Belden

DATATWIST®

European Edition

Data Cables

Belden Data Cables

Reliable Performance through Innovation

Reliability, performance

Over the years, Belden has become an international byword for premium quality and reliability, an accolade for excellence earned through decades of dedication to meeting the highest industry standards. Our strategic objective is to provide our customers with superior solutions for their present and future wire and cable needs. Accordingly, every solution we devise is based on performance, innovation and reliability – the three cornerstones of Belden's business strategy.

A long history of innovation

For the past 100 years, Belden has been an acknowledged front-runner in the wire and cable industry, developing novel technologies and processes for the manufacture of innovative wire and cable products. Products that keep our customers at the forefront of new developments in their chosen field.

Starting in 1902, when the company was founded in Chicago, Belden has consistently pioneered breakthrough technologies and set new industry standards. This trend was set with early successes like Beldenamel insulation (1905) and the introduction of the soft rubber plug in 1927. Ever since, Belden has been an industry innovator, conceiving and developing special applications in cabling, shielding and jacketing. All focused on customer needs. All clearly establishing Belden's leadership in wire and cable technology.

Belden's commitment to innovation has historically fuelled new growth for industry players. It has also earned Belden global innovation leadership that is constantly driven by the Belden Engineering Centres. For instance with Duobond®, Flamarrest®, French Braid™, MediaTwist® and DataTwist® 600e. Another yardstick for measuring the success of our novel products are the many patents we hold. But the ultimate criterion is the fitness for use of the products we supply to our customers.

Global player

The company's successful growth strategy in the 1990s led in 1999 to the purchase of Cable Systems International, the largest specialty telecom cable facility in the world. Other capabilities were created by acquisitions in Hungary, United Kingdom, the USA and the Netherlands, where Belden has its European headquarters and a large R&D Centre and manufacturing facility. Apart from Europe and the US, Belden's worldwide presence includes marketing and sales organizations in Asia Pacific, Latin America and the Middle East.

Today, Belden is a global player in the wire and cable industry, designing, manufacturing and marketing specialty cable, such as copper, and optical fibre cable for electrical, electronic and communications equipment. Reliable products that help Belden's customers keep pace with the shifting dynamics of these fast-moving markets.

Reliable Performance through Innovation

European manufacturing operations

As Belden's global business plans call for a commitment to local markets world-wide and a thorough understanding of local dynamics, Belden has established a very significant presence in core European markets. This ensures that appropriate solutions can always be found to meet the cable and wire needs of our European customers.

Belden has the largest range of cable products in all the markets we serve. Dedicated products matched to local needs. These include over 10.000 products for computer networking and computer equipment; for telecommunications and industrial instrumentation and control; for broadcasting and entertainment; and for cable television and electrical equipment.

With European sales accounting for almost a quarter of Belden's world-wide turnover, Belden has clearly demonstrated the success of its 'Think global, act local' approach. And with its 1000-strong workforce across Europe – and sales offices from Moscow to Lyon and from Stockholm to Dubai – Belden has a strong local capability to understand customers' problems and to provide the answer.

Belden's European headquarters and manufacturing base is in the Netherlands, where the company also has its European Engineering Centre.

Detailed brochures

Full-colour brochures are available on the extensive range of Belden products:

- Digital telephony cables
- Shielded and non-shielded cables
- Multi-conductor cables
- Optical fibre cables
- Audio/video cables
- Coaxial broadband cables
- Electrical cables

To request detailed brochures and data-sheets on our product lines and the extensive Belden Master Catalog, please contact your local Belden representative or send an e-mail to sales.info@belden-europe.com

ISO 14001 EMS – Environmental Management System

Addressing environmental issues correctly is recognized as a high priority, particularly in the industrialized world and not least at Belden. Accordingly, the company makes every effort to minimize the environmental impact of its operations and products.

Recognizing ecological concerns shared by customers and consumers world-wide, from 1999-2001 a working group at Belden's European headquarters in Venlo completed comprehensive preparations for ISO 14001 EMS certification. This environmental management and audit system was implemented and certified in 2001. The progress achieved in the practical implementation of Belden's environmental objectives will be published each year. This will include the measures taken by the company to minimize the environmental impact of Belden's operations, also in respect of (energy) savings in production and novel materials and processes.

