the kind of information provided in this catalog for every fiber optic cable. Though attenuation may vary slightly between different cable constructions, the guaranteed application support distance for gigabit (Gb) Ethernet and 10 Gb Ethernet are consistent throughout the catalog.
- If you are uncertain about any aspects of the cable selection process, contact an authorized Hitachi Cable America distributor or contact Hitachi Cable America directly at the Manchester, New Hampshire manufacturing facility.

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	2.8	1.0	700	500	950	N/A	750	550	150	N/A
OM3	2.8	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM4+	2.8	1.0	3500	500	5350	N/A	N/A	N/A	600	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	>25,000	>40,000	10,000-25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

Sample Optical Specification from NanoCore Multi-Unit (Page 75)



# INDOOR Interconnect

1-fiber, 2-fiber and zip

FIBER

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- 900 micron buffered design recommended for easy termination.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Ideal for patch cords, interconnections, and short runs.
- Easy to strip and terminate.
- Lightweight, flexible aramid yarns enhance strength.
- Extremely flexible for easy handling.

### Options

- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Interconnect (Riser) (UL) OFNR c(UL) OFNR FT4

### PART NUMBERS BY FIBER COUNT

FIBER COUNT	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
1	60001-1	60004-1	60464-1	61838-1	62720-1	60040-1
1	60037-1	60003-1	60465-1	61791-1	62721-1	60039-1
1	60038-1	60002-1	60466-1	61792-1	62722-1	60010-1
1	60425-1	60462-1	60467-1	61793-1	62723-1	60489-1
2	60001-2	60004-2	60464-2	61838-2	62720-2	60040-2
2	60514-2	60063-2	60463-2	61842-2	62724-2	60012-2
zip	60288-2	60376-2	61483-2	61988-2	62725-2	60289-2
zip	60005-2	60007-2	60501-2	61844-2	62726-2	60011-2

### SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS					
FIBERS	CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
1	0.114	2.9	96	427	29	128	4.9	7.3
1	0.094	2.4	64	285	19	85	3.6	5.4
1	0.079	2.0	50	223	15	67	3.2	4.8
1	0.063	1.6	50	223	15	67	1.8	2.7
2	0.114	2.9	96	427	29	128	4.3	6.4
2	0.190	4.8	128	569	38	171	11.5	17.1
zip	.079 x .170	2.0 x 4.3	96	427	29	128	5.7	8.5
zip	.110 x .229	2.8 x 5.8	128	569	38	171	10.2	15.2

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Interconnect (Riser) (UL) OFNR c(UL) OFNR FT4

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBC Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
 Installation: -10° to 60°C (14° to 140°F)  
 Operating: -20° to 70°C (-4° to 158°F)

## Features

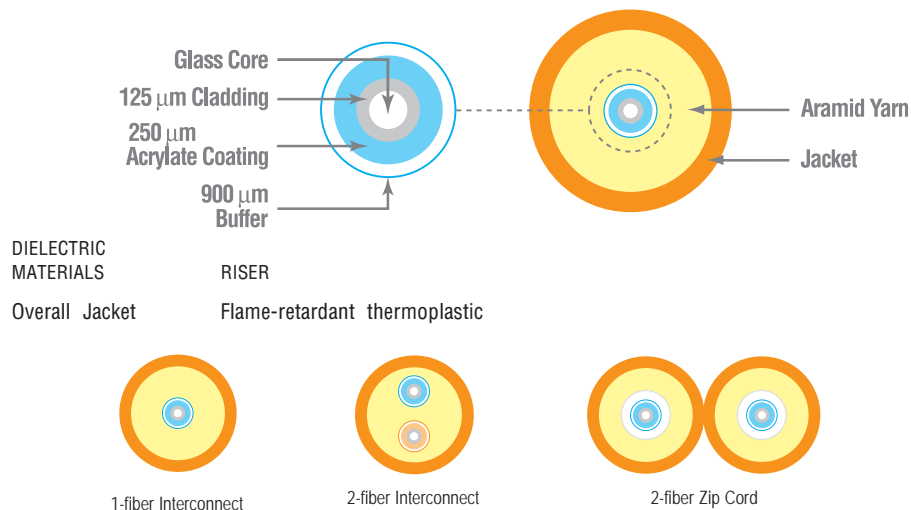


Diagram scale approx. 5:1

## Mechanical Specifications

- Bend radius, no load  
= 10x cable overall diameter
- Bend radius, load  
= 15x cable overall diameter

plus  
**CORNING®**  
 ClearCurve® Optical Fiber

FIBER



# INDOOR Interconnect

1-fiber, 2-fiber and zip

FIBER

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- 900 micron buffered design recommended for easy termination.
- LSZH with OFNR rating enables use in riser-rated environments.
- Halogen free design offers improved safety performance.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Ideal for patch cords, interconnections, and short runs.
- Easy to strip and terminate.
- Lightweight, flexible aramid yarns enhance strength.
- LSZH rating established via HCA material testing to IEC 60332-3-24, IEC 60754-1 & 2 and IEC 61034-2.

### Options

- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Interconnect (LSZH/Riser) Low Smoke Zero Halogen (UL) OFNR c(UL) OFNR FT4

PART NUMBERS BY FIBER COUNT

FIBERS	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
1	62124-1	62125-1	62126-1	62127-1	62727-1	62029-1
1	62129-1	62130-1	62131-1	62132-1	62728-1	62133-1
1	62135-1	62136-1	62137-1	62138-1	62729-1	62139-1
1	62141-1	62142-1	62143-1	62144-1	62730-1	62145-1
2	62124-2	62125-2	62126-2	62127-2	62727-2	62029-2
2	62147-2	62148-2	62149-2	62150-2	62731-2	62151-2
zip	62275-2	61769-2	62276-2	62277-2	62732-2	62274-2
zip	62153-2	62154-2	62155-2	62156-2	62733-2	62157-2

SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS					
FIBERS	CABLE	O.D.	INSTALL		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
1	0.114	2.9	96	427	29	128	4.9	7.3
1	0.094	2.4	64	285	19	85	4.1	6.1
1	0.079	2.0	50	223	15	67	3.5	5.2
1	0.063	1.6	50	223	15	67	1.85	2.8
2	0.114	2.9	96	427	29	128	5.35	8.0
2	0.19	4.8	128	569	38	171	12.9	19.2
zip	.079 x .170	2.0 x 4.3	96	427	29	128	6.2	9.2
zip	.110 x .229	2.8 x 5.8	128	569	38	171	11.5	17.1

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Interconnect (LSZH/Riser) Low Smoke Zero Halogen (UL) OFNR c(UL) OFNR FT4

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

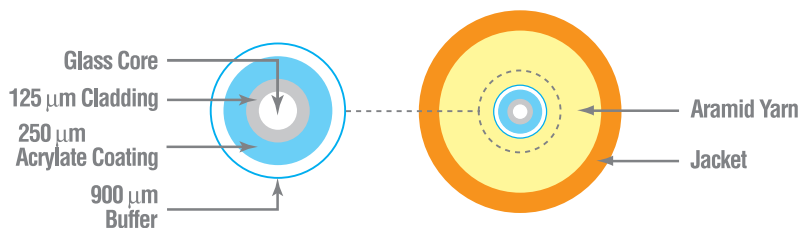
Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
 Installation: -10° to 60°C (14° to 140°F)  
 Operating: -20° to 70°C (-4° to 158°F)

### Features



DIELECTRIC MATERIALS

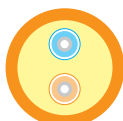
Overall Jacket

LSZH/RISER

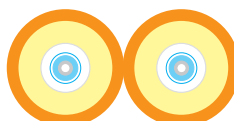
Flame-retardant thermoplastic



1-fiber Interconnect



2-fiber Interconnect



2-fiber Zip Cord

Diagram scale approx. 5:1

### Mechanical Specifications

- Bend radius, no load  
= 10x cable overall diameter
- Bend radius, load  
= 15x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER





# INDOOR Interconnect

1-fiber, 2-fiber and zip

FIBER

## HITACHI Inspire the Next

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- 900 micron buffered design recommended for easy termination.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Ideal for patch cords, interconnections, and short runs.
- Easy to strip and terminate.
- Lightweight, flexible aramid yarns enhance strength.
- Extremely flexible for easy handling.

### Options

- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Interconnect (Plenum) (UL) OFNP c(UL) OFNP FT6

### PART NUMBERS BY FIBER COUNT

FIBERS	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
1	60042-1	60022-1	60472-1	61851-1	62734-1	60044-1
1	60430-1	60468-1	60473-1	61852-1	62735-1	60490-1
1	60431-1	60469-1	60474-1	61853-1	62736-1	60491-1
1	60432-1	60470-1	60475-1	61854-1	62737-1	60492-1
2	60042-2	60022-2	60472-2	61851-2	62734-2	60044-2
2	60024-2	60026-2	60471-2	61855-2	62738-2	60031-2
zip	61379-2	61444-2	61457-2	61986-2	62739-2	61378-2
zip	60023-2	60008-2	60502-2	61857-2	62740-2	60030-2

### SPECIFICATIONS BY FIBER COUNT

FIBERS			RECOMMENDED MAXIMUM LOADS					
	CABLE	O.D.	INSTALL		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
1	0.114	2.9	96	427	29	128	5.6	8.3
1	0.094	2.4	64	285	19	85	4.7	6.9
1	0.079	2.0	50	223	15	67	3.6	5.3
1	0.063	1.6	50	223	15	67	2.0	2.9
2	0.114	2.9	96	427	29	128	6.4	9.5
2	0.190	4.8	128	569	38	171	13.1	19.4
zip	.079 x .170	2.0 x 4.3	96	427	29	128	6.27	9.3
zip	.110 x .229	2.8 x 5.8	128	569	38	171	13.2	19.6

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Interconnect (Plenum) (UL) OFNP c(UL) OFNP FT6

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
 Installation: 0° to 60°C (32° to 140°F)  
 Operating: 0° to 70°C (32° to 158°F)

## Features

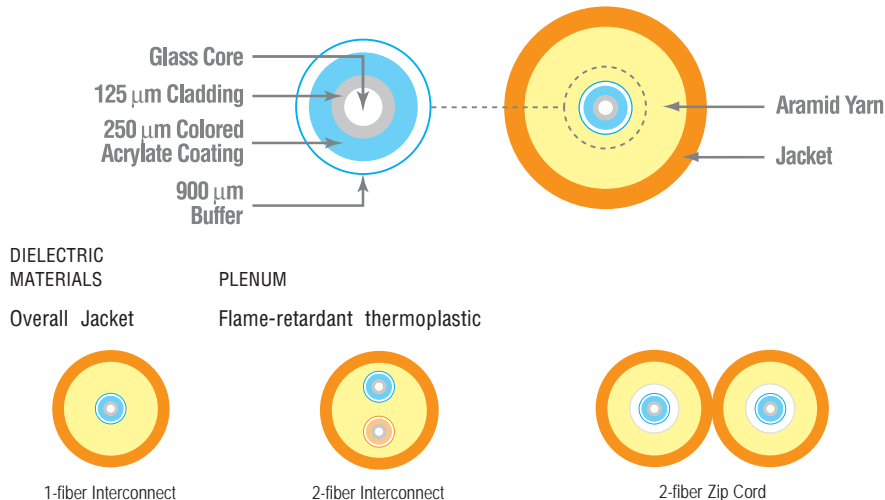


Diagram scale approx. 5:1

## Mechanical Specifications

- Bend radius, no load  
= 10x cable overall diameter
- Bend radius, load  
= 15x cable overall diameter

plus  
**CORNING®**  
 ClearCurve® Optical Fiber

FIBER



# Single-Unit 2 through 24 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- 900 micron buffered design recommended for easy termination.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Each fiber is color coded for easy identification.
- Ideal intra-building cable solution.
- Flexible and easy to handle.
- Lightweight, flexible aramid yarns enhance strength.

### Options

- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Single-Unit (Riser) (UL) OFNR c(UL) OFNR FT4

PART NUMBERS BY FIBER COUNT

FIBERS	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	60514-2	60063-2	60463-2	61842-2	62724-2	60012-2
4	60515-4	60516-4	60520-4	61865-4	62741-4	60014-4
6	60515-6	60516-6	60520-6	61865-6	62741-6	60014-6
8	60515-8	60516-8	60520-8	61865-8	62741-8	60014-8
10	60515-10	60516-10	60520-10	61865-10	62741-10	60014-10
12	60515-12	60516-12	60520-12	61865-12	62741-12	60014-12
24	60515-24	60516-24	60520-24	61865-24	62741-24	60014-24

SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS					
FIBERS	CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
2	.190	4.8	128	569	38	171	11.5	17.1
4	.190	4.8	128	569	38	171	13.0	19.4
6	.190	4.8	128	569	38	171	14.5	21.6
8	.230	5.8	160	712	48	214	18.5	27.6
10	.230	5.8	160	712	48	214	20.0	29.8
12	.230	5.8	160	712	48	214	21.5	32.0
24	.330	8.4	288	1282	86	385	50.3	74.9

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Single-Unit (Riser) (UL) OFNR c(UL) OFNR FT4

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBC Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

## Mechanical Specifications

- Bend radius, no load  
= 10x cable overall diameter
- Bend radius, load  
= 15x cable overall diameter

plus  
**CORNING®**  
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FIBER

## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
 Installation: -10° to 60°C (14° to 140°F)  
 Operating: -20° to 70°C (-4° to 158°F)

## Features

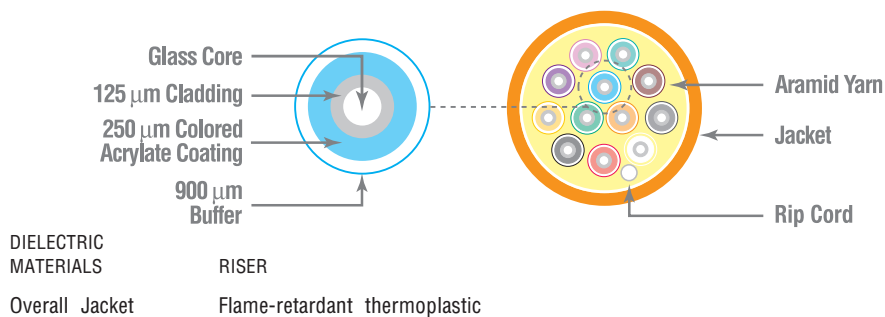


Diagram scale approx. 2:1



# Single-Unit

2 through 24 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- 900 micron buffered design recommended for easy termination.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Each fiber is color coded for easy identification.
- Ideal intra-building cable solution.
- Flexible and easy to handle.
- Lightweight, flexible aramid yarns enhance strength.

### Options

- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Single-Unit (Plenum) (UL) OFNP c(UL) OFNP FT6

PART NUMBERS BY FIBER COUNT

FIBERS	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	60024-2	60026-2	60471-2	61855-2	62738-2	60031-2
4	60517-4	60518-4	60522-4	61868-4	62742-4	60029-4
6	60517-6	60518-6	60522-6	61868-6	62742-6	60029-6
8	60517-8	60518-8	60522-8	61868-8	62742-8	60029-8
10	60517-10	60518-10	60522-10	61868-10	62742-10	60029-10
12	60517-12	60518-12	60522-12	61868-12	62742-12	60029-12
24	60517-24	60518-24	60522-24	61868-24	62742-24	60029-24

SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS					
FIBERS	CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
2	.190	4.8	128	569	38	171	13.3	19.8
4	.190	4.8	128	569	38	171	14.5	21.6
6	.190	4.8	128	569	38	171	15.7	23.4
8	.230	5.8	160	712	48	214	20.9	31.1
10	.230	5.8	160	712	48	214	21.7	32.3
12	.230	5.8	160	712	48	214	23.0	34.3
24	.330	8.4	288	1282	86	385	50.3	74.9

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.



## Single-Unit (Plenum) (UL) OFNP c(UL) OFNP FT6

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

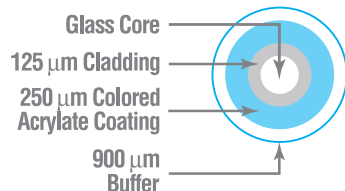
## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: 0° to 60°C (32° to 140°F)

Operating: 0° to 70°C (32° to 158°F)

## Features

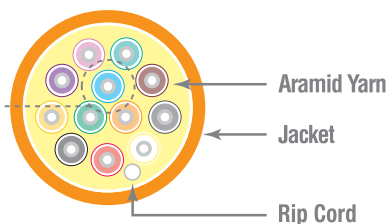


DIELECTRIC MATERIALS

Overall Jacket

PLENUM

Flame-retardant thermoplastic



2-fiber



4-fiber



6-fiber



8-fiber



10-fiber



12-fiber

Diagram scale approx. 2:1

## Mechanical Specifications

- Bend radius, no load  
= 10x cable overall diameter
- Bend radius, load  
= 15x cable overall diameter

plus  
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# Multi-Unit

12 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- 900 micron buffered design recommended for easy termination.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Each fiber is color coded for easy identification.
- Compact distribution design.
- Ideal intra-building, multi-floor cable solution.
- Lightweight, flexible aramid yarns enhance strength.