USA

United Kingdom

The Netherlands

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Belden Quality

The Belden approach to cable quality

Belden's commitment to quality begins even before its products leave the product development phase. Not only does Belden design products to achieve a given level of performance, it also ensures that these products can be manufactured in a way that makes that performance possible and consistent.

The keyword in the Belden approach is prevention. Prevention involves the use of key parameters of product performance and statistical methods to monitor the process and identify changes that affect the quality of the product and adjust the process accordingly. The responsibility for quality moves from the inspectors to the design and manufacturing departments.

Product quality at Belden begins long before we ever manufacture a single meter of cable. Here's a look at how we do it:

Design for manufacturability

Delivering a superior product means being sure you make a superior product, day after day. Design for Manufacturability (DFM) seeks to identify and account for the challenges inherent in any manufacturing process and address them up front. It takes into account every aspect of manufacturing: materials, machines, operations, environmental factors, and more.

The purpose of DFM is to design products that are robust enough to stand up to the challenges of manufacturing to yield consistent, superior product quality. DFM is focused on the entire manufacturing process and how it can be monitored, controlled, and adjusted to achieve our quality goals.

The benefit to Belden customers is that our products achieve high performance standards that are both consistent and measurable.

Test lab Belden Engineering Centre

Monitoring & maintaining quality

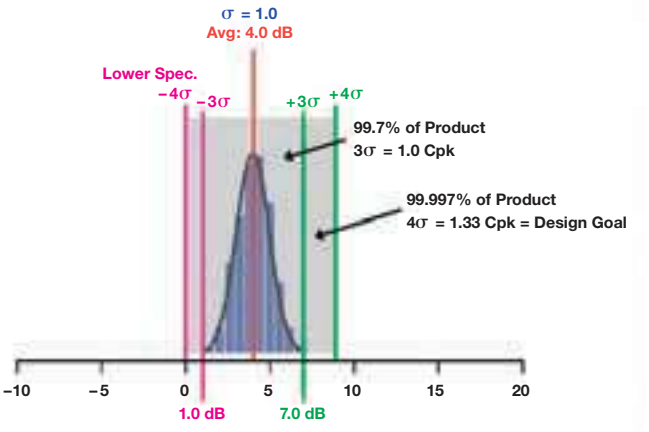
Before releasing any new products for production, all critical characteristics, such as dimensions, electricals, and physicals are targeted to meet a capability index (Cpk) ≥ 1.33, which corresponds to a 99.997 % passing rate. A Cpk is an index that quantifies the capability of a product's design and manufacturing process. It takes the actual performance of a product and compares it to a benchmark level of performance (e.g.: the industry standard).

$$Cpk = \frac{\text{Headroom (average worst case margin from spec.)}}{\text{3 x Standard deviation}}$$

The Cpk values are determined through capability studies, which represent the final product design and manufacturing set-ups. This includes statistically valid run times, sampling quantities and methods. The result is a Cpk value that corresponds to a predicted defect rate for the product.

Based on these statistics (measuring 100 % is simply not possible) 99.997 % of the Belden products will pass the applicable cable standards. If Belden specifies headroom above a cable standard this will always means in addition to the Cpk = 1.33 range (4σ).

Variation of a product characteristics that performs just within our specification.



Belden's Cpk testing methods are actually more reliable than simple "pass/fail" testing on cable as it comes off the manufacturing line. Rather than merely testing batches of cable, Cpk testing allows Belden to monitor and control the long-term quality and performance of the cable we produce. Cpk's are tracked constantly through Plant Quality Assurance, using in-house developed Quality Data Acquisition Systems. The generated Cpk values give us an accurate measurement of quality over time, and are used to drive continuous quality improvements.
It enables us to adjust our manufacturing processes in ways that ensure the production of high performance cable, day in day out.