### Options

- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Multi-Unit (Riser) (UL) OFNR c(UL) OFNR FT4

### PART NUMBERS BY FIBER COUNT

FIBERS	FIBERS/TUBE	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
18	6	60567-18	60595-18	60581-18	61872-18	62743-18	60633-18
24	6	60567-24	60595-24	60581-24	61872-24	62743-24	60633-24
36	6	60567-36	60595-36	60581-36	61872-36	62743-36	60633-36
48	6	60567-48	60595-48	60581-48	61872-48	62743-48	60633-48
72	6	60567-72	60595-72	60581-72	61872-72	62743-72	60633-72
36	12	60006-36	60009-36	60613-36	61874-36	62744-36	60015-36
48	12	60006-48	60009-48	60613-48	61874-48	62744-48	60015-48
60	12	60006-60	60009-60	60613-60	61874-60	62744-60	60015-60
72	12	60006-72	60009-72	60613-72	61874-72	62744-72	60015-72
96	12	60006-96	60009-96	60613-96	61874-96	62744-96	60015-96
144	12	60006-144	60009-144	60613-144	61874-144	62744-144	60015-144

### SPECIFICATIONS BY FIBER COUNT

FIBERS	FIBERS/TUBE	TUBE LAYOUT	CABLE		RECOMMENDED MAXIMUM LOADS				CABLE WEIGHT	
			O.D.		INSTALL		OPERATION			
			in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
18	6	3xC5M	.499	12.6	384	1709	115	513	75.0	111.8
24	6	4xC5M	.538	13.6	512	2279	154	684	93.0	138.6
36	6	6xC5M	.650	16.5	768	3418	230	1025	143.0	213.1
48	6	8xC5M	.792	20.1	1024	4557	307	1367	222.0	330.8
72	6	9x3xC5M	.903	22.9	1536	6837	461	2051	241.0	359.1
36	12	3xC5M	.579	14.7	480	2136	144	641	106.0	157.9
48	12	4xC5M	.634	16.1	640	2848	192	854	134.0	199.7
60	12	5xC5M	.701	17.8	800	3561	240	1068	169.0	251.8
72	12	6xC5M	.770	19.5	960	4272	288	1282	208.0	309.9
96	12	8xC5M	.937	23.8	1280	5697	384	1709	321.0	478.3
144	12	9x3xC5M	1.06	26.9	1920	8545	576	2564	355.0	529.0

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Multi-Unit (Riser) (UL) OFNR c(UL) OFNR FT4

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

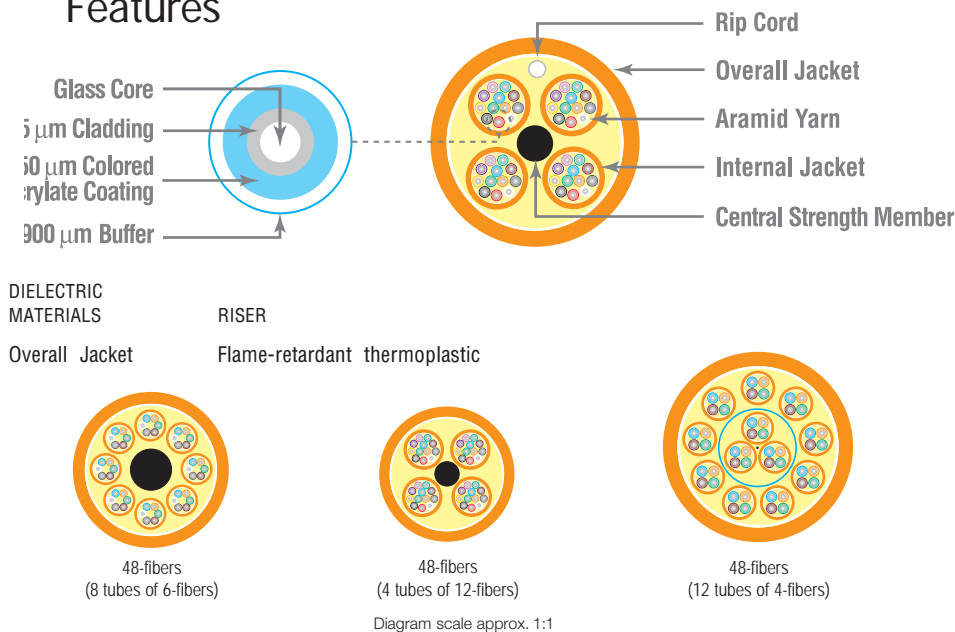
## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: -10° to 60°C (14° to 140°F)

Operating: -20° to 70°C (-4° to 158°F)

## Features



## Mechanical Specifications

- Bend radius, no load = 10x cable overall diameter
- Bend radius, load = 15x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER



# Multi-Unit

12 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- 900 micron buffered design recommended for easy termination.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Each fiber is color coded for easy identification.
- Compact distribution design.
- Ideal intra-building, multi-floor cable solution.
- Lightweight, flexible aramid yarns enhance strength.

### Options

- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation..

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Multi-Unit (Plenum) (UL) OFNP c(UL) OFNP FT6

### PART NUMBERS BY FIBER COUNT

FIBERS	FIBERS/TUBE	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
18	6	60258-18	60596-18	60598-18	61877-18	62745-18	60634-18
24	6	60258-24	60596-24	60598-24	61877-24	62745-24	60634-24
36	6	60258-36	60596-36	60598-36	61877-36	62745-36	60634-36
48	6	60258-48	60596-48	60598-48	61877-48	62745-48	60634-48
72	6	60258-72	60596-72	60598-72	61877-72	62745-72	60634-72
36	12	60027-36	60028-36	60614-36	61879-36	62746-36	60033-36
48	12	60027-48	60028-48	60614-48	61879-48	62746-48	60033-48
60	12	60027-60	60028-60	60614-60	61879-60	62746-60	60033-60
72	12	60027-72	60028-72	60614-72	61879-72	62746-72	60033-72
96	12	60027-96	60028-96	60614-96	61879-96	62746-96	60033-96
144	12	60027-144	60028-144	60614-144	61879-144	62746-144	60033-144

### SPECIFICATIONS BY FIBER COUNT

FIBERS	FIBERS/TUBE	TUBE LAYOUT	CABLE O.D.		RECOMMENDED MAXIMUM LOADS				CABLE WEIGHT	
			in.	mm	INSTALL		OPERATION		lbs/1000 ft	kg/1000m
					lbs-f	N	lbs-f	N		
18	6	3xC5M	.479	12.1	384	1709	115	513	77.0	114.7
24	6	4xC5M	.518	13.1	512	2279	154	684	97.0	144.5
36	6	6xC5M	.630	16.0	768	3418	230	1025	148.0	220.5
48	6	8xC5M	.792	20.1	1024	4557	307	1367	253.0	377.0
72	6	9x3xC5M	.903	22.9	1536	6837	461	2051	280.0	417.2
36	12	3xC5M	.559	14.1	480	2136	144	641	109.0	162.4
48	12	4xC5M	.614	15.5	640	2848	192	854	139.0	207.1
60	12	5xC5M	.681	17.2	800	3561	240	1068	175.0	260.8
72	12	6xC5M	.750	19.0	960	4272	288	1282	216.0	321.8
96	12	8xC5M	.937	23.7	1280	5697	384	1709	360.0	536.4
144	12	9x3xC5M	1.06	26.9	1920	8545	576	2564	404.0	602.0

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Multi-Unit (Plenum) (UL) OFNP c(UL) OFNP FT6

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

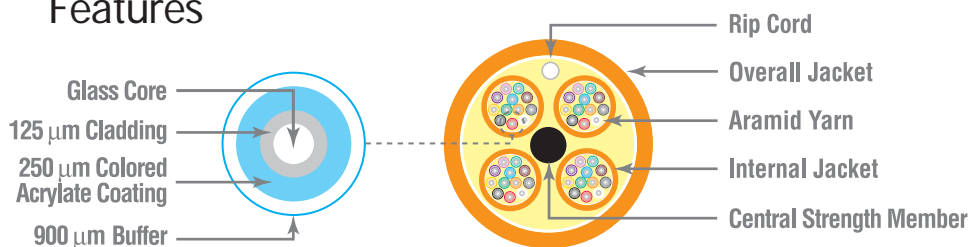
## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: 0° to 60°C (32° to 140°F)

Operating: 0° to 70°C (32° to 158°F)

## Features



DIELECTRIC MATERIALS

Overall Jacket

PLENUM

Flame-retardant thermoplastic

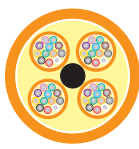
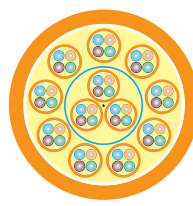
48-fibers  
(8 tubes of 6-fibers)48-fibers  
(4 tubes of 12-fibers)48-fibers  
(12 tubes of 4-fibers)

Diagram scale approx. 1:1

## Mechanical Specifications

- Bend radius, no load  
= 10x cable overall diameter
- Bend radius, load  
= 15x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER



# NanoCore®

2 Through 24 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- 250 micron loose tube design allows for higher fiber strand counts in a smaller overall diameter cable.
- LSHF with (OFNR) rating enables use in riser-rated environments. See note under part number table.
- Halogen free design offers improved safety performance.
- Ideal for MPO (MTP™) style connectors.
- Each fiber is color coded for easy identification.
- Flexible and easy to handle.
- Lightweight, flexible Aramid yarns enhance strength.
- When necessary, color-coded binders separate fiber strands into bundles of 12.

### Options

- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- 16 Fiber colors are available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security and Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE
- OS2 glass is compliant to ITU-T G.657.A1

## NanoCore® Interconnect (Single Unit) Micro Distribution (LSHF/Riser) Low Smoke No Halogens (UL) OFNR c(UL) OFNR FT4

PART NUMBERS BY FIBER COUNT

FIBERS	Cable OD mm	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM4+	50 UM OM5	8.3 UM OS2
2	2.0	62424-2	62425-2	62426-2	62427-2	62428-2	62747-2	62429-2
2	3.0	62338-2	61631-2	61632-2	61941-2	62438-2	62748-2	61772-2
4	2.0	62424-4	62425-4	62426-4	62427-4	62428-4	62747-4	62429-4
4	3.0	62338-4	61631-4	61632-4	61941-4	62438-4	62748-4	61772-4
6	2.0	62424-6	62425-6	62426-6	62427-6	62428-6	62747-6	62429-6
6	3.0	62338-6	61631-6	61632-6	61941-6	62438-6	62748-6	61772-6
12	2.0	62424-12	62425-12	62426-12	62427-12	62428-12	62747-12	62429-12
12	3.0	62338-12	61631-12	61632-12	61941-12	62438-12	62748-12	61772-12
24	3.0	62424-24	62425-24	62426-24	62427-24	62428-24	62747-24	62429-24

LSHF (Low Smoke Halogen Free) is a new flame rating developed by Underwriters Laboratories (UL). It identifies the cable as being low smoke while also containing zero halogens.

SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS							
FIBERS	CABLE OD		INSTALL		OPERATION		COMPRESSION	IMPACT	CABLE WEIGHT	
	in.	mm	lbs	N	lbs	N	N/cm	N-m	lbs/kft	Kg/Km
2	0.078	2.0	50	222	15	67	35	0.74	2.5	3.7
2	0.118	3.0	100	445	30	134	100	2.94	4.8	7.2
4	0.078	2.0	50	222	15	67	35	0.74	2.6	3.8
4	0.118	3.0	100	445	30	134	100	2.94	4.9	7.4
6	0.078	2.0	50	222	15	67	35	0.74	2.7	4.0
6	0.118	3.0	100	445	30	134	100	2.94	5.0	7.5
12	0.078	2.0	50	222	15	67	35	0.74	3.0	4.4
12	0.118	3.0	100	445	30	134	100	2.94	5.3	7.9
24	0.118	3.0	150	668	45	200	100	0.74	5.9	8.8

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.



# Micro Distribution

Multimode and Singlemode

## NanoCore® Interconnect (Single Unit)

### Micro Distribution (LSHF/Riser)

Low Smoke No Halogens  
(UL) OFNR c(UL) OFNR FT4

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	2.8	1.0	700	500	950	N/A	750	550	150	N/A
OM3	2.8	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM4+	2.8	1.0	3500	500	5350	N/A	N/A	N/A	600	N/A
OM5*	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

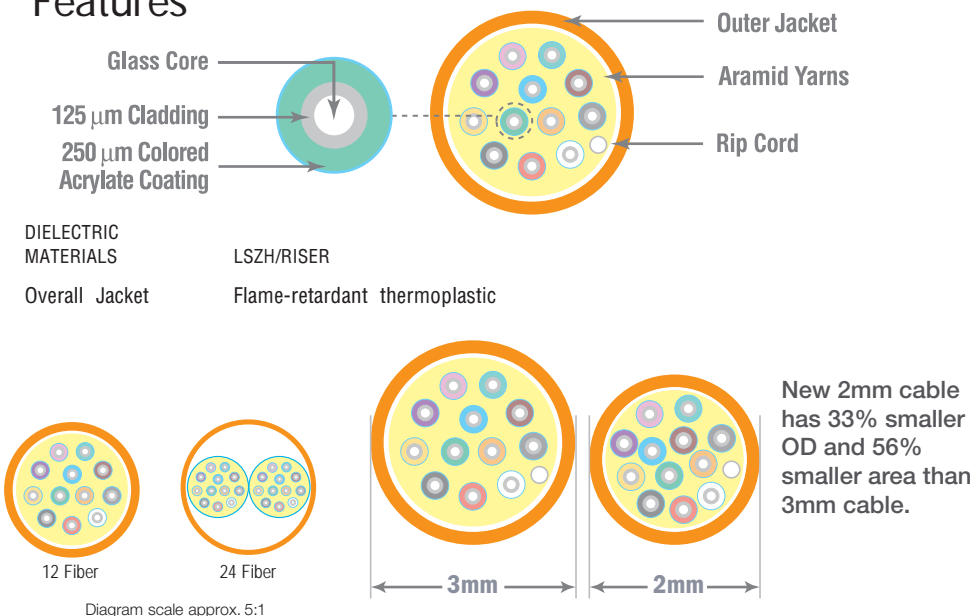
Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
Installation: -10° to 60°C (14° to 140°F)  
Operating: -20° to 70°C (-4° to 158°F)

## Features



## Mechanical Specifications

- Bend radius, no load  
= 10x cable overall diameter
- Bend radius, load  
= 15x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER



# NanoCore®

2 Through 24 fibers

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## Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- 250 micron loose tube design allows for higher fiber strand counts in a smaller overall diameter cable.
- Ideal for MPO (MTP™) style connectors.
- Each fiber is color coded for easy identification.
- Flexible and easy to handle.
- Lightweight, flexible Aramid yarns enhance strength.
- Now available with a smaller outside diameter.
- When necessary, color-coded binders separate fiber strands into bundles of 12.

## Options

- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- 16 Fiber colors are available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Wideband multimode fiber is available.

## Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security and Automation.

## Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE
- OS2 glass is compliant to ITU-T G.657.A1

## NanoCore® Interconnect (Single Unit) Micro Distribution (Plenum) (UL) OFNP c(UL) OFNP FT6

PART NUMBERS BY FIBER COUNT

FIBERS	Cable OD mm	FIBERS/ TUBE (ZIP)	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM4+	50 UM OM5	8.3 UM OS2
2	2.0	-	62241-2	62242-2	62243-2	62244-2	62412-2	62749-2	62239-2
2	3.0	-	61537-2	61506-2	61507-2	61883-2	62411-2	62750-2	61538-2
4	2.0	-	62241-4	62242-4	62243-4	62244-4	62412-4	62749-4	62239-4
4	3.0	-	61537-4	61506-4	61507-4	61883-4	62411-4	62750-4	61538-4
6	2.0	-	62241-6	62242-6	62243-6	62244-6	62412-6	62749-6	62239-6
6	3.0	-	61537-6	61506-6	61507-6	61883-6	62411-6	62750-6	61538-6
12	2.0	-	62241-12	62242-12	62243-12	62244-12	62412-12	62749-12	62239-12
12	3.0	-	61537-12	61506-12	61507-12	61883-12	62411-12	62750-12	61538-12
12	3.8	-	62372-12	62373-12	62374-12	62375-12	62382-12	62751-12	62371-12
24	3.0	-	62241-24	62242-24	62243-24	62244-24	62412-24	62749-24	62239-24
24	3.8	-	62372-24	62373-24	62374-24	62375-24	62382-24	62751-24	62371-24
24	4.5	-	61537-24	61506-24	61507-24	61883-24	62411-24	62750-24	61538-24
12	3.0 x 6.47	6	62753-12	61546-12	61539-12	61882-12	62430-12	62752-12	61547-12
24	3.0 x 6.47	12	62753-24	61546-24	61539-24	61882-24	62430-24	62752-24	61547-24

SPECIFICATIONS BY FIBER COUNT

FIBERS	FIBERS/ TUBE	RECOMMENDED MAXIMUM LOADS									
		CABLE OD		INSTALL		OPERATION		COMPRESSION	IMPACT	CABLE WEIGHT	
		in.	mm	lbs	N	lbs	N	N/cm	N-m	lbs/kft	Kg/Km
2	-	0.078	2.0	50	222	15	67	35	0.74	2.5	3.7
2	-	0.118	3.0	100	445	30	134	100	0.74	5.5	8.2
4	-	0.078	2.0	50	222	15	67	35	0.74	2.6	3.8
4	-	0.118	3.0	100	445	30	134	100	0.74	5.6	8.3
6	-	0.078	2.0	50	222	15	67	35	0.74	2.7	4.0
6	-	0.118	3.0	100	445	30	134	100	0.74	5.6	8.3
12	-	0.078	2.0	50	222	15	67	35	0.74	2.9	4.4
12	-	0.118	3.0	100	445	30	134	100	0.74	5.9	8.8
12	-	0.150	3.8	150	668	45	200	35	2.94	9.1	13.6
24	-	0.118	3.0	150	668	45	200	100	0.74	5.7	8.5
24	-	0.150	3.8	150	668	45	200	35	2.94	9.7	14.5
24	-	0.177	4.5	150	668	45	200	100	2.94	13.1	19.5
12	6	.118 x .255	3.0 x 6.47	128	569	38	171	100	2.94	11.3	16.8
24	12	.118 x .255	3.0 x 6.47	128	569	38	171	100	2.94	11.4	17.0

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

# Micro Distribution

Multimode and Singlemode

## NanoCore® Interconnect (Single Unit) Micro Distribution (Plenum) (UL) OFNP c(UL) OFNP FT6

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	2.8	1.0	700	500	950	N/A	750	550	150	N/A
OM3	2.8	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM4+	2.8	1.0	3500	500	5350	N/A	N/A	N/A	600	N/A
OM5*	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

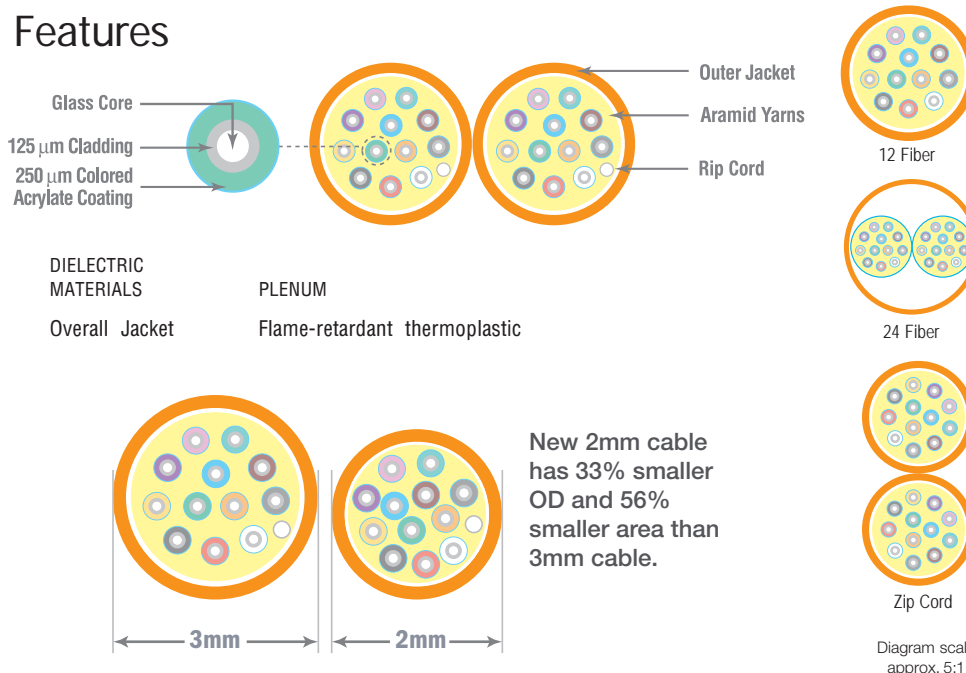
Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
Installation: 0° to 60°C (32° to 140°F)  
Operating: 0° to 70°C (32° to 158°F)

### Features



### Mechanical Specifications

- Bend radius, no load = 10x cable overall diameter
- Bend radius, load = 15x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER



# NanoCore®

24 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Small, lightweight construction suitable for installations where space is at a premium.
- Ideal for MPO (MTP™) style connectors.
- Each fiber is color coded for easy identification.
- Flexible and easy to handle.
- OFNR rating provided by UL.
- LSHF (Low Smoke Halogen Free) rating provided by UL. LSHF testing includes IEC 61034-2 (UL), IEC 60754 1 & 2 (UL).
- Additional IEC test 60332-3-24 performed by HCA to ensure performance to industry standards.

### Options

- 8 fibers per tube available for cables up to 96 strands.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- 16 Fiber colors are available.
- Enhanced bend insensitive OS2 optical fiber is available (ITU-T G.657.B3 & G.657.A2).
- Wideband multimode fiber is available.

### Applications

- Ideal for high-density installations like data centers, central offices and overall premise applications where current or future data rates include 40 and 100 gigabits per second.
- For additional applications, visit the HCA website.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE
- OS2 glass is compliant to ITU-T G.657.A1

## NanoCore® Multi-Unit Micro Distribution (LSHF/Riser)

Low Smoke Halogen Free & Riser Rated  
(UL) OFNR c(UL) OFNR FT4 (UL) LSHF

### PART NUMBERS BY FIBER COUNT

FIBER COUNT	FIBERS/TUBE	TUBE LAYOUT	TUBE OD mm	CABLE OD mm	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM4+	50 UM OM5	8.3 UM OS2
24	12	2+2FxCSM	2.0	8.0	62337-24	62323-24	62295-24	62296-24	62755-24	62754-24	62294-24
24	12	2+2FxCSM	3.0	10.1	62641-24	62642-24	62643-24	62644-24	62645-24	62646-24	62647-24
36	12	3+1FxCSM	2.0	8.0	62337-36	62323-36	62295-36	62296-36	62755-36	62754-36	62294-36
36	12	3+1FxCSM	3.0	10.1	62641-36	62642-36	62643-36	62644-36	62645-36	62646-36	62647-36
48	12	4xCSM	2.0	8.0	62337-48	62323-48	62295-48	62296-48	62755-48	62754-48	62294-48
48	12	4xCSM	3.0	10.1	62641-48	62642-48	62643-48	62644-48	62645-48	62646-48	62647-48
72	12	6xCSM	2.0	8.8	62337-72	62323-72	62295-72	62296-72	62755-72	62754-72	62294-72
72	12	6xCSM	3.0	11.5	62641-72	62642-72	62643-72	62644-72	62645-72	62646-72	62647-72
96	12	8xCSM	2.0	9.9	62337-96	62323-96	62295-96	62296-96	62755-96	62754-96	62294-96
96	12	8xCSM	3.0	13.2	62641-96	62642-96	62643-96	62644-96	62645-96	62646-96	62647-96
144	12	9x3xCSM	2.0	11.2	62337-144	62323-144	62295-144	62296-144	62755-144	62754-144	62294-144
144	12	9x3xCSM	3.0	15.3	62641-144	62642-144	62643-144	62644-144	62645-144	62646-144	62647-144

### SPECIFICATIONS BY FIBER COUNT

FIBER COUNT	FIBERS/TUBE	TUBE LAYOUT	RECOMMENDED MAXIMUM LOADS									
			TUBE OD		CABLE OD		INSTALL		OPERATION		CABLE WEIGHT	
			in.	mm	in.	mm	lbs	N	lbs	N	lbs/kft	Kg/Km
24	12	2+2FxCSM	0.079	2.0	0.315	8.0	300	1335	90	401	36.8	54.8
24	12	2+2FxCSM	0.118	3.0	0.399	10.1	300	1335	90	401	54.2	80.7
36	12	3+1FxCSM	0.079	2.0	0.315	8.0	300	1335	90	401	37.4	55.7
36	12	3+1FxCSM	0.118	3.0	0.399	10.1	300	1335	90	401	54.9	81.7
48	12	4xCSM	0.079	2.0	0.315	8.0	300	1335	90	401	38.0	56.6
48	12	4xCSM	0.118	3.0	0.399	10.1	300	1335	90	401	55.5	82.6
72	12	6xCSM	0.079	2.0	0.346	8.8	300	1335	90	401	47.5	70.7
72	12	6xCSM	0.118	3.0	0.451	11.5	300	1335	90	401	73.7	109.7
96	12	8xCSM	0.079	2.0	0.388	9.9	300	1335	90	401	65.1	96.9
96	12	8xCSM	0.118	3.0	0.521	13.2	300	1335	90	401	92.5	137.7
144	12	9x3xCSM	0.079	2.0	0.440	11.2	300	1335	90	401	64.6	96.1
144	12	9x3xCSM	0.118	3.0	0.604	15.3	300	1335	90	401	101.7	151.4

### Cable Characteristics

F = Filler

CSM = Central Strength Member.

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

LSHF (Low Smoke Halogen Free) is a new flame rating developed by Underwriters Laboratories (UL). It identifies the cable as being low smoke while also containing zero halogens.

# Micro Distribution

Multimode and Singlemode

## NanoCore® Multi-Unit Micro Distribution (LSHF/Riser) Low Smoke Halogen Free & Riser Rated (UL) OFNR c(UL) OFNR FT4 (UL) LSHF

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	2.8	1.0	700	500	950	N/A	750	550	150	N/A
OM3	2.8	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

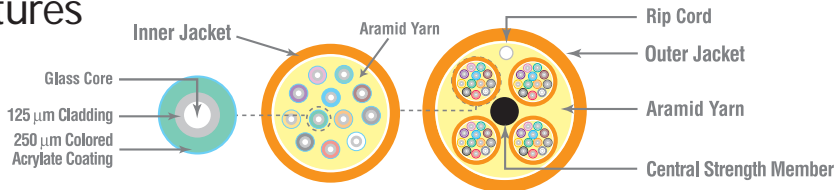
Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40°F to 158°F)  
Installation: -10° to 60°C (14°F to 140°F)  
Operating: -20° to 70°C (-4°F to 158°F)

### Features

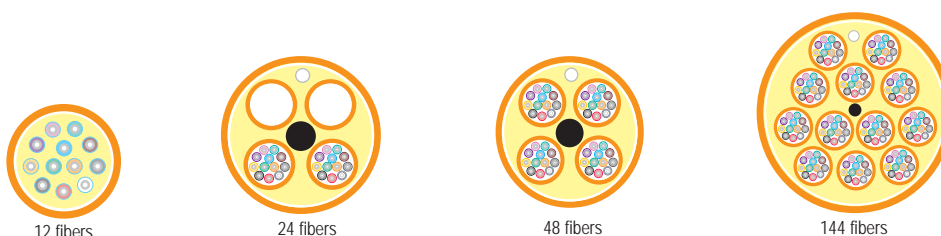


DIELECTRIC MATERIALS

Overall Jacket

LSHF/RISER

Flame-retardant thermoplastic



### Mechanical Specifications

- Bend radius, no load = 10x cable overall diameter
- Bend radius, load = 15x cable overall diameter
- Compliant to TIA 568-C.3, ISO/IEC 11801 & Telcordia GR-409

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER





# NanoCore®

24 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Small, lightweight construction suitable for installations where space is at a premium.
- Ideal for MPO (MTP™) style connectors.
- Each fiber is color coded for easy identification.
- Flexible and easy to handle.

### Options

- 8 fibers per tube available for cables up to 96 strands.
- 16 fibers per tube and 24 fibers per tube up to 144 Fiber.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- 16 Fiber colors are available.
- Enhanced bend insensitive OS2 optical fiber is available (ITU-T G.657.B3).

### Applications

- Ideal for high-density installations like data centers, central offices and overall premise applications where current or future data rates include 40 and 100 gigabits per second.
- For additional applications, visit the HCA website.
- OM5 now available for applications utilizing Short Wave Division Multiplexing (SWDM).

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE
- OS2 glass is compliant to ITU-T G.657.A1

## NanoCore® Multi-Unit Micro Distribution (Plenum) (UL) OFNP c(UL) OFNP FT6

PART NUMBERS BY FIBER COUNT

FIBER COUNT	FIBERS PER TUBE	TUBE LAYOUT	TUBE OD mm	CABLE OD mm	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM4+	50 UM OM5	8.3 UM OS2
24	12	2+2FxCSM	2.0	6.4	62220-24	62214-24	62216-24	62218-24	62413-24	62668-24	62205-24
24	12	2+2FxCSM	3.0	9.1	62593-24	62594-24	62595-24	62596-24	62597-24	62650-24	62598-24
36	12	3+1FxCSM	2.0	6.4	62220-36	62214-36	62216-36	62218-36	62413-36	62668-36	62205-36
36	12	3+1FxCSM	3.0	9.1	62593-36	62594-36	62595-36	62596-36	62597-36	62650-36	62598-36
48	12	4xCSM	2.0	6.4	62220-48	62214-48	62216-48	62218-48	62413-48	62668-48	62205-48
48	12	4xCSM	3.0	9.1	62593-48	62594-48	62595-48	62596-48	62597-48	62650-48	62598-48
72	12	6xCSM	2.0	7.5	62220-72	62214-72	62216-72	62218-72	62413-72	62668-72	62205-72
72	12	6xCSM	3.0	10.4	62593-72	62594-72	62595-72	62596-72	62597-72	62650-72	62598-72
96	12	8xCSM	2.0	8.7	62220-96	62214-96	62216-96	62218-96	62413-96	62668-96	62205-96
96	12	8xCSM	3.0	12.2	62593-96	62594-96	62595-96	62596-96	62597-96	62650-96	62598-96
144	12	9x3xCSM	2.0	9.9	62220-144	62214-144	62216-144	62218-144	62413-144	62668-144	62205-144
144	12	9x3xCSM	3.0	14.4	62593-144	62594-144	62595-144	62596-144	62597-144	62650-144	62598-144

SPECIFICATIONS BY FIBER COUNT

FIBER COUNT	FIBERS/TUBE	TUBE LAYOUT	TUBE OD		CABLE OD		RECOMMENDED MAXIMUM LOADS				CABLE WEIGHT	
			in.	mm	in.	mm	INSTALL		OPERATION		lbs/kft	kg/km
24	12	2+2FxCSM	0.079	2.0	0.251	6.4	150	668	45	200	25.45	37.9
24	12	2+2FxCSM	0.118	3.0	0.357	9.1	150	667.6	45	200.3	43.45	64.7
36	12	3+1FxCSM	0.079	2.0	0.251	6.4	150	668	45	200	26.03	38.7
36	12	3+1FxCSM	0.118	3.0	0.357	9.1	150	667.6	45	200.3	43.98	65.5
48	12	4xCSM	0.079	2.0	0.251	6.4	150	668	45	200	26.61	39.6
48	12	4xCSM	0.118	3.0	0.357	9.1	150	667.6	45	200.3	44.51	66.3
72	12	6xCSM	0.079	2.0	0.295	7.5	150	668	45	200	36.0	53.6
72	12	6xCSM	0.118	3.0	0.411	10.4	150	667.6	45	200.3	63.61	94.7
96	12	8xCSM	0.079	2.0	0.344	8.7	150	668	45	200	48.5	72.2
96	12	8xCSM	0.118	3.0	0.482	12.2	150	667.6	45	200.3	89.95	133.9
144	12	9x3xCSM	0.079	2.0	0.390	9.9	150	668	45	200	54.1	80.5
144	12	9x3xCSM	0.118	3.0	0.568	14.4	150	667.6	45	200.3	95.26	141.8

### Cable Characteristics

F = Filler  
CSM = Central Strength Member.

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.



# Micro Distribution

Multimode and Singlemode

## NanoCore® Multi-Unit Micro Distribution (Plenum) (UL) OFNP c(UL) OFNP FT6

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	2.8	1.0	700	500	950	N/A	750	550	150	N/A
OM3	2.8	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM4+	2.8	1.0	3500	500	5350	N/A	N/A	N/A	600	N/A
OM5*	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

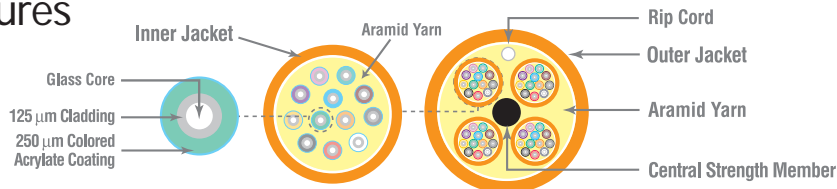
Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
Installation: 0° to 60°C (32° to 140°F)  
Operating: 0° to 70°C (32° to 158°F)

### Features



DIELECTRIC MATERIALS

Overall Jacket

PLENUM

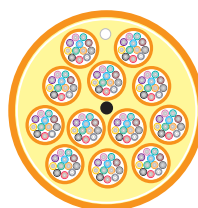
Flame-retardant thermoplastic



24 fibers



48 fibers



144 fibers

### Mechanical Specifications

- Bend radius, no load = 10x cable overall diameter
- Bend radius, load = 15x cable overall diameter
- Compliant to TIA 568-C.3, ISO/IEC 11801 & Telcordia GR-409

plus  
**CORNING®**  
ClearCurve® Optical Fiber



FIBER

# NanoCore® Armored

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Eliminates need for inner duct or conduit.
- Ideal for MPO (MTP™) style connectors.
- Aluminum interlock armor.
- Each fiber is color coded for easy identification.
- Flexible and easy to handle.
- Low Smoke Zero Halogen and Riser rating delivers improved environmental characteristics.

### Options

- 8 fibers per tube available for cables up to 96 strands.
- 16 fibers per tube and 24 fibers per tube up to 144 Fiber.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- 16 Fiber colors are available.
- OM4 (OM4+) optical fibers with extended 10 gigabit Ethernet distances are available.
- Enhanced bend insensitive OS2 optical fiber is available (ITU-T G.657.B3).

### Applications

- Ideal for high-density installations like data centers, central offices and overall premise applications where current or future data rates include 40 and 100 gigabits per second.
- OM5 now available for applications utilizing Short Wave Division Multiplexing (SWDM).