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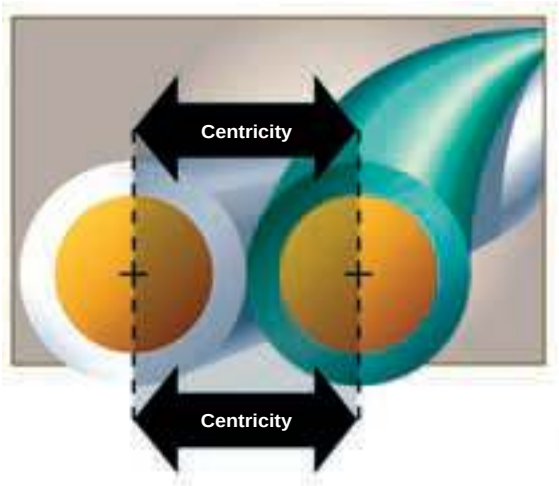
Bonded pairs

Installed performance is the performance of a channel in real world installation conditions. Common real world conditions include the use of cable that have experienced severe flexing when pulled around bends and corners and cable coiled into service loops and/or stuffed into outlet boxes. The Belden Bonded Pair cables provide better installable performance™, due to its unique, patented design.

Better by design

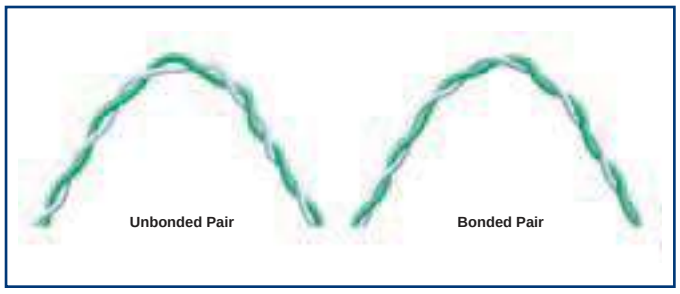
For a twisted pair cable, a solid design begins with the individual conductors and their relationship to one another forming a pair.
An ideal pair is comprised of two perfectly balanced insulated conductors that are mirror images of each other. The copper used in the two conductors is identical – with exactly the same dimensions – and is also perfectly centered, or concentric, within each insulated conductor.

The ideal twisted pair, with perfect centricity and concentricity.



To maintain this perfect balance, the center-to-center distance, or centricity, between the copper conductors must remain fixed and should never vary – not even in the slightest! In balanced signal transmission on an ideal pair, these concentricity and centricity factors help ensure that the signal does not radiate or bleed off the pair and that the pair cancels out all incoming noise.
When the conductors of a twisted pair become separated, impedance mismatches, Return Loss (RL), and crosstalk problems arise. In order to prevent this separation from occurring and to provide structural stability, Belden has developed its patented Bonded Pair technology. As the picture illustrates, even when a Bonded Pair cable is bent, its conductor-to-conductor spacing remains stable.

Only a Bonded Pair will not gap when the pair is bent around a corner.

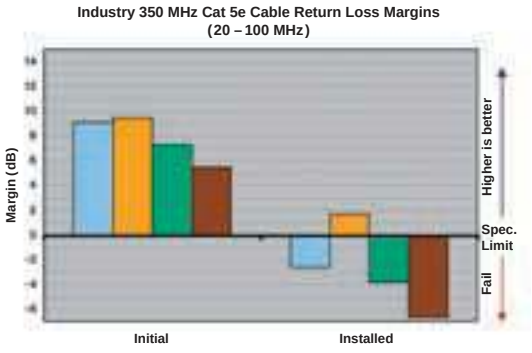


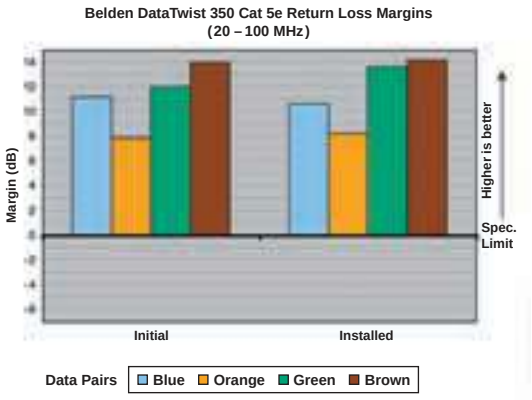
Design dictates performance

Belden Bonded Pair cables are designed to maintain their outstanding performance after installation. To demonstrate this, an Installation Stress Test has been designed and implemented. To simulate pulling the cable through and around cable trays, ceilings and walls, each cable was run through a series of controlled bends and twists.
Next, the end of the cable was placed into an outlet box, and a 3 meter length of the cable was loosely coiled into a service loop at the workstations end. The cables were tested before and after the test to identify any changes in performance.