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE
- OS2 glass is compliant to ITU-T G.657.A1

## Armored NanoCore® Micro Distribution Multi-Unit (LSZH/Riser)

Low Smoke No Halogens (UL) OFNR c(UL) OFNR FT4

### PART NUMBERS BY FIBER COUNT

FIBER COUNT	FIBERS PER TUBE	TUBE LAYOUT	TUBE OD mm	CABLE OD mm	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM4+	50 UM OM5	8.3 UM OS2
12	12	1+3FxCSM	2.0	16.1	62353-12	62354-12	62355-12	62356-12	62820-12	62821-12	62352-12
12	12	1+3FxCSM	3.0	18.2	62651-12	62652-12	62653-12	62654-12	62655-12	62656-12	62657-12
24	12	2+2FxCSM	2.0	16.1	62353-24	62354-24	62355-24	62356-24	62820-24	62821-24	62352-24
24	12	2+2FxCSM	3.0	18.2	62651-24	62652-24	62653-24	62654-24	62655-24	62656-24	62657-24
36	12	3+1FxCSM	2.0	16.1	62353-36	62354-36	62355-36	62356-36	62820-36	62821-36	62352-36
36	12	3+1FxCSM	3.0	18.2	62651-36	62652-36	62653-36	62654-36	62655-36	62656-36	62657-36
48	12	4xCSM	2.0	16.1	62353-48	62354-48	62355-48	62356-48	62820-48	62821-48	62352-48
48	12	4xCSM	3.0	18.2	62651-48	62652-48	62653-48	62654-48	62655-48	62656-48	62657-48
72	12	6xCSM	2.0	17.1	62353-72	62354-72	62355-72	62356-72	62820-72	62821-72	62352-72
72	12	6xCSM	3.0	19.8	62651-72	62652-72	62653-72	62654-72	62655-72	62656-72	62657-72
96	12	8xCSM	2.0	18.2	62353-96	62354-96	62355-96	62356-96	62820-96	62821-96	62352-96
96	12	8xCSM	3.0	21.2	62651-96	62652-96	62653-96	62654-96	62655-96	62656-96	62657-96
144	12	9x3xCSM	2.0	19.8	62353-144	62354-144	62355-144	62356-144	62820-144	62821-144	62352-144
144	12	9x3xCSM	3.0	24.4	62651-144	62652-144	62653-144	62654-144	62655-144	62656-144	62657-144

### SPECIFICATIONS BY FIBER COUNT

FIBER COUNT	FIBERS/TUBE	TUBE LAYOUT	RECOMMENDED MAXIMUM LOADS									
			TUBE OD		CABLE OD		INSTALL		OPERATION		CABLE WEIGHT	
			in.	mm	in.	mm	lbs	N	lbs	N	lbs/kft	kg/km
12	12	1+3FxCSM	0.079	2.0	0.635	16.1	300	1335	90	401	142.5	212.1
12	12	1+3FxCSM	0.118	3.0	0.715	18.2	300	1335	90	401	169.2	251.9
24	12	2+2FxCSM	0.079	2.0	0.635	16.1	300	1335	90	401	142.5	212.1
24	12	2+2FxCSM	0.118	3.0	0.715	18.2	300	1335	90	401	169.2	251.9
36	12	3+1FxCSM	0.079	2.0	0.635	16.1	300	1335	90	401	143.1	213.0
36	12	3+1FxCSM	0.118	3.0	0.715	18.2	300	1335	90	401	169.9	252.9
48	12	4xCSM	0.079	2.0	0.635	16.1	300	1335	90	401	143.7	213.9
48	12	4xCSM	0.118	3.0	0.715	18.2	300	1335	90	401	170.5	253.8
72	12	6xCSM	0.079	2.0	0.675	17.1	300	1335	90	401	161.3	240.2
72	12	6xCSM	0.118	3.0	0.780	19.8	300	1335	90	401	200.4	298.3
96	12	8xCSM	0.079	2.0	0.715	18.2	300	1335	90	401	187.1	278.5
96	12	8xCSM	0.118	3.0	0.835	21.2	300	1335	90	401	232.3	345.8
144	12	9x3xCSM	0.079	2.0	0.780	19.8	300	1335	90	401	199.9	297.6
144	12	9x3xCSM	0.118	3.0	0.960	24.4	300	1335	90	401	261.9	389.9

### Cable Characteristics

F = Filler  
CSM = Central Strength Member.

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

# Micro Distribution

Multimode and Singlemode

## Armored NanoCore® Micro Distribution Multi-Unit (LSZH/Riser)

Low Smoke No Halogens (UL) OFNR c(UL) OFNR FT4

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	2.8	1.0	700	500	950	N/A	750	550	150	N/A
OM3	2.8	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM4+	2.8	1.0	3500	500	5350	N/A	N/A	N/A	600	N/A
OM5*	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

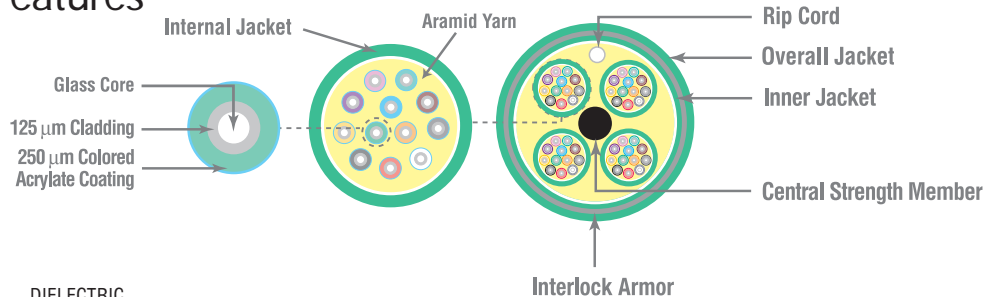
### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: 0° to 60°C (32° to 140°F)

Operating: 0° to 70°C (32° to 158°F)

### Features

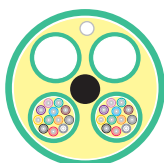


DIELECTRIC MATERIALS

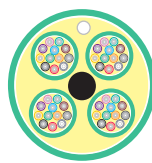
Overall Jacket

LSZH/RISER

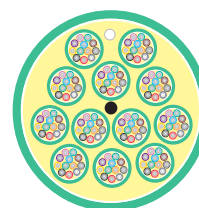
Flame-retardant thermoplastic



24 fibers



48 fibers



144 fibers

### Mechanical Specifications

- Bend radius, no load = 15x cable overall diameter
- Bend radius, load = 20x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber



FIBER

# NanoCore® Armored

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## Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Eliminates need for inner duct or conduit.
- Ideal for MPO (MTP™) style connectors.
- Aluminum interlock armor.
- Each fiber is color coded for easy identification.
- Flexible and easy to handle.

## Options

- Riser/LSZH cables available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Erika Violet for OM4 is available*
- 16 Fiber colors are available.
- OM4 (OM4+) optical fibers with extended 10 gigabit Ethernet distances are available.
- Enhanced bend insensitive OS2 optical fiber is available (ITU-T G.657.B3).
- Wideband multimode fiber is available.

## Applications

- Ideal for high-density installations like data centers, central offices and overall premise applications where current or future data rates include 40 and 100 gigabits per second.
- For additional applications, visit the HCA website.

## Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE
- OS2 glass is compliant to ITU-T G.657.A1

## Armored NanoCore® Micro Distribution (Plenum) (UL) OFCP c(UL) OFCP FT6

### PART NUMBERS BY FIBER COUNT

FIBER COUNT	FIBERS PER TUBE	TUBE LAYOUT	TUBE OD mm	CABLE OD mm	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
12	12	2+2FxCSM	2.0	14.8	62285-12	62286-12	62251-212	62257-12	62756-12	62255-12
12	12	2+2FxCSM	3.0	17.4	62632-12	62633-12	62634-12	62635-12	62637-12	62638-12
24	12	2+2FxCSM	2.0	14.8	62285-24	62286-24	62251-24	62257-24	62756-24	62255-24
24	12	2+2FxCSM	3.0	17.4	62632-24	62633-24	62634-24	62635-24	62637-24	62638-24
36	12	3+1FxCSM	2.0	14.8	62285-36	62286-36	62251-36	62257-36	62756-36	62255-36
36	12	3+1FxCSM	3.0	17.4	62632-36	62633-36	62634-36	62635-36	62637-36	62638-36
48	12	4xCSM	2.0	14.8	62285-48	62286-48	62251-48	62257-48	62756-48	62255-48
48	12	4xCSM	3.0	17.4	62632-48	62633-48	62634-48	62635-48	62637-48	62638-48
72	12	6xCSM	2.0	16.4	62285-72	62286-72	62251-72	62257-72	62756-72	62255-72
72	12	6xCSM	3.0	18.8	62632-72	62633-72	62634-72	62635-72	62637-72	62638-72
96	12	8xCSM	2.0	17.1	62285-96	62286-96	62251-96	62257-96	62756-96	62255-96
96	12	8xCSM	3.0	21.5	62632-96	62633-96	62634-96	62635-96	62637-96	62638-96
144	12	9x3xCSM	2.0	18.4	62285-144	62286-144	62251-144	62257-144	62756-144	62255-144
144	12	9x3xCSM	3.0	22.8	62632-144	62633-144	62634-144	62635-144	62637-144	62638-144

### SPECIFICATIONS BY FIBER COUNT

FIBER COUNT	FIBERS/TUBE	TUBE LAYOUT	TUBE OD		CABLE OD		RECOMMENDED MAXIMUM LOADS				CABLE WEIGHT	
			in.	mm	in.	mm	INSTALL lbs	N	OPERATION lbs	N	lbs/kft	Kg/Km
12	12	2+2FxCSM	0.079	2.0	0.583	14.8	150	668	45	200	131.0	195.0
12	12	2+2FxCSM	0.118	3.0	0.687	17.4	150	668	45	200	153.4	228.3
24	12	2+2FxCSM	0.079	2.0	0.583	14.8	150	668	45	200	132.0	197.5
24	12	2+2FxCSM	0.118	3.0	0.687	17.4	150	668	45	200	153.4	228.3
36	12	3+1FxCSM	0.079	2.0	0.583	14.8	150	668	45	200	132.0	196.4
36	12	3+1FxCSM	0.118	3.0	0.687	17.4	150	668	45	200	153.9	229.1
48	12	4xCSM	0.079	2.0	0.583	14.8	150	668	45	200	133.0	197.9
48	12	4xCSM	0.118	3.0	0.687	17.4	150	668	45	200	154.4	229.8
72	12	6xCSM	0.079	2.0	0.647	16.4	150	668	45	200	154.0	229.2
72	12	6xCSM	0.118	3.0	0.742	18.8	150	668	45	200	185.4	276.0
96	12	8xCSM	0.079	2.0	0.675	17.1	150	668	45	200	183.0	272.3
96	12	8xCSM	0.118	3.0	0.847	21.5	150	668	45	200	228.9	340.7
144	12	9x3xCSM	0.079	2.0	0.723	18.4	150	668	45	200	194.0	288.7
144	12	9x3xCSM	0.118	3.0	0.897	22.8	150	668	45	200	246.9	367.5

### Cable Characteristics

F = Filler  
CSM = Central Strength Member.

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

# Micro Distribution

Multimode and Singlemode

## Armored NanoCore®

Micro Distribution (Plenum) (UL) OFCP c(UL) OFCP FT6

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	2.8	1.0	700	500	950	N/A	750	550	150	N/A
OM3	2.8	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	2.8	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

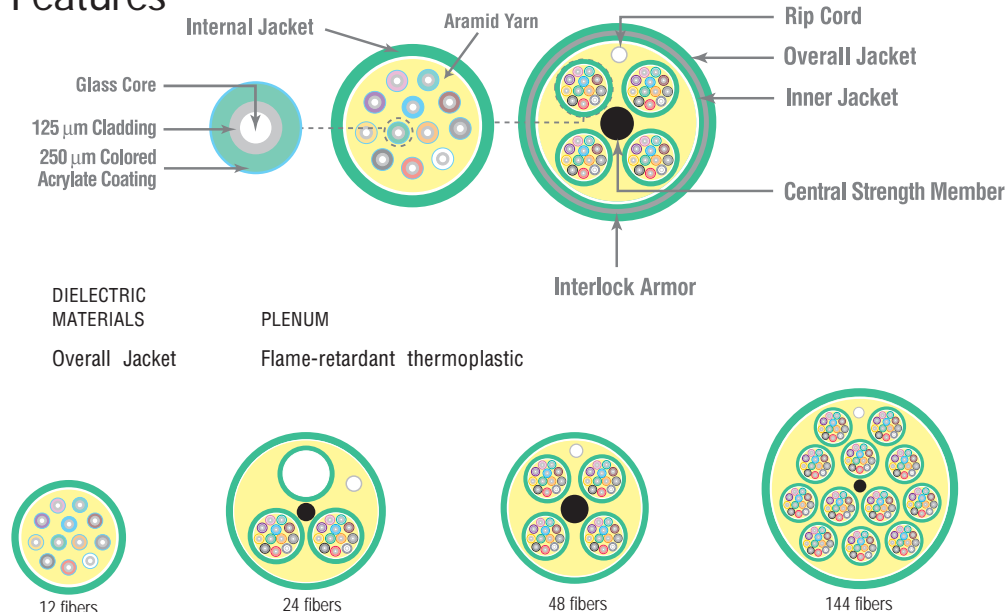
### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: 0° to 60°C (32° to 140°F)

Operating: 0° to 70°C (32° to 158°F)

### Features



### Mechanical Specifications

- Bend radius, no load  
= 15x cable overall diameter
- Bend radius, load  
= 20x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber



FIBER



# Armored

2 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- 900 um buffered design recommended for easy termination.
- Eliminates need for inner duct or conduit.
- Aluminum interlock armor.
- Each fiber is color coded for easy identification.
- Ideal intra-building cable solution.
- Flexible and easy to handle.
- Lightweight, flexible aramid yarns enhance strength.

### Options

- Cables with up to 144 fibers available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Violet for OM4 is available*
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Armored Tight Buffered (Riser) (UL) OFCR c(UL) OFCR FT4

PART NUMBERS BY FIBER COUNT

FIBERS	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	61486-2	61542-2	61421-2	61896-2	62811-2	61540-2
4	61486-4	61542-4	61421-4	61896-4	62811-4	61540-4
6	61486-6	61542-6	61421-6	61896-6	62811-6	61540-6
8	61486-8	61542-8	61421-8	61896-8	62811-8	61540-8
10	61486-10	61542-10	61421-10	61896-10	62811-10	61540-10
12	61486-12	61542-12	61421-12	61896-12	62811-12	61540-12
24	61486-24	61542-24	61421-24	61896-24	62811-24	61540-24
48	62016-48	62017-48	62018-48	62019-48	62812-48	61541-48
72	62016-72	62017-72	62018-72	62019-72	62812-72	61541-72
96	62016-96	62017-96	62018-96	62019-96	62812-96	61541-96
144	62016-144	62017-144	62018-144	62019-144	62812-144	61541-144

SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS					
FIBERS	CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
2	0.520	13.21	128	570	38	171	93.4	139.2
4	0.520	13.21	128	570	38	171	94.9	141.4
6	0.520	13.21	128	570	38	171	96.4	143.6
8	0.520	13.21	160	712	48	214	109.9	163.8
10	0.520	13.21	160	712	48	214	111.4	166.0
12	0.520	13.21	160	712	48	214	112.9	168.2
24	0.643	16.33	288	1282	86	385	164.1	244.5
48	0.960	24.38	640	2849	192	855	283.7	422.2
72	1.095	27.81	960	4273	288	1282	422.7	629.1
96	1.299	32.99	1280	5697	384	1709	609.2	906.6
144	1.454	36.93	1920	8546	576	2564	670.5	997.8

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.



## Armored Tight Buffered (Riser) (UL) OFCR c(UL) OFCR FT4

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

## Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: -10° to 60°C (14° to 140°F)

Operating: -20° to 70°C (-4° to 158°F)

## Features

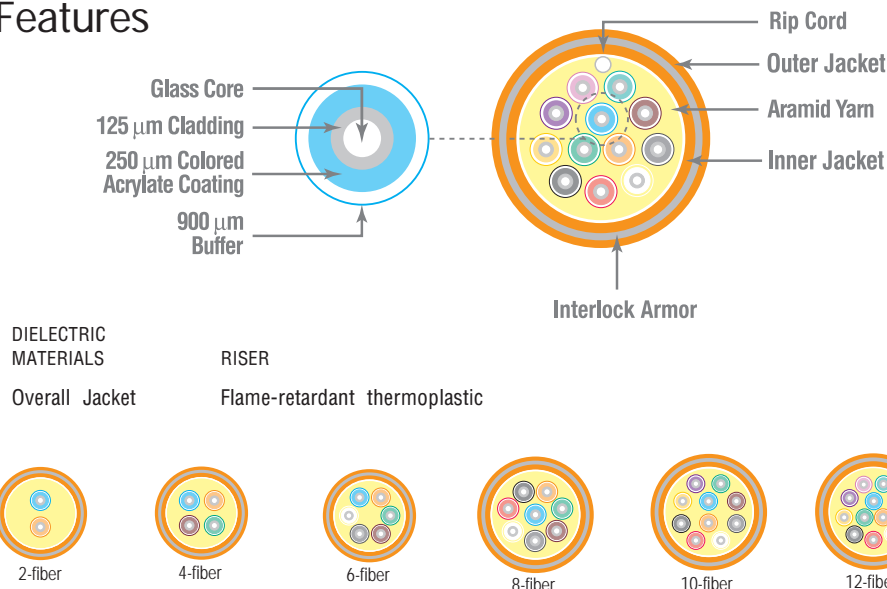


Diagram scale approx. 2:1

## Mechanical Specifications

- Bend radius, no load  
= 15x cable overall diameter
- Bend radius, load  
= 20x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER



# Armored

2 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- 900um buffered design recommended for easy termination.
- Eliminates need for inner duct or conduit.
- Aluminum interlock armor.
- Each fiber is color coded for easy identification.
- Ideal intra-building cable solution.
- Flexible and easy to handle.
- Lightweight, flexible aramid yarns enhance strength.