If we compare the RL values of the Cat5E Belden Bonded Pair cable vs. an industry leading Cat5E cable we find that the Unbonded Pair cable's RL value degraded by more than 12 dB, or more than 15 times their before-installation values.

Belden's Bonded Pair cables exhibited little change in RL performance. (For more detailed information, please refer to Belden Technical Bulletin TB-66, *The Impact of Typical Installation Stresses on cable Performance.*)





Performance reduces costs

To further document the after-installation performance of both Bonded Pair and Unbonded Pair cables, Belden surveyed a large number of contractors regarding their installation experiences.
This survey showed a clear difference between the two cable types after installation was complete and field testing was conducted to verify compliance with industry standards, both proposed Category 6 and Category 5E. It showed that the Belden Bonded Pair cables cause significantly less test failures compared to Unbonded Pair cables.
In fact, with Bonded Pair cables time savings of up to 1.5 minutes per drop (Cat 5E) and 2.5 minutes per drop (Cat 6) can be expected because far less troubleshooting and re-work is required.
(For more detailed information, please refer to Belden Technical Bulletin TB-67, *Contractor Field-Testing Survey Reveals Performance-Related Cost savings Using Bonded Pair Cables.)*

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Belden Data Cables

Cable Finder

Belden part number	Origin: US product	Origin: Europe product	Description	Tested to frequency (MHz)	Remarks	Industry standards: EN 50173-1	Industry standards: TIA/EIA 568-B2	Industry standards: ISO/IEC 11801 2nd ed.	Page
Unshielded Cables									
UTP Category 5E									
1583E		X		100		X	X	X	6
1583ENH		X		100	NH jacket	X	X	X	6
1667E		X	Twin 1583E	100		X	X	X	6
1667ENH		X	Twin 1583ENH	100	NH jacket	X	X	X	6
1700A		X	DataTwist® 350	350	bonded pairs	X	X	X	6
1700ANH		X	DataTwist® 350	350	bonded pairs, NH jacket	X	X	X	6
1702E		X	Twin 1700E	350	bonded pairs	X	X	X	6
1702ENH		X	Twin 1700ENH	350	bonded pairs, NH jacket	X	X	X	6
1592A	X		DataTwist® Patch	350			X	X	7
1592ANH	X		DataTwist® Patch	350	NH jacket		X	X	7
1752A	X		DataTwist® 350 Patch	350	bonded pairs		X	X	7
1752ANH	X		DataTwist® 350 Patch	350	bonded pairs, NH jacket		X	X	7
UTP Category 6									
7965E		X		250		X	X	X	8
7965ENH		X		250	NH jacket	X	X	X	8
7812E		X		250	bonded pairs	X	X	X	8
7812ENH		X		250	bonded pairs, NH jacket	X	X	X	8
1872A	X		MediaTwist®	350	bonded pairs		X	X	9
1872ANH	X		MediaTwist®	350	bonded pairs, NH jacket		X	X	9
1875GB	X		MediaTwist® Patch	350	bonded pairs		X	X	9
7851A	X		DataTwist® 600e	600	bonded pairs		X		10
7851NH	X		DataTwist® 600e	600	bonded pairs, NH jacket		X		10
Shielded Cables									
(S)FTP Category 5E									
1633E		X		100		X		X	11
1633ENH		X		100	NH jacket	X		X	11
1668E		X	Twin 1633E	100		X		X	11
1668ENH		X	Twin 1633ENH	100	NH jacket	X		X	11
1730A	X			100	bonded pairs			X	11
1730ANH	X			100	bonded pairs, NH jacket			X	11
1633E+		X	Braided 1633E	100		X		X	12
1633ENH+		X	Braided 1633ENH	100	NH jacket	X		X	12
1668E+		X	Twin 1633E+	100		X		X	12
1668ENH+		X	Twin 1633ENH+	100	NH jacket	X		X	12
1868E		X	Patch	100		X		X	12
1868ENH		X	Patch	100	NH jacket	X		X	12
(S)FTP Category 6									
7860E		X		250	bonded pairs	X		X	13
7860ENH		X		250	bonded pairs, NH jacket	X		X	13
7860E+		X	Braided 7860E	250	bonded pairs	X		X	13
7860ENH+		X	Braided 7860ENH	250	bonded pairs, NH jacket	X		X	13
ISTP Category 7									
1885ENH		X		1000	NH jacket	X		X	14
1887ENH		X	Twin 1885ENH	1000	NH jacket	X		X	14

Notes:

- Plenum versions and various multipair cables available upon request.
- Please check for available outdoor cables.