### Options

- Standard jacket colors are:  
Yellow: OS2  
Orange: OM1 & OM2  
Aqua: OM3 & OM4  
*Note: Violet for OM4 is available*
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security and Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Armored Tight Buffered (Plenum) (UL) OFCP c(UL) OFCP FT6

PART NUMBERS BY FIBER COUNT

FIBERS	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	60405-2	61319-2	61337-2	61897-2	62813-2	61433-2
4	60405-4	61319-4	61337-4	61897-4	62813-4	61433-4
6	60405-6	61319-6	61337-6	61897-6	62813-6	61433-6
8	60405-8	61319-8	61337-8	61897-8	62813-8	61433-8
10	60405-10	61319-10	61337-10	61897-10	62813-10	61433-10
12	60405-12	61319-12	61337-12	61897-12	62813-12	61433-12
24	60405-24	61319-24	61337-24	61897-24	62813-24	61433-24
48	62183-48	62184-48	62185-48	62186-48	62814-48	62187-48
72	62183-72	62184-72	62185-72	62186-72	62814-72	62187-72
96	62183-96	62184-96	62185-96	62186-96	62814-96	62187-96
144	62183-144	62184-144	62185-144	62186-144	62814-144	62187-144

SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS					
FIBERS	CABLE	O.D.	INSTALLATION		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
2	0.520	13.21	128	570	38	171	93.5	139.1
4	0.520	13.21	128	570	38	171	94.8	141.1
6	0.520	13.21	128	570	38	171	96.2	143.1
8	0.520	13.21	160	712	48	214	100.5	149.6
10	0.520	13.21	160	712	48	214	101.9	151.6
12	0.520	13.21	160	712	48	214	103.3	153.7
24	0.643	16.33	288	1282	86	385	158.1	235.3
48	0.964	24.49	640	2849	192	855	305.7	454.9
72	1.099	27.91	960	4273	288	1282	453.8	675.3
96	1.279	32.49	1280	5697	384	1709	650.1	967.5
144	1.434	36.42	1920	8546	576	2564	720.4	1072.1

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Armored Tight Buffered (Plenum) (UL) OFCP c(UL) OFCP FT6

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

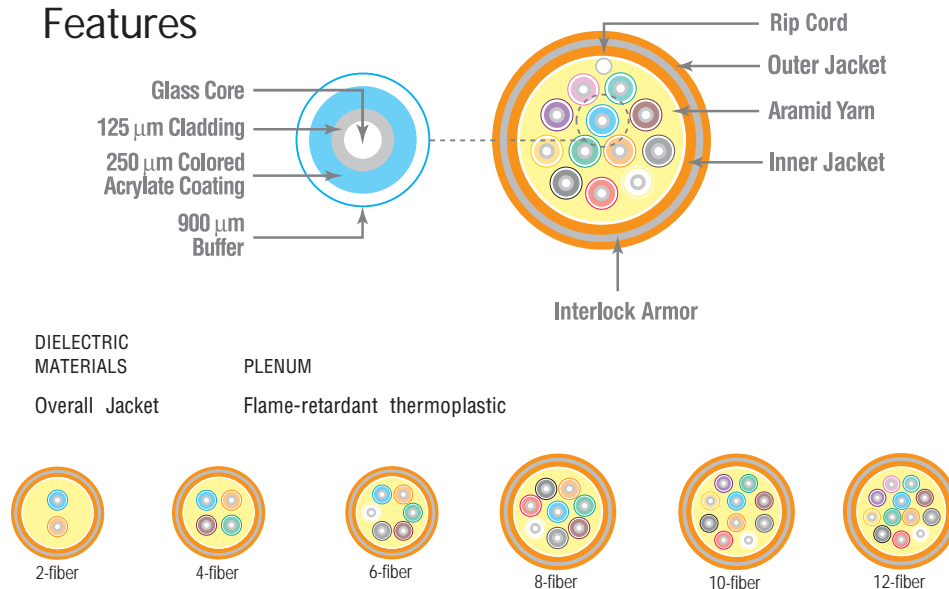
Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)  
 Installation: 0° to 60°C (32° to 140°F)  
 Operating: 0° to 70°C (32° to 158°F)

### Features



### Mechanical Specifications

- Bend radius, no load  
= 15x cable overall diameter
- Bend radius, load  
= 20x cable overall diameter

plus  
**CORNING®**  
ClearCurve® Optical Fiber

FIBER



# Armored

2 Through 24 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Eliminates need for innerduct or conduit.
- Aluminum interlock armor standard.
- Each fiber is color coded for easy identification.
- Ideal cable solution for campus environments.
- Flexible and easy to handle.
- UV and fungus resistant jacket.
- Dry, super absorbent polymers (SAPs) eliminate water migration in cable interstices.
- Suitable for lashed aerial, duct, underground conduit and indoor plenum applications.
- 900um buffered design recommended for easy termination.

### Options

- Standard color configuration is a black outer jacket with a black inner jacket. Colored inner and outer jackets (orange, yellow & aqua) can be special ordered.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Steel interlock armor available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation..

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Armored Tight Buffered (Plenum) (UL) OFCP c(UL) OFCP FT6

PART NUMBERS BY FIBER COUNT

FIBERS	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	61580-2	61577-2	61578-2	62068-2	62772-2	61579-2
4	61580-4	61577-4	61578-4	62068-4	62772-4	61579-4
6	61580-6	61577-6	61578-6	62068-6	62772-6	61579-6
8	61580-8	61577-8	61578-8	62068-8	62772-8	61579-8
12	61580-12	61577-12	61578-12	62068-12	62772-12	61579-12
24	61580-24	61577-24	61578-24	62068-24	62772-24	61579-24

SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS					
FIBERS	CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
2	0.48	12.192	300	1335	100	445	100.4	149.4
4	0.48	12.192	300	1335	100	445	101.7	151.4
6	0.48	12.192	300	1335	100	445	103.0	153.3
8	0.52	13.208	300	1335	100	445	109.1	162.4
12	0.52	13.208	300	1335	100	445	111.8	166.4
24	0.64	16.256	300	1335	100	445	164.1	244.2

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

# INOUTDOOR Armored

Multimode and Singlemode

## Armored Tight Buffered (Plenum) (UL) OFCP c(UL) OFCP FT6

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

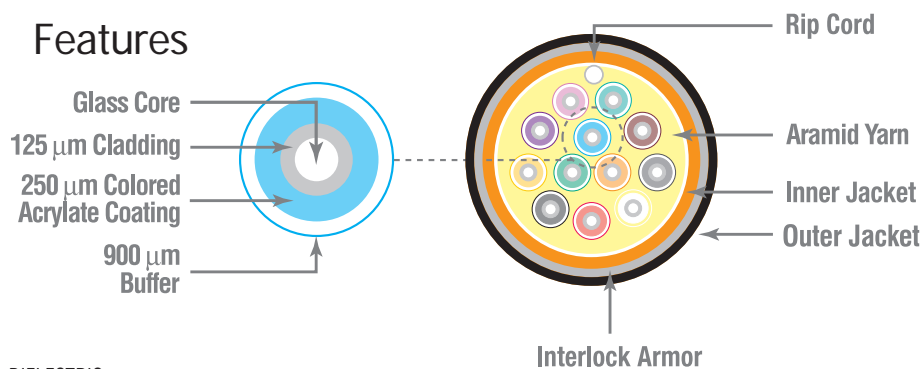
### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: 0°C to 60°C (32° to 140°F)

Operating: -40° to 70°C (-40° to 158°F)

### Features



DIELECTRIC MATERIALS

Overall Jacket

PLENUM

Low-smoke, Flame-retardant thermoplastic



12-fiber

Diagram scale approx. 2:1

### Mechanical Specifications

- Bend radius, no load = 15x cable overall diameter
- Bend radius, load = 20x cable overall diameter

plus  
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ClearCurve® Optical Fiber

FIBER



# Tight Buffered

2 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- UV and fungus resistant jacket.
- Tight buffered construction.
- Each fiber is color coded for easy identification.
- Dry, super absorbent polymers (SAPs) eliminate water migration in cable interstices.
- Suitable for lashed aerial, duct, underground conduit and indoor riser applications.
- 900um buffered design recommended for easy termination.
- Cables with more than 24 fibers have fibers segregated into 12-fiber sub-units.

### Options

- Low smoke zero halogen (LSZH) available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Indoor/Outdoor Tight Buffered (Riser)

(UL) OFNR c(UL) OFNR FT4

### PART NUMBERS BY FIBER COUNT

FIBERS	FIBERS PER TUBE	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	2	61345-2	61347-2	61348-2	61893-2	62766-2	61349-2
4	4	61345-4	61347-4	61348-4	61893-4	62766-4	61349-4
6	6	61345-6	61347-6	61348-6	61893-6	62766-6	61349-6
8	8	61345-8	61347-8	61348-8	61893-8	62766-8	61349-8
10	10	61345-10	61347-10	61348-10	61893-10	62766-10	61349-10
12	12	61345-12	61347-12	61348-12	61893-12	62766-12	61349-12
24	24	61345-24	61347-24	61348-24	61893-24	62766-24	61349-24
36	6	61380-36	61376-36	61523-36	61899-36	62767-36	61415-36
48	12	61495-48	61522-48	61524-48	61898-48	62768-48	61363-48
72	12	61495-72	61522--72	61524-72	61898-72	62768-72	61363-72
96	12	61495-96	61522--96	61524-96	61898-96	62768-96	61363--96
144	12	61495-144	61522--144	61524-144	61898-144	62768-144	61363-144

### SPECIFICATIONS BY FIBER COUNT

			RECOMMENDED MAXIMUM LOADS							
			CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
FIBERS	FIBERS/TUBE	TUBE LAYOUT	in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
2	2	x	.190	4.83	128	570	38	171	12.6	18.8
4	4	x	.190	4.83	128	570	38	171	13.9	20.7
6	6	x	.190	4.83	128	570	38	171	15.1	22.5
8	8	x	.230	5.84	160	712	48	214	20.0	29.8
10	10	x	.230	5.84	160	712	48	214	21.3	31.7
12	12	x	.230	5.84	160	712	48	214	22.5	33.5
24	24	x	.330	8.38	288	1282	86	385	50.2	74.8
36	6	6xC5M	.639	16.2	600	2670	200	890	159.2	236.9
48	12	4xC5M	.627	15.9	640	2849	192	855	135.1	201.1
72	12	6xC5M	.756	19.2	960	4273	288	1282	226.6	337.2
96	12	8xC5M	.941	23.9	1280	5696	384	1709	367.9	547.6
144	12	9x3xC5M	1.072	27.2	1920	8546	576	2564	396.8	590.5

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.



# Tight Buffered

## Indoor/Outdoor Tight Buffered (Riser)

(UL) OFNR c(UL) OFNR FT4

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

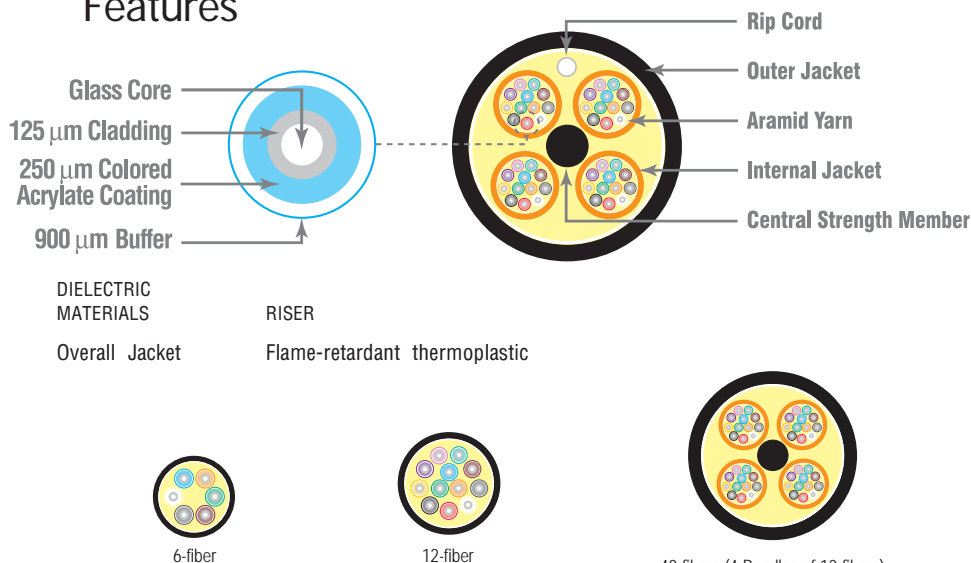
### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: -10° to 60°C (14° to 140°F)

Operating: -40° to 70°C (-40° to 158°F)

### Features



### Mechanical Specifications

- Bend radius, no load = 10x cable overall diameter
- Bend radius, load = 20x cable overall diameter

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# Tight Buffered

2 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- UV and fungus resistant jacket.
- Tight buffered construction.
- Easy to strip and terminate.
- Each fiber is color coded for easy identification.
- Dry, super absorbent polymers (SAPs) eliminate water migration in cable interstices.
- Suitable for lashed aerial, duct, underground conduit and indoor plenum applications.
- 900um buffered design recommended for easy termination.
- Cables with more than 24 fibers have fibers segregated into 12-fiber sub-units.

### Options

- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security, Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-409-CORE

## Indoor/Outdoor Tight Buffered (Plenum)

(UL) OFNP c(UL) OFNP FT6

### PART NUMBERS BY FIBER COUNT

FIBERS	FIBERS/TUBE	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	2	61460-2	61464-2	61468-2	61894-2	62769-2	61459-2
4	4	61460-4	61464-4	61468-4	61894-4	62769-4	61459-4
6	6	61460-6	61464-6	61468-6	61894-6	62769-6	61459-6
8	8	61460-8	61464-8	61468-8	61894-8	62769-8	61459-8
10	10	61460-10	61464-10	61468-10	61894-10	62769-10	61459-10
12	12	61460-12	61464-12	61468-12	61894-12	62769-12	61459-12
24	24	61460-24	61464-24	61468-24	61894-24	62769-24	61459-24
36	6	62178-36	62179-36	62180-36	62181-36	62770-36	62066-36
48	12	61979-48	61956-48	61959-48	61980-48	62771-48	61480-48
72	12	61979-72	61956-72	61959-72	61980-72	62771-72	61480-72
96	12	61979-96	61956-96	61959-96	61980-96	62771-96	61480-96
144	12	61979-144	61956-144	61959-144	61980-144	62771-144	61480-144

### SPECIFICATIONS BY FIBER COUNT

					RECOMMENDED MAXIMUM LOADS					
FIBERS	FIBERS/ TUBE	TUBE LAYOUT	CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
			in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
2	2	x	.190	4.83	128	570	38	171	12.6	18.8
4	4	x	.190	4.83	128	570	38	171	13.9	20.7
6	6	x	.190	4.83	128	570	38	171	15.1	22.5
8	8	x	.230	5.84	160	712	48	214	20.0	29.8
10	10	x	.230	5.84	160	712	48	214	21.3	31.7
12	12	x	.230	5.84	160	712	48	214	22.5	33.5
24	24	x	.330	8.38	288	1282	86	385	50.2	74.8
36	6	6xC5M	.639	16.2	600	2670	200	890	159.2	236.9
48	12	4xC5M	.627	15.9	640	2849	192	855	135.1	201.1
72	12	6xC5M	.756	19.2	960	4273	288	1282	226.6	337.2
96	12	8xC5M	.941	23.9	1280	5696	384	1709	367.9	547.6
144	12	9x3xC5M	1.072	27.2	1920	8546	576	2564	396.8	590.5

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

# Tight Buffered

## Indoor/Outdoor Tight Buffered (Plenum)

(UL) OFNP c(UL) OFNP FT6

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation		Min OFL Bandwidth		Min EMBc Bandwidth		Gb Ethernet distance		10 Gb Ethernet distance	
	(dB/km)		(MHz-km)		(MHz-km)		(m)		(m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: 0°C to 60°C (32° to 140°F)

Operating: -40° to 70°C (-40° to 158°F)

### Features

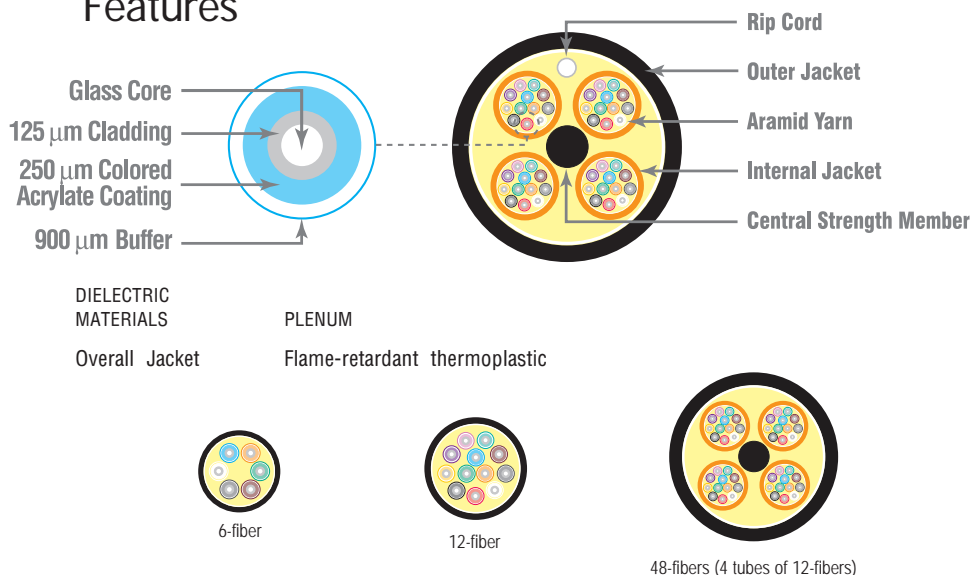


Diagram scale approx. 3:1

### Mechanical Specifications

- Bend radius, no load = 10x cable overall diameter
- Bend radius, load = 20x cable overall diameter

plus  
**CORNING®**  
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FIBER



# Loose Tube

12 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- UV and fungus resistant jacket.
- Gel filled loose tubes provide protection against water penetration.
- Dry, super absorbent polymers (SAPs) eliminate water migration in cable interstices.
- Suitable for lashed aerial, duct, and underground conduit.
- SM Fiber optic cable is RDUP approved.

### Options

- Other configurations and fiber counts available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Dual jacket constructions available.
- Low smoke zero halogen (LSZH) available.
- Up to 432 fibers available.
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security and Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-20-CORE

## Outdoor (Outside Plant) Loose Tube

PART NUMBERS BY FIBER COUNT

FIBERS	FIBERS/TUBE	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
18	6	60085-18	60087-18	60940-18	61907-18	62773-18	60089-18
24	6	60085-24	60087-24	60940-24	61907-24	62773-24	60089-24
12	12	60086-12	60088-12	60943-12	61908-12	62774-12	60090-12
24	12	60086-24	60088-24	60943-24	61908-24	62774-24	60090-24
36	12	60086-36	60088-36	60943-36	61908-36	62774-36	60090-36
48	12	60086-48	60088-48	60943-48	61908-48	62774-48	60090-48
60	12	60086-60	60088-60	60943-60	61908-60	62774-60	60090-60
72	12	60086-72	60088-72	60943-72	61908-72	62774-72	60090-72
84	12	60086-84	60088-84	60943-84	61908-84	62774-84	60090-84
96	12	60086-96	60088-96	60943-96	61908-96	62774-96	60090-96
108	12	60086-108	60088-108	60943-108	61908-108	62774-108	60090-108
120	12	60086-120	60088-120	60943-120	61908-120	62774-120	60090-120
132	12	60086-132	60088-132	60943-132	61908-132	62774-132	60090-132
144	12	60086-144	60088-144	60943-144	61908-144	62774-144	60090-144

SPECIFICATIONS BY FIBER COUNT

					RECOMMENDED MAXIMUM LOADS					
FIBERS	FIBERS/ TUBE	TUBE LAYOUT	CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
			in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
18	6	5XC5M	.463	11.7	600	2670	180	800	56.0	83.4
24	6	5XC5M	.463	11.7	600	2670	180	800	60.0	89.4
12	12	5XC5M	.463	11.7	600	2670	180	800	62.9	93.7
24	12	5XC5M	.463	11.7	600	2670	180	800	64.2	95.6
36	12	5XC5M	.463	11.7	600	2670	180	800	65.1	97.0
48	12	5XC5M	.463	11.7	600	2670	180	800	66.2	98.6
60	12	5XC5M	.463	11.7	600	2670	180	800	67.0	99.8
72	12	6xC5M	.493	12.5	600	2670	180	800	76.0	113.2
84	12	7XC5M	.552	14.0	600	2670	180	800	93.0	138.6
96	12	8XC5M	.581	14.8	600	2670	180	800	106.0	157.9
108	12	9XC5M	.620	15.7	600	2670	180	800	120.0	178.8
120	12	10XC5M	.649	16.5	600	2670	180	800	137.0	204.1
132	12	11XC5M	.683	17.3	600	2670	180	800	153.0	228.0
144	12	12XC5M	.720	18.3	600	2670	180	800	171.0	255.0

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.

## Outdoor (Outside Plant) Loose Tube

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation		Min OFL Bandwidth		Min EMBC Bandwidth		Gb Ethernet distance		10 Gb Ethernet distance	
	(dB/km)		(MHz-km)		(MHz-km)		(m)		(m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.4	0.3	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: -30° to 60°C (-22° to 140°F)

Operating: -40° to 70°C (-40° to 158°F)

### Mechanical Specifications

Bend radius

- No load = 10x cable overall diameter
- Load = 20x cable overall diameter

Loose Tube Diameter

in. mm

2-12 fibers per tube .110 2.8

plus  
**CORNING®**  
ClearCurve® Optical Fiber

### Features

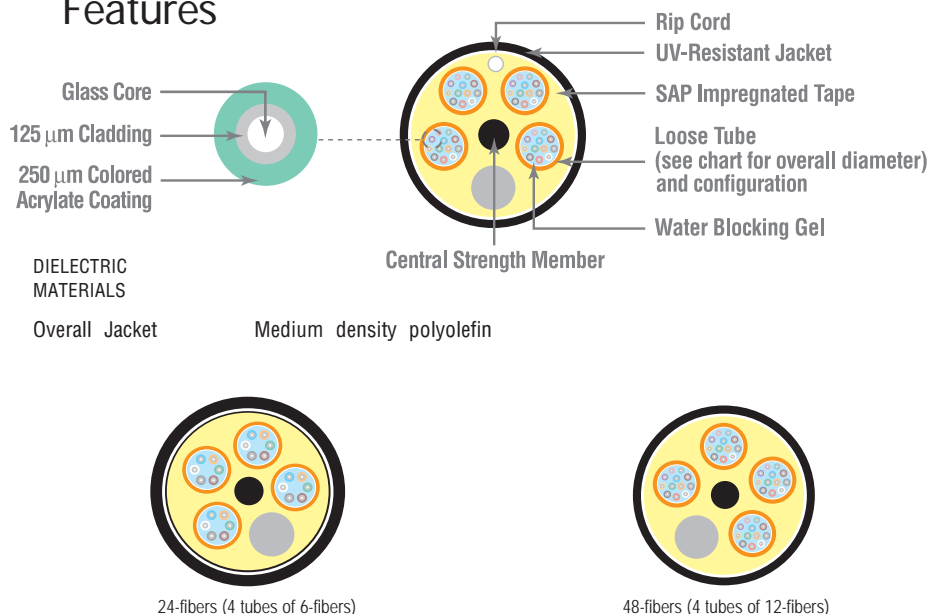


Diagram scale approx. 1:1



# Loose Tube

12 through 144 fibers

## HITACHI

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### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- All multimode, and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Rugged corrugated steel armor provides extra crush-resistance and rodent protection.
- UV and fungus resistant jacket.
- Gel filled loose tube provides protection against water penetration.
- Dry, super absorbent polymers (SAPs) eliminate water migration in cable interstices.
- Suitable for lashed aerial, duct, underground conduit and direct bury applications.

### Options

- Other configurations and fiber counts available.
- OS2 optical fibers with enhanced bend-insensitive performance are available.
- Dual jacket constructions available.
- Low smoke zero halogen (LSZH) available.
- OM4 optical fibers with extended 10 gigabit Ethernet distances are available.
- Wideband multimode fiber is available.

### Applications

- Applications include 10, 40 & 100 gigabit Ethernet, Fibre Channel, Video, Security and Automation.

### Standards

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd edition
- Telcordia GR-20-CORE

## Outdoor (Outside Plant) Armored

PART NUMBERS BY FIBER COUNT

FIBERS	FIBERS/TUBE	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	8.3 UM OS2
24	2	60346-24	60932-24	60944-24	61909-24	60954-24
48	4	60345-48	60933-48	60945-48	61910-48	60356-48
48	6	60097-48	60934-48	60946-48	61911-48	60101-48
12	12	60098-12	60937-12	61497-12	61912-12	60102-12
24	12	60098-24	60937-24	61497-24	61912-24	60102-24
48	12	60098-48	60937-48	61497-48	61912-48	60102-48
144	12	60098-144	60937-144	61497-144	61912-144	60102-144

SPECIFICATIONS BY FIBER COUNT

FIBERS	FIBERS/TUBE	TUBE LAYOUT	RECOMMENDED MAXIMUM LOADS							
			CABLE O.D.		INSTALL		OPERATION		CABLE WEIGHT	
			in.	mm	lbs-f	N	lbs-f	N	lbs/1000 ft	kg/1000m
24	2	12xCSCM	0.748	19.0	600	2670	180	800	228.0	339.7
48	4	12xCSCM	0.748	19.0	600	2670	180	800	229.0	341.2
48	6	8XCSCM	0.613	15.6	600	2670	180	800	147.0	219.0
12	12	5XCSCM	0.508	13.1	600	2670	180	800	112.6	167.7
24	12	5XCSCM	0.508	13.1	600	2670	180	800	114.7	170.8
48	12	5XCSCM	0.508	13.1	600	2670	180	800	115.5	172.0
144	12	12xCSCM	0.768	19.5	600	2670	180	800	241.0	359.1

### Cable Characteristics

Note: Part number rows in upper table directly correspond to cable characteristic rows in the same location of the lower table.



## Outdoor (Outside Plant) Armored

### Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)	850nm (MM)	1300nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)	1310nm (SM)	1550nm (SM)
OS2	0.4	0.3	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

Hitachi Cable America reserves the right to revise any specifications.

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards.

### Cable Temperature Ranges

Storage: -40° to 70°C (-40° to 158°F)

Installation: -30° to 60°C (-22° to 140°F)

Operating: -40° to 70°C (-40° to 158°F)

### Mechanical Specifications

Bend radius

- No load = 10x cable overall diameter
- Load = 20x cable overall diameter

Loose Tube Diameter

in. mm  
2-12 fibers per tube .110 2.8

plus  
**CORNING®**  
ClearCurve® Optical Fiber

### Features

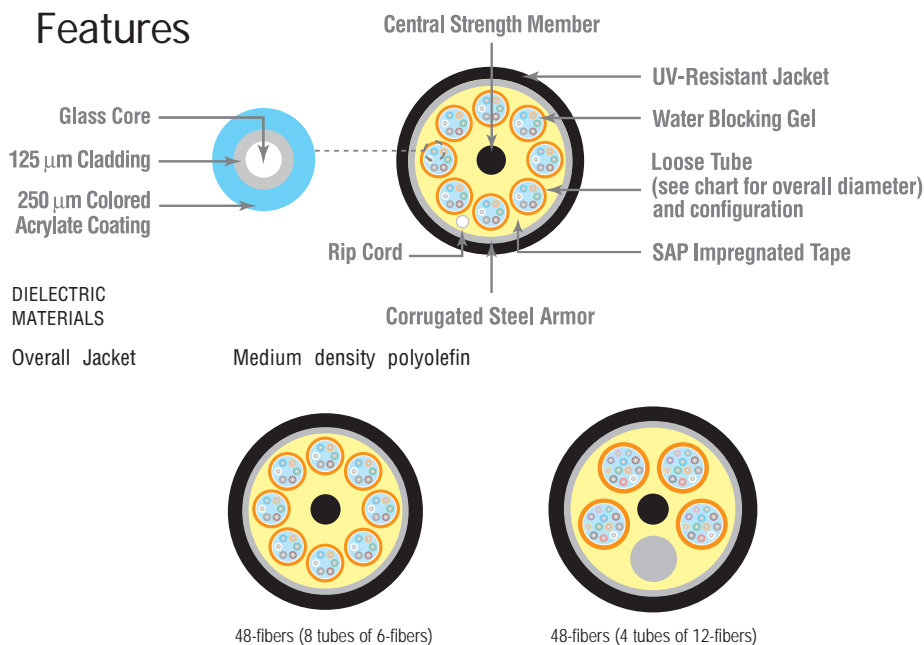


Diagram scale approx. 1:1



# REFERENCE

# Color Code

## Chart

### High Pair Count Cables

When cables contain more than one pair group, different color binder tapes are used to differentiate the 25 pair groups.

### Primary Insulation Color Coding

Hitachi Cable uses a co-extruded color stripe to mark insulated conductors. This process provides several benefits:

- Marking durability is insured for the life of the cable.
- Electrical characteristics of the marking stripe match the insulation.
- Avoids highly toxic ink systems that are required to bond to some materials.

Pair #	Copper Conductor Color Combinations
1	White/Blue - Blue/White
2	White/Orange - Orange/White
3	White/Green - Green/White
4	White/Brown - Brown/White
5	White/Gray - Gray/White
6	Red/Blue - Blue/Red
7	Red/Orange - Orange/Red
8	Red/Green - Green/Red
9	Red/Brown - Brown/Red
10	Red/Gray - Gray/Red
11	Black/Blue - Blue/Black
12	Black/Orange - Orange/Black
13	Black/Green - Green/Black
14	Black/Brown - Brown/Black
15	Black/Gray - Gray/Black
16	Yellow/Blue - Blue/Yellow
17	Yellow/Orange - Orange/Yellow
18	Yellow/Green - Green/Yellow
19	Yellow/Brown - Brown/Yellow
20	Yellow/Gray - Gray/Yellow
21	Violet/Blue - Blue/Violet
22	Violet/Orange - Orange/Violet
23	Violet/Green - Green/Violet
24	Violet/Brown - Brown/Violet
25	Violet/Gray - Gray/Violet

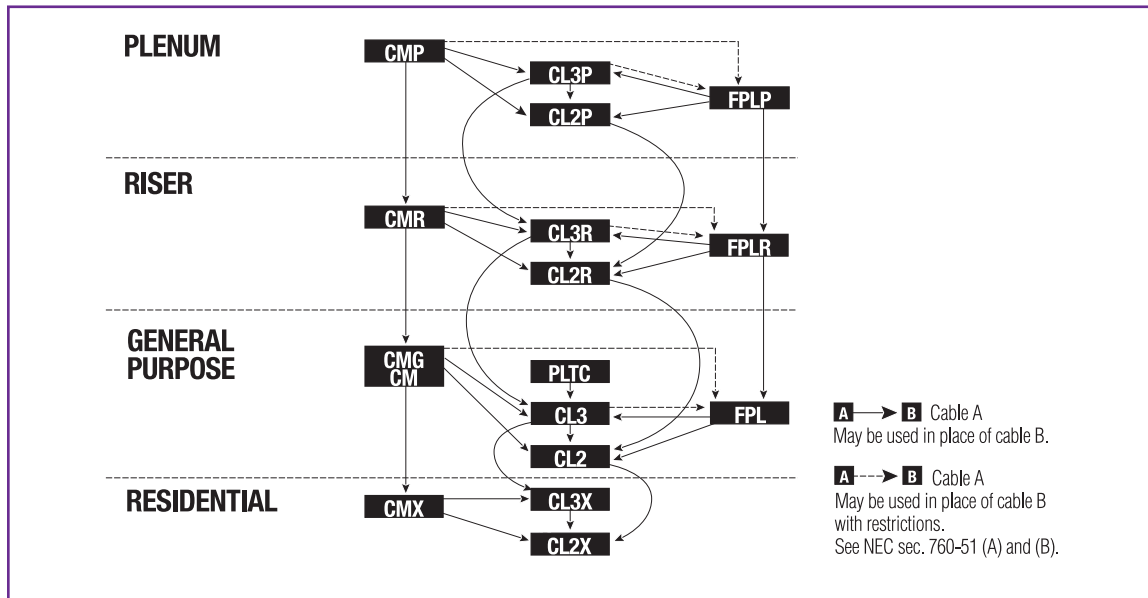
Fiber #	Fiber/Buffer Color
1	Blue
2	Orange
3	Green
4	Brown
5	Gray
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Aqua
13	Lime
14	Tan
15	Olive
16	Magenta

#### Note:

To differentiate bundles in cables with greater than 12 strands, polyester binders or buffer tubes (depending on the construction) are used. Those binders or buffer tubes will incorporate the same color code found in the chart above. The color code is part of the TIA-598 standard. For indoor, multiunit fiber optic cables, subunits will be numbered for identification.

# Code References

## National Electric Code Cable Substitution Hierarchy



## NEC and CSA Fire Resistance Levels

Fire Resistance Level	Test Requirement	NEC 725	NEC 760	NEC 800
(Highest) Plenum Cables	UL-910 (Steiner Tunnel) CSA-FT6 (Steiner Tunnel)	CL3P CL2P	FPLP	CMP
Riser Cables Multiple Floors	UL-1666 (Vertical Shaft) CSA-FT4, CMG (Vertical Tray)	CL3R CL2R	FPLR	CMR
General Purpose Cables	UL-1581 (Vertical Tray) CSA-FT4, CMG (Vertical Tray)	CL3 CL2	FPL	CM
(Lowest) Residential Cables Restricted Use	UL-1581 VW-1 CSA-FT1	CL3X CL2X		CMX

### Notes

- 1 Cables with a higher fire resistance level may be substituted for those with a lower fire resistance level, except that FT6 must also be marked FT4 for FT4 applications.
- 2 Cables rated CM may be used in runs penetrating one floor. (NEC 800-53)

National Electric Code and NEC are registered trademarks of the National Fire Protection Association, Inc. Quincy, MA.