- All specification limits according to ISO/IEC 11801 2nd. Edition (September 2002), unless otherwise stated. All values at frequencies below 4 MHz in this brochure are for reference only, in accordance with ISO/IEC 11801.
- Typical values represent values from multiple tests of our products. These numbers are not guaranteed but are designed to give the user an idea of the products typical capabilities. The minimum/maximum values are guaranteed values.
- For ordering information see page 14.

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UTP Category 5E

Belden 1583E — Cat. 5E

Belden 1583ENH Halogen-free version

Belden 1667E Twin version of 1583E

Belden 1667ENH Twin version of 1583ENH

Product description

Unshielded Twisted Pair Cable, 4 pairs x AWG 24. Solid bare copper conductors, polyolefine insulation. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

Frequency (MHz)		1	4	8	10	16	20	25	31.25	62.5	100
Attenuation (dB/100 m)	max. (Cat. 5E)	2.1	4.0	5.7	6.3	8.0	9.0	10.1	11.4	16.5	21.3
	typical	1.9	3.9	5.6	6.2	7.9	8.9	9.9	11.2	16.0	19.8
NEXT (dB)	min.	65	56	52	50	47	46	44	43	38	35
	typical	73	64	59	58	55	54	53	51	47	44
PS-NEXT (dB)	min.	62	53	49	47	44	43	41	40	35	32
	typical	71	62	57	56	53	52	51	49	45	42
PS-ELFEXT (dB)	min.	61	49	43	41	37	35	33	31	25	21
	typical	71	59	53	51	46	43	42	39	33	28
ACR (dB/100 m)	min.	63.2	52.3	46.1	44.0	39.2	36.8	34.2	31.5	21.8	14.0
	typical	71	61	54	52	48	45	42	40	31	24
PS-ACR (dB/100 m)	min.	60.2	49.3	43.1	41.0	36.2	33.8	31.2	28.5	18.8	11.0
	typical	69	58	51	50	45	43	41	38	29	22
RL (dB)	min.	20.0	23.0	24.5	25.0	25.0	25.0	24.3	23.6	21.5	20.1
	typical	31	33	41	42	41	41	39	36	34	32

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 94
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 0.90

Nominal overall diameter (mm): 5.0
Impedance (Ohm): 100 Ohm ± 15 %
Energy of flame (kJ/m):

	Single	Twin
E	312	626
ENH	310	621

Standard lengths (put-ups):		Standard weight:
U 1000 ft.	U 305 m	8.5 kg
1000 ft.	305 m	8.5 kg
1640 ft.	500 m	14.0 kg
3280 ft.	1000 m	28.0 kg

Belden 1700A DataTwist® 350 Bonded pairs — Cat. 5E

Belden 1700ANH Halogen-free version

Belden 1702A Twin version of 1700A

Belden 1702ANH Twin version of 1700ANH

Product description

Unshielded Twisted Pair Cable, 4 bonded pairs x AWG 24, ripcord. Solid bare copper conductors, polyolefine insulation. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

Flame test: UL CM UL ISDI Vertical Tray, CSA FT1

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	310	350
Attenuation (dB/100 m)	max. (Cat. 5E)	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.3	–	–	–	–
	typical	1.9	3.9	6.2	7.9	8.9	11.2	16.0	19.8	25.0	28.5	35.9	38.5
NEXT (dB)	min.	65	56	50	47	46	43	38	35	–	–	–	–
	typical	73	64	58	55	54	51	47	44	40	38	36	35
PS-NEXT (dB)	min.	62	53	47	44	43	40	35	32	–	–	–	–
	typical	71	62	56	53	52	49	45	42	38	36	34	33
PS-ELFEXT (dB)	min.	61	49	41	37	35	31	25	21	–	–	–	–
	typical	71	59	51	46	43	39	33	28	25	23	19	18
ACR (dB/100 m)	min.	63.2	52.3	44.0	39.2	36.8	31.5	21.8	14.0	–	–	–	–
	typical	71	60	52	47	45	40	31	24	15	10	–	–
PS-ACR (dB/100 m)	min.	60.2	49.3	41.0	36.2	33.8	28.5	18.8	11.0	–	–	–	–
	typical	69	58	50	45	43	38	29	22	13	8	–	–
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	–	–	–	–
	typical	31	33	40	42	42	42	41	41	37	37	35	34