# Applications

## Copper

Applications Support Matrix

	Category 3	Category 5e	Category 6	Category 6A	Category 7 & 7A
Voice	■	■	■	■	■
T1 Fractional	■	■	■	■	■
IBM Type 3 - 1 Mbps	■	■	■	■	■
4/16 Mbps Token Ring	■	■	■	■	■
10BASE-T Ethernet	■	■	■	■	■
100BASE-T4 Fast Ethernet	■	■	■	■	■
25.6 Mbps ATM	■	■	■	■	■
100 VG - Any LAN	■	■	■	■	■
All other applications developed to operate over Category 3 or class C cabling	■	■	■	■	■
100 Mbps TP-PMD		■	■	■	■
155 Mbps ATM		■	■	■	■
270 Mbps digital video		■	■	■	■
Broadband video		■	■	■	■
100BASE-TX Fast Ethernet		■	■	■	■
1000BASE-T Gigabit Ethernet		■	■	■	■
All other applications developed to operate over Category 5e or class D cabling		■	■	■	■
2.5 Gbase-T Ethernet			■	■	■
5.0 GBase-T Ethernet			■	■	■
1000 Mbps ATM (CBIG)			■	■	■
All other applications developed to operate over Category 6 or Class E cabling			■	■	■
10GBASE-T Ethernet			■ <sup>2</sup>	■	■
All other applications developed to operate over Category 6A or Class EA cabling				■	■
All other applications developed to operate over Category 7 or 7A or class C or CA cabling					■

### Guaranteed Category 5e support of IEEE 1000BASE-T (Gigabit Ethernet) application:

Hitachi Cable America Inc.'s Category 5e cables exceed all of the requirements specified by IEEE 802.3ab for support of Gigabit Ethernet (1000BASE-T) operation over twisted-pair cabling. Furthermore, Hitachi Cable guarantees that all of our Category 5e and higher rated cables will support the 1000BASE-T application.

To demonstrate our compliance, Hitachi Cable's products have been extensively tested for IEEE 1000BASE-T throughput at the University of New Hampshire's Interoperability Lab and found to fully support the IEEE 1000BASE-T Gigabit Ethernet application.

<sup>1</sup> Cat 7 Cable standard has not yet been ratified.

<sup>2</sup> Per TSB-155, Category 6 cable may accommodate 10 gigabit Ethernet up to 55 meters in a channel. Mitigation to achieve 55m may be required. Hitachi Cable's 10G-RD™ Enhanced Category 6 provides guaranteed 10 gigabit support up to 100 meters in a channel.

# Applications

## Fiber

Applications Support Matrix

Application	Standard	Wavelength	Transmission	Fiber type	Length (m)
	1000BASE-LX	1300nm	Serialized	OM1	550
				OM2	550
				SM	>2,000
	1000BASE-SX	850nm	Serialized	OM1	220
				OM2	550
				OM3	>550
	10GBASE-SR	850nm	Serialized	OM1	33
				OM2	82
				OM3	300
				OM4	550
	10GBASE-LR	1310nm	Serialized	SM	10,000 - 25,000
	10GBASE-LRM	1310nm	Serialized	OM1	220
				OM3	260
	10GBASE-ER	1550nm	Serialized	SM	40,000
	10GBASE-LX4	1300nm	WDM	MM	240-300
				SM	10,000
	40GBASE-SR4	850nm	Parallel Optics	OM3	100
				OM4	125
	40GBASE-LR4	1310nm	WDM	SM	10,000
	100GBASE-SR10	850nm	Parallel Optics	OM3	100
				OM4	125
	100GBASE-LR4	1310nm	WDM	SM	10,000
	100GBASE-ER4	1310nm	WDM	SM	40,000
	Infiniband SDR	850nm	Parallel Optics	OM1	75
				OM2	125
				OM3	200
	Infiniband DDR	850nm	Parallel Optics	OM1	50
				OM2	75
				OM3	150
	Infiniband 4x-LX	call	call	OS2	10,000
	ITU-T G.957 STM-1, -4 & -16	1550nm	WDM	OS2	2,000
	ITU-T G.957 STM-1 & -4				15,000
	ITU-T G.957 STM-1		Serialized		40,000
	Fibre Channel, 2 Gig	850nm	Serialized	OM2	300
				OM3	500
	Fibre Channel, 4 Gig	850nm	Serialized	OM2	150
				OM3	270
	Fibre Channel 1, 2 & 4 Gig	1300nm	Serialized	OS2	10,000

# Standards

All of Hitachi Cable's products are fully compliant to the requirements of applicable national and international structured cabling standards.

**ANSI/TIA-568.O-D “Generic Telecommunications Cabling Standard (2015)”** This standard, in part, supersedes TIA/EIA-568-B.1 and its addenda. This standard incorporates the following standards: TIA/EIA-568-B.1-1, TIA/EIA-568-B.1-2, TIA/EIA-568-B.1-3, TIA/EIA-568-B.1-7, TIA/EIA TSB125, TIA TSB140, TIA TSB153. This document specifies copper and fiber optic cabling requirements and test methods that will support a multi-product, multi-vendor environment.

**ANSI/TIA-568.I-D “Commercial Building Telecommunications Cabling Standard (2015)”** This standard, in part, supersedes TIA/EIA-568-B.1 and its addenda. This standard incorporates content from ANSI/TIA-568-B.1-4, Addendum 4, as well as ANSI/TIA-568-B.1-5, Addendum 5.

**ANSI/TIA-568-C.2 “Balanced Twisted Pair Telecommunications Cabling Components Standard (2009)”** This standard supersedes ANSI/TIA/EIA-568B.2. This document specifies the performance of copper cables, patch cords, and connectors, in addition to the transmission, system models, and the measurement procedures needed for verification of balanced twisted pair cabling performance. This standard incorporates content from the following ANSI/TIA/EIA standards: 568-B.2, 568-B.2-1, 568-B.2-2, 568-B.2-3, 568-B.2-4, 568-B.2-5, 568-B.2-6 and ANSI/TIA standards 568-B.2-7, 568-B.2-9, 568-B.2-10 and 568-B.2-11.

**ANSI/TIA-568-C.3 “Optical Fiber Cabling Components Standard (2008)”** This document specifies the performance of the cables, patch cords, and connector used in fiber optic cable systems. This standard replaces ANSI/TIA/EIA-568-B.3 and ANSI/TIA/EIA-568-B.3-1.

**ANSI/TIA-569-D “Commercial Building Standard for Telecommunications Pathways and Spaces (2015)”** This document describes recognized cabling locations both within and between buildings. Included are the pathways in which telecommunications media are placed and the rooms and areas associated with the building used to terminate media and install telecommunications equipment.

**ANSI/TIA-570-C “Residential Telecommunications Cabling Standard (2012)”** The purpose of this document is to standardize requirements for residential telecommunications cabling. The requirements are intended to be implemented for new construction, additions and remodeled single and multi-tenant residential buildings.

**ANSI/TIA-606-B “Administration Standard for Commercial Telecommunications Infrastructure (2012)”** This standard provides guidelines and choices of classes of administration for maintaining telecommunications infrastructure.

**ANSI/TIA-607-C “Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications (2001)”** This purpose of this standard is to enable the planning, design, and installation of telecommunications grounding and bonding systems within a building with or without prior knowledge of the telecommunications systems that will subsequently be installed.

**ANSI/TIA-758-B “Customer-Owned Outside Plant Telecommunications Infrastructure (2012)”** This standard provides requirements used in the design of the cabling, pathways and spaces used between buildings or points in a customer-owned campus environment.

**ANSI/TIA-862-B “Structured Cabling Initiative Standard for Intelligent Building Systems (2016)”** This standard specifies a generic cabling system for building automation systems (BAS) used in commercial systems.

**ISO/IEC 11801, 2nd edition “Generic cabling for Customer Premises (2002)”** This standard is the international counterpart to the TIA/EIA-568 family of standards. It contains requirements for balanced twisted-pair and fiber optic components and cabling systems.

**TSB 155 “Guidelines for the Assessment of Mitigation of Installed Category 6 Cabling to Support 10GBASE-T”** This document specifies the requirements for Category 6 UTP and ScTP (FTP) in regards to accommodating 10GBASE-T Ethernet.

**ANSI/TIA-942-A “Telecommunications Infrastructure Standard for Data Centers”** This standard establishes the minimum requirements for telecommunications infrastructure associated with data centers and computer rooms.

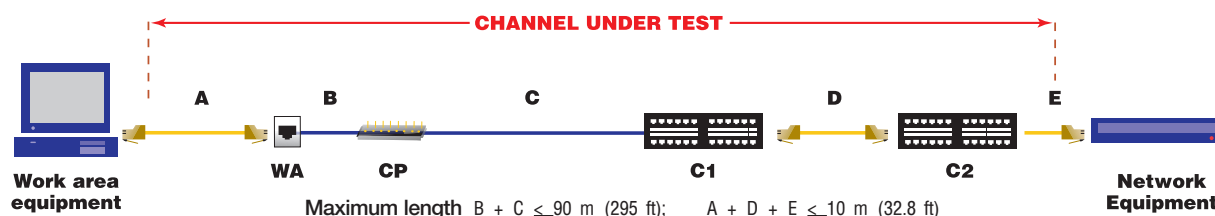
**ANSI/TIA-1005-A “Telecommunications Infrastructure Standard for Industrial Premises”** This standard specifies infrastructure requirements within and between industrial buildings.



# Configurations

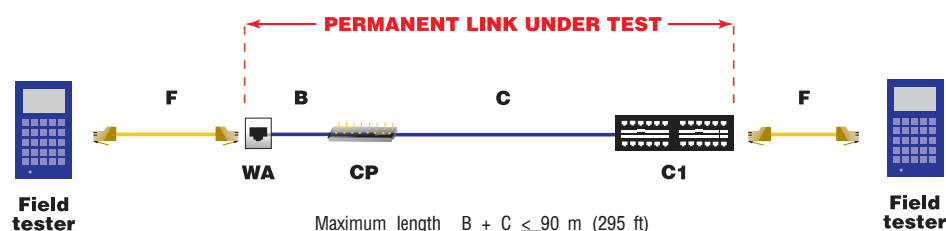
## Channel Configuration

The channel test configuration is to be used by system designers and users of data communications systems to verify the performance of the overall channel. The channel includes up to 90 m (295 ft) of horizontal cable, a work area equipment cord, a telecommunications outlet/connector, an optional transition/consolidation connector, and two connections in the telecommunications room. The total length of equipment cords, patch cords or jumpers and work area cords shall not exceed 10 m (33 ft). Note that the connections to the equipment at each end of the channel are not included in the channel definition.



## Permanent Link

The permanent link test configuration is to be used by installers and users of data telecommunications systems to verify the performance of permanently installed cabling. The permanent link consists of up to 90 m (295 ft) of horizontal cabling and one connection at each end and may also include an optional transition/consolidation point connection. Note that the permanent link excludes both the cable portion of the field test instrument cord and the connection to the field test instrument.



### Cables and cords

- A = Work area cord
- B = Optional transition cabling
- C = Horizontal cabling
- D = Patch cord or jumper cable
- E = Telecommunications room equipment cord
- F = Test equipment cord

### Connecting Hardware

- WA = Telecommunications outlet/connector
- CP = Optional transition/consolidation point connector
- C1, C2 = Horizontal cross-connect or interconnect

## Recommended Backbone Fiber Lengths

The table below is for network design purposes and can be used for establishing the maximum fiber optic cable lengths based on the fiber optic glass type and the maximum data rate at that distance. The maximum lengths are guidelines only. The number of fiber optic strands used and the type of electronics and their transmit speeds will determine the actual maximum performance length.

Backbone Fiber Type	Recommended Backbone Max. Length	Max. Data Rates
OM1	2000 m (6562 ft.)	155 Mb/s
OM2	550 m (1804 ft.)	1 GB/s
OM3	300 m (984 ft.)	10 GB/s, 100 GB/s
OM4	550 m (1804 ft.)	10 GB/s, 100 GB/s
OS2	10,000 m (32,808 ft.)	100 GB/s

# Glossary

## Acronyms & Abbreviations

ACR: Attenuation-to-crosstalk ratio  
ACRF: Attenuation-to-crosstalk ratio far-end  
ANSI: American National Standards Institute  
ASTM: American Society for Testing and Materials  
ATM: asynchronous transfer mode  
AWG: American Wire Gauge  
BELLCORE: Bell Communications Research  
BICSI: Building Industry Consulting Services International  
CATV: community antenna television  
EIA: Electronic Industries Alliance  
ELFEXT: equal level far-end crosstalk  
EMC: electromagnetic compatibility  
EMI: electromagnetic interference  
FCC: Federal Communications Commission  
FDDI: fiber distributed data interface  
FEXT: far-end crosstalk  
FOCIS: Fiber Optic Connector Intermateability Standard  
F/UTP: foil over unshielded twisted pairs  
IEC: International Electrotechnical Commission  
IEEE: The Institute of Electrical and Electronics Engineers  
ILD: Insertion loss deviation  
LCL: Longitudinal conversion loss  
LCTL: Longitudinal conversion transfer loss  
ISDN: integrated services digital network  
ISO: International Organization for Standardization  
LAN: local area network  
LED: light emitting diode  
Mb/s: megabits per second  
MUTOA: multi-user telecommunications outlet assembly  
NEC®: National Electrical Code®  
NEMA: National Electrical Manufacturers Association  
NESC®: National Electrical Safety Code®  
NEXT: near-end crosstalk  
NFPA: National Fire Protection Association  
NVP: nominal velocity of propagation  
PSACR: power sum attenuation-to-crosstalk ratio  
PSACRF: power sum attenuation-to-crosstalk ratio far-end  
PSELFEXT: power sum equal level far-end crosstalk  
PSFEXT: power sum far-end crosstalk  
PSNEXT: power sum near-end crosstalk  
SFTP: braided shield over pairs in foil  
STP: shielded twisted-pair  
TIA: Telecommunications Industry Association  
TSB: Telecommunications System Bulletin  
UL: Underwriters Laboratories  
UTP: unshielded twisted-pair

**adapter (copper):** A device that enables any or all of the following: (1) different sizes or types of plugs to mate with one another or to fit into a telecommunications outlet, (2) the rearrangement of leads, (3) large cables with numerous wires to fan out into smaller groups of wires, and (4) interconnection between cables.

**adapter (fiber optic):** optical fiber duplex: A mechanical device designed to align and join two duplex optical fiber connectors (plugs) to form an optical duplex connection.

**administration:**  
The method for labeling, identification, documentation and usage needed to implement moves, additions and changes of the telecommunications infrastructure.

**attenuation:**  
(see insertion loss)

**attenuation-to-crosstalk ratio:** A ratio, expressed in dB, determined by subtracting the insertion loss from the near-end crosstalk loss.

**attenuation-to-crosstalk ratio far-end:** replaces ELFEXT. A measure of the unwanted signal coupling from a transmitter at the near-end into another pair measured at the far-end, and relative to the received signal level.

**backbone cable:**  
A cable that runs between telecommunications rooms, or floor distribution terminals, the entrance facilities, and the equipment rooms within or between buildings.

**balance:** Balance is the ratio of the differential signal output at either end of any pair to a common mode signal input, at either end of the same or a different pair, and vice versa, under

specified termination conditions.

**bonding:** The permanent joining of metallic parts to form an electrically conductive path that will assure electrical continuity and the capacity to conduct safely any current likely to be imposed on it.

**bundled cable:**  
An assembly of two or more cables continuously bound together to form a single unit.

**cable:** An assembly of one or more insulated conductors or optical fibers, within an enveloping sheath.

**cable run:** A length of installed media, which may include other components along its path.

**cable sheath:**  
A covering over the optical fiber or conductor assembly that may include one or more metallic members, strength members, or jackets.

**cabling:** A combination of all cables, jumpers, cords, and connecting hardware.

**campus:** The buildings and grounds having legal contiguous interconnection.

**centralized cabling:**  
A cabling configuration from the work area to a centralized cross-connect using pull through cables, an interconnect, or splice in the telecommunications room.

**channel:** The end-to-end transmission path between two points at which application-specific equipment is connected.

**connecting hardware:** A device providing mechanical cable terminations.

**connector, small form factor:** An optical fiber duplex

# Glossary

connector with a size approximating that of an 8-position modular outlet/connector typically used for terminating 4-pair copper cable.

**cord** (telecommunications): A cable using stranded conductors for flexibility, as in distribution cords or line cords.

**cross-connect:**  
A facility enabling the termination of cable elements and their interconnection or cross-connection.

**cross-connection:**  
A connection scheme between cabling runs, subsystems, and equipment using patch cords or jumpers that attach to connecting hardware on each end.

**decibels (dB):**  
A logarithmic unit that is used to describe a wide range of differences in signal voltage or power levels.

**delay skew:** The difference in propagation delay between any two pairs within the same cable sheath.

**demarcation point:**  
A point where the operational control or ownership changes.

**drain wire:** A non-insulated conductor placed in electrical contact with a shield.

**electromagnetic interference:** Radiated or conducted electromagnetic energy that has an undesirable effect on electronic equipment or signal transmissions.

**entrance facility** (telecommunications): An entrance to a building for both public and private network service cables (including wireless) including the entrance point of the building and continuing to the entrance room or space.

**entrance point** (telecommunications): The point of emergence for telecommuni-

cations cabling through an exterior wall, a floor, or from a conduit.

**entrance room or space** (telecommunications): A space in which the joining of inter or intra building telecommunications backbone facilities takes place.