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 94
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 0.95

Nominal overall diameter (mm): 5.0
Impedance (Ohm): 100 Ohm ± 15 %
Energy of flame (kJ/m):

	Single	Twin
A	305	610
ANH	298	596

Standard lengths (put-ups):		Standard weight:
U 1000 ft.	U 305 m	8.5 kg
1000 ft.	305 m	8.5 kg
1640 ft.	500 m	14.0 kg
3280 ft.	1000 m	28.0 kg

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Belden 1592A DataTwist® Patch Cat. 5E

Belden 1592ANH Halogen-free version

Product description

Unshielded Twisted Pair Cable, 4 pairs x AWG 24. Stranded bare copper conductors, polyolefine insulated singles, PVC jacket. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: TIA/EIA 568-B2 , ISO/IEC 11801

Flame test: UL CM UL 1581 Vertical Tray, CSA FT1

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250	350
Attenuation (dB/100 m)	guaranteed max.	2.5	4.9	7.8	9.9	11.1	12.5	14.1	20.4	26.4	33.7	38.9	–	45.3
	typical	1.9	4.1	6.6	8.4	9.3	10.5	11.8	16.7	21.4	26.9	31.7	36.7	38.5
PS-NEXT (dB)	guaranteed min.	62.3	53.3	47.3	44.3	42.8	41.3	39.9	35.4	32.3	29.5	27.8	–	–
	typical	73	63	57	54	53	51	50	45	42	40	39	31	29
PS-ELFEXT (dB)	guaranteed min.	60.8	48.7	40.8	36.7	34.7	32.8	30.9	24.8	20.8	16.9	15.0	–	–
	typical	69	51	48	46	43	41	39	33	29	25	23	–	–
PS-ACR (dB/100 m)	guaranteed min.	59.8	48.4	39.5	34.4	31.7	28.8	25.8	15.0	5.9	–	–	–	–
	typical	71	59	50	46	44	41	38	28	21	–	8	–	–
RL (dB)	guaranteed min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	20.1	15.8	15.0	–	–
	typical	25	28	33	33	33	32	31	29	28	27	26	24	22

Number of pairs: 4	Nominal overall diameter (mm): 8.0	Standard lengths (put-ups): / Standard weight:
Standard colour: Grey, Blue, Red, Green, Yellow, Orange, Violet, White, Black	Impedance (Ohm): 1 – 100 MHz: 100 ± 15 %	U 1000 ft. / U 305 m / 9.5 kg
Velocity of propagation (%): 69	100 – 250 MHz: 100 ± 25 %	1000 ft. / 305 m / 9.5 kg
Typ. DCR (Ohm/100 m): 7.9		
Nominal capacitance (pF/ft.): 15		
Diameter of insulated conductor (mm): 0.99		

Belden 1752A DataTwist® 350 Bonded pairs Patch Cat. 5E

Belden 1752ANH Halogen-free version

Product description

Unshielded Twisted Pair Cable, 4 pairs x AWG 24. Stranded tinned copper conductors, polyolefine insulated singles with bonded pairs, PVC jacket. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: TIA/EIA 568-B2 , ISO/IEC 11801

Flame test: UL CM UL 1581 Vertical Tray, CSA FT1

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250	350
Attenuation (dB/100 m)	guaranteed max.	2.4	4.8	7.7	9.8	11.0	12.4	13.9	20.1	26.1	33.3	38.4	43.7	53.2
	typical	1.9	3.9	6.2	7.9	9.0	10.2	11.0	15.9	20.7	26.2	30.8	35.8	45.3
PS-NEXT (dB)	guaranteed min.	65.3	56.3	50.3	47.3	45.8	45.3	42.9	38.4	35.3	32.5	30.8	29.3	27.2
	typical	76	72	63	61	60	57	55	53	50	47	45	43	42
PS-ELFEXT (dB)	guaranteed min.	69.8	48.7	40.8	36.7	34.7	32.8	30.9	24.8	20.8	16.9	15.0	–	–
	typical	73	71	63	48	45	43	41	35	31	28	25	–	–
PS-ACR (dB/100 m)	guaranteed min.	62.9	51.5	42.6	37.5	34.8	32.0	29.0	18.2	9.3	–	–	–	–
	typical	72	66	55	51	49	45	42	35	27	19	12	7	–
RL (dB)	guaranteed min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	20.1	20.0	19.0	18.0*	17.0
	typical	29	31	34	34	35	35	35	35	33	33	31	30*	30