**equal level far-end cross-talk: (obsolete)** A measure of the unwanted signal coupling from a transmitter at the near-end into another pair measured at the far-end, and relative to the received signal level.

**equipment cable, cord:** A cable or cable assembly used to connect telecommunications equipment to horizontal or backbone cabling.

**equipment room** (telecommunications): An environmentally controlled centralized space for telecommunications equipment that usually houses a main or intermediate cross-connect.

**far-end crosstalk loss:** A measure of the unwanted signal coupling from a transmitter at the near end into another pair measured at the far end.

**fiber optic:** See optical fiber.

**ground:** A conducting connection, whether intentional or accidental, between an electrical circuit (e.g., telecommunications) or equipment and the earth, or to some conducting body that serves in place of earth.

**high-order mode transient losses:** Losses in power caused by the attenuation in the cladding of multimode optical fiber.

**horizontal cabling:** (1) The cabling between and including the telecommunications outlet/connector and the horizontal

cross-connect.  
(2) The cabling between and including the building automation system outlet or the first mechanical termination of the horizontal connection point and the horizontal cross-connect.

**horizontal cross-connect:**  
A cross-connect of horizontal cabling to other cabling, e.g., horizontal, backbone, and equipment.

**hybrid cable:** An assembly of two or more cables, of the same or different types or categories, covered by one overall sheath.

**hybrid optical fiber cable:**  
An optical fiber cable containing two or more fiber types (e.g., multimode and single-mode).

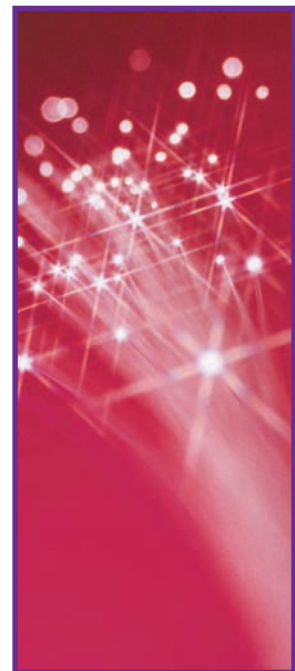
**infrastructure** (telecommunications): A collection of those telecommunications components, excluding equipment, that together provide the basic support for the distribution of all information within a building or campus.

**insertion loss:** The signal loss resulting from the insertion of a component, or link, or channel, between a transmitter and receiver.

**insertion loss deviation:**  
The difference between the actual insertion loss as measured on a permanent link or channel and the insertion loss as determined by adding the component losses.

**interconnection:**  
A connection scheme that employs connecting hardware for the direct connection of a cable to another cable without a patch cord or jumper.

**intermediate cross-connect:** A cross-connect between first level and second level backbone cabling.



# Glossary

**intrabuilding telecommunications backbone:** A pathway or cable facility for interconnecting telecommunications service entrance rooms, equipment rooms, or telecommunications rooms within a building.

**jumper:** An assembly of twisted-pairs without connectors, used to join telecommunications circuits/links at the cross-connect.

**keying:** The mechanical feature of a connector system that guarantees correct orientation of a connection, or prevents the connection to a jack, or to an optical fiber adapter of the same type intended for another purpose.

**link:** A transmission path between two points, not including terminal equipment, work area cables, and equipment cables.

**longitudinal conversion loss:** A ratio, expressed in dB, of measured differential voltage relative to the common mode voltage on a conductor pair applied at the same end.

**longitudinal conversion transfer loss:** A ratio, expressed in dB, of measured differential voltage at one end of a conductor pair relative to the common mode voltage applied on any pair at the opposite end or on any other pair on the same end.

**main cross-connect:** A cross-connect for first level backbone cables, entrance cables, and equipment cables.

**main terminal space:** The location of the cross-connect point of incoming cables from the telecommunications external network and the premises cable system.

**megabits per second (Mbps):** An application dependent specification describing the number of dis-

crete bits of information (i.e. a "1" or a "0") transmitted per second.

**megahertz (MHz):** Transmitted signal frequency described as the number of millions of sinusoidal signal cycles per second.

**mode:** A path of light in an optical fiber.

**modular jack:** A female telecommunications connector that may be keyed or unkeyed and may have 6 or 8 contact positions, but not all the positions need be equipped with jack contacts.

**modular plug cord:** A length of cable with a modular plug on both ends.

**multimode optical fiber:** An optical fiber that carries many paths of light.

**multipair cable:** A cable having more than four pairs.

**multi-user telecommunications outlet assembly:** A grouping in one location of several telecommunications outlet/connectors.

**open office:** A floor space division provided by furniture, moveable partitions, or other means instead of by building walls.

**optical fiber:** Any filament made of dielectric materials that guides light.

**optical fiber cable:** An assembly consisting of one or more optical fibers.

**optical fiber duplex connection:** A mated assembly of two duplex connectors and a duplex adapter.

**outlet/connector (telecommunications):** A connecting device in the work area on which horizontal cable or outlet cable terminates.

**patch cord:** A length of cable with a plug on one or both ends.

**patch panel:** A connecting hardware system that facilitates cable termination and cabling administration using patch cords.

**pathway:** A facility for the placement of telecommunications cable.

**permanent link:** A test configuration for a link excluding test cords and patch cords.

**plenum:** A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.

**power sum attenuation-to-crosstalk ratio:** A ratio, expressed in dB, determined by subtracting the insertion loss from the power sum near-end crosstalk loss.

**power sum attenuation-to-crosstalk ratio far-end:** replaces PSELFEXT. A computation of the unwanted signal coupling from multiple transmitters at the near-end into a pair measured at the far-end, and normalized to the received signal level.

**power sum equal level far-end crosstalk: (obsolete)** A computation of the unwanted signal coupling from multiple transmitters at the near-end into a pair measured at the far-end, and normalized to the received signal level.

**power sum near-end crosstalk loss:** A computation of the unwanted signal coupling from multiple transmitters at the far-end into a pair measured at the near-end

**propagation delay:** The time required for a signal to travel from one end of the transmission path to the other end.



# Glossary

**return loss:** A ratio expressed in dB of the power of the outgoing signal to the power of the reflected signal.

**room (telecommunications):** An enclosed space for housing telecommunications equipment, cable terminations, and cross-connect cabling, that is the recognized location of the horizontal cross-connect.

**screen:** An element of a cable formed by a shield.

**screened twisted-pair (ScTP):** A balanced cable with an overall screen.

**shield:** A metallic layer placed around a conductor or group of conductors.

**singlemode optical fiber:** An optical fiber that carries only one path of light.

**splice:** A joining of conductors in a splice closure, meant to be permanent.

**splice closure:** A device used to protect a splice.

**star topology:** A topology in which telecommunications cables are distributed from a central point.

**telecommunications:** Any transmission, emission, and reception of signs, signals, writings, images, and sounds, that is information of any nature by cable, radio, optical, or other electromagnetic systems.

**topology:** The physical or logical arrangement of a telecommunications system.

**transfer impedance:** A measure of shielding performance determined by the ratio of the voltage on the conductors enclosed by a shield to the surface currents on the outside of the shield.

**transition point:** A location in the horizontal

cabling where flat undercarpet cable connects to round cable.

**work area (work station):** A building space where the occupants interact with telecommunications terminal equipment.

**work area cable (cord):** A cable connecting the telecommunications outlet/connector to the terminal equipment.

## Units of Measure

°C	degrees Celsius
°F	degrees Fahrenheit
dB	decibel
ft	foot
GHz	gigahertz
in	inch
km	kilometer
lbf	pound force
m	meter
MHz	megahertz
mm	millimeter
N	newton
nm	nanometer
ns	nanosecond
V <sub>rms</sub>	volts root mean square
µm	micron or micrometer

## Conversion Table

### English to Metric

	Multiply by:
from inches to centimeters	2.54
from feet to meters	0.3048
from yards to meters	0.9144
from ounces to grams	28.3495
from pounds to kilograms	0.453592
from Fahrenheit (F) to Celsius (C)	C=(F-32) x 0.555



# REFERENCE

## Part Number

### Fiber

Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #
60001	50	60063	50 & 56	60469	54	60933	88	61486	76	61842	50 & 56
60002	50	60085	86	60470	54	60934	88	61490	84	61844	50
60003	50	60086	86	60471	54 & 58	60940	86	61495	82	61851	54
60004	50	60087	86	60472	54	60943	86	61497	88	61852	54
60005	50	60088	86	60473	54	60944	88	61506	66	61853	54
60006	60	60089	86	60474	54	60945	88	61507	66	61854	54
60007	50	60090	86	60475	54	60946	88	61522	82	61855	54 & 58
60008	54	60097	88	60489	50	60954	88	61523	82	61857	54
60009	60	60098	88	60490	54	61319	78	61524	82	61865	56
60010	50	60101	88	60491	54	61337	78	61537	66	61868	58
60011	50	60102	88	60492	54	61345	82	61538	66	61872	60
60012	50 & 56	60258	62	60501	50	61347	82	61539	66	61874	60
60014	56	60288	50	60502	54	61348	82	61540	76	61877	62
60015	60	60289	50	60514	50 & 56	61349	82	61541	76	61879	62
60022	54	60345	88	60515	56	61363	82	61542	76	61882	66
60023	54	60346	88	60516	56	61378	54	61546	66	61883	66
60024	54 & 58	60356	88	60517	58	61376	82	61547	66	61893	82
60026	54 & 58	60376	50	60518	58	61379	54	61576	82	61894	84
60027	62	60405	78	60520	56	61380	82	61577	80	61896	76
60028	62	60425	50	60522	58	61415	82	61578	80	61897	78
60029	58	60430	54	60567	60	61421	76	61579	80	61898	82
60030	54	60431	54	60581	60	61433	78	61580	80	61899	82
60031	54 & 58	60432	54	60595	60	61444	54	61631	64	61907	86
60033	62	60462	50	60596	62	61457	54	61632	64	61908	86
60037	50	60463	50 & 56	60598	62	61459	84	61769	52	61909	88
60038	50	60464	50	60613	60	61460	84	61772	64	61910	88
60039	50	60465	50	60614	62	61464	84	61791	50	61911	88
60040	50	60466	50	60633	60	61468	84	61792	50	61912	88
60042	54	60467	50	60634	62	61480	84	61793	50	61941	64
60044	54	60468	54	60932	88	61483	50	61838	50	61956	84



# Part Number

## Fiber

Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #	Part #	Page #
61959	84	62145	52	62251	74	62425	64	62654	72	62745	62
61979	84	62147	52	62255	74	62426	64	62655	72	62746	62
61980	84	62148	52	62257	74	62427	64	62656	72	62747	64
61986	54	62149	52	62274	52	62428	64	62657	72	62748	64
61988	50	62150	52	62275	52	62429	64	62668	70	62749	66
62016	76	62151	52	62276	52	62430	66	62720	50	62750	66
62017	76	62153	52	62277	52	62438	64	62721	50	62751	66
62018	76	62154	52	62285	74	62593	70	62722	50	62752	66
62019	76	62155	52	62286	74	62594	70	62723	50	62753	66
62029	52	62156	52	62294	68	62595	70	62724	50 & 56	62754	68
62066	84	62157	52	62295	68	62596	70	62725	50	62755	68
62068	80	62178	84	62296	68	62597	70	62726	50	62756	74
62124	52	62179	84	62323	68	62598	70	62727	52	62766	82
62125	52	62180	84	62337	68	62632	74	62728	52	62767	82
62126	52	62181	84	62338	64	62633	74	62729	52	62768	82
62127	52	62183	78	62352	72	62634	74	62730	52	62769	84
62129	52	62184	78	62353	72	62635	74	62731	52	62770	84
62130	52	62185	78	62354	72	62637	74	62732	52	62771	84
62131	52	62186	78	62355	72	62638	74	62733	52	62772	80
62132	52	62187	78	62356	72	62641	68	62734	54	62773	86
62133	52	62205	70	62371	66	62642	68	62735	54	62774	86
62135	52	62214	70	62372	66	62643	68	62736	54	62811	76
62136	52	62216	70	62373	66	62644	68	62737	54	62812	76
62137	52	62218	70	62374	66	62645	68	62738	54 & 58	62813	78
62138	52	62220	70	62375	66	62646	68	62739	54	62814	78
62139	52	62239	66	62382	66	62647	68	62740	54	62820	72
62141	52	62241	66	62411	66	62650	70	62741	56	62821	72
62142	52	62242	66	62412	66	62651	72	62742	58		
62143	52	62243	66	62614	70	62652	72	62743	60		
62144	52	62244	66	62424	64	62653	72	62744	60		

# REFERENCE

# Part Number

## Copper

Part #	Page #	Part #	Page #
30016	22	30237	28
30022	22	30238	28
30024	26	30245	10
30025	26	30250	8
30086	40	30287	44
30093	38	30303	16
30120	40	30304	16
30129	20	30308	36
30134	42	30309	28
30145	46	30310	32
30154	20	38653	30
30172	38	38696	36
30180	46	38730	40
30183	24	38743	40
30203	38	38891	34
30212	24	38893	34
30218	18	39092	30
30222	18	39228	42
30233	14	39419	36
30234	14	41684	12
30233	14	39419	36
30234	14	41684	12

## Jacket Color Abbreviations

Black	BK
Blue	BL
Brown	BR
Gray	GA
Green	GR
Red	RD
White	WH
Yellow	YE

## Put-Up Code

Reelex-Boxes	2
Reels	3
Reel-In-A-Box	4

## How to Build an Hitachi Part Number

Section 1	Section 2	Section 3	Section 4
39419	8	BL	2
Base Part Number	Number of Conductors	Jacket Color	Reel Type

Part number 39419-8-BL2 is a Category 5e, plenum rated 4-pair cable with a blue jacket and packaged in a reelex-box.  
Note: Some cable constructions may require additional information when ordering.

# Notes

# Notes

# Installation

## Conduit Fill Chart

Conduit Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
40% Int. Area	0.121"	0.213"	.345"	.598"	.814"	1.342"	2.343"	3.538"	4.618"	5.901"
Cable Diameter	0.19"	4	7	12	21	28	47	82	124	208
	0.2"	4	6	11	19	26	42	74	112	188
	0.21"	3	6	10	17	23	38	67	102	170
	0.22"	3	5	9	15	21	35	61	93	155
	0.23"	3	5	8	14	19	32	56	85	142
	0.24"	2	4	7	13	18	29	51	78	130
	0.25"	2	4	7	12	16	27	47	72	120
	0.26"	1	4	6	11	15	25	44	66	111
	0.27"	1	3	6	10	14	23	41	61	103
	0.28"	1	3	5	9	13	21	38	57	96
	0.29"	1	3	5	9	12	20	35	53	89
	0.3"	1	3	5	8	11	19	33	50	83
	0.31"	1	3	4	8	10	17	31	47	78
	0.32"	1	2	4	7	10	16	29	44	73
	0.33"	1	2	4	7	9	15	27	41	69
	0.34"	1	2	4	6	9	14	26	39	65
	0.35"	1	1	3	6	8	14	24	36	61

The above conduit fill chart is for reference only. The conduit capacity is based on the National Electrical Code requirement of 40% maximum fill. To determine the maximum conduit fill for cable O.D.s other than those referenced above, use the following steps: 1. Square the O.D. of the cable. 2. Multiply the result by .7854. This is the total area of the cable. 3. Multiply the total area of the cable by the number of cables you wish to place in the conduit. This is the total area of the cable bundle. Determine the appropriate conduit size by referencing the 40% Interior Area row.

## Cable Ampacity

The table below is derived from one approved by the National Fire Protection Agency for use in the next edition of the National Electrical Code known as NFPA-70. The complete table will be found in section 725.144 of the code. It will also be referenced in Article 800 Communication Circuits. The table identifies the ampacity of each conductor (in Amperes) in a 4-pair Class 2 or Class 3 data cable. Ambient temperature used for development of the table is 30°C (86°F) with all conductors in all cables carrying current. The table is based on 60°C (140°F), 75°C (167°F) and 90°C (194°F) rated cables.

AWG	Number of 4-Pair Cables in a Bundle																				
	1			2-7			8-19			20-37			38-61			62-91			92-192		
	Temp Rating			Temp Rating			Temp Rating			Temp Rating			Temp Rating			Temp Rating			Temp Rating		
	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C
24	2.0	2.0	2.0	1.0	1.4	1.6	0.8	1.0	1.1	0.6	0.7	0.9	0.1	0.1	0.7	0.4	0.5	0.6	0.3	0.4	0.5
23	2.5	2.5	2.5	1.2	1.5	1.7	0.8	1.1	1.2	0.6	0.8	0.9	0.5	0.7	0.8	0.5	0.7	0.8	0.4	0.5	0.6
22	3.0	3.0	3.0	1.4	1.8	2.1	1.0	1.2	1.4	0.7	0.9	1.1	0.6	0.8	0.9	0.1	0.7	0.8	0.5	0.6	0.7

### Product Performance Guarantee

All goods sold are warranted to be free from defects in material and workmanship on the date of delivery of the materials to the F.O.B. point stated. Seller makes no representation or warranty of any kind, expressed or implied with respect to the goods sold hereunder, whether as to merchantability, fitness for particular purpose, or any other matter. Seller's only obligation is to replace goods that are proved defective within one (1) year after the date of delivery, but always provided the product receives normal and proper use, and due care in handling is exercised. If the goods purchased show defects in material or workmanship within one (1) year after date of delivery, Buyer must discontinue use thereof and must properly notify Seller, so that the matter may be investigated and material inspected and examined by the Seller without inference or delay. Contact Hitachi Cable for full warranty details.



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