Number of pairs: 4	Nominal overall diameter (mm): 8.0	Standard lengths (put-ups): / Standard weight:
Standard colour: Grey, Blue, Red, Green, Yellow, Orange, Violet, White, Black	Impedance (Ohm): 1 – 100 MHz: 100 ± 15 %	U 1000 ft. / U 305 m / 11.3 kg
Velocity of propagation (%): 70	100 – 250 MHz: 100 ± 25 %	1000 ft. / 305 m / 11.3 kg
Typ. DCR (Ohm/100 m): 8.6		
Nominal capacitance (pF/ft.): 15		
Diameter of insulated conductor (mm): 0.99		

* values at 310 MHz

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Belden 7965E — Cat. 6

Belden 7965ENH Halogen-free version

Product description

Unshielded Twisted Pair Cable, 4 pairs x AWG 23. Solid bare copper conductors, polyolefine insulation, spline. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250
Attenuation (dB/100 m)	max. (Cat. 6)	2.1	3.8	6.0	7.6	8.5	9.6	10.7	15.5	19.9	25.3	29.1	33.0
	typical	1.7	3.5	5.6	7.1	8.0	9.0	10.1	14.4	18.6	23.6	27.0	30.7
NEXT (dB)	min.	75	66	60	57	56	54	53	48	45	42	41	39
	typical	76	73	66	64	63	61	56	55	52	49	48	45
PS-NEXT (dB)	min.	72	63	57	54	53	51	50	45	42	39	38	36
	typical	74	71	64	62	61	59	54	53	50	47	46	43
PS-ELFEXT (dB)	min.	65	53	45	41	39	37	35	29	25	21	19	17
	typical	70	64	57	51	49	47	45	39	35	31	29	27
ACR (dB/100 m)	min.	73.2	62.4	54.3	49.6	47.3	44.8	42.1	32.9	25.4	17.1	11.6	6.3
	typical	74	70	60	57	55	52	46	41	33	25	21	14
PS-ACR (dB/100 m)	min.	70.2	59.4	51.3	46.6	44.3	41.8	39.1	29.9	22.4	14.1	8.6	3.3
	typical	72	68	58	55	53	50	44	39	31	23	19	12
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	20.1	18.8	18.0	17.3
	typical	33	36	44	42	40	37	38	36	31	27	25	24

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 70
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 1.01

Nominal overall diameter (mm): 6.2	
Impedance (Ohm): 1–100 MHz: 100 ± 15 %	
100–250 MHz: 100 ± 22 %	
Energy of flame (kJ/m):	
	Single
E	490
ENH	478

Standard lengths (put-ups):		Standard weight:
1640 ft.	500 m	21.5 kg
3280 ft.	1000 m	43.0 kg

Belden 7812E — Bonded pairs — Cat. 6

Belden 7812ENH Halogen-free version

Product description

Unshielded Twisted Pair Cable, 4 bonded pairs x AWG 23. Solid bare copper conductors, polyolefine insulation, spline. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250
Attenuation (dB/100 m)	max. (Cat. 6)	2.1	3.8	6.0	7.6	8.5	9.6	10.7	15.5	19.9	25.3	29.1	33.0
	typical	1.8	3.5	5.7	7.3	8.2	9.3	10.4	15.1	18.1	23.6	27.5	30.8
NEXT (dB)	min.	75	66	60	57	56	54	53	48	45	42	41	39
	typical	80	76	70	67	66	64	63	58	55	51	49	45
PS-NEXT (dB)	min.	72	63	57	54	53	51	50	45	42	39	38	36
	typical	78	74	68	65	64	62	61	56	53	49	47	43
PS-ELFEXT (dB)	min.	65	53	45	41	39	37	35	29	25	21	19	17
	typical	70	64	57	51	49	47	45	39	35	31	29	27
ACR (dB/100 m)	min.	73.2	62.4	54.3	49.6	47.3	44.8	42.1	32.9	25.4	17.1	11.6	6.3
	typical	78	73	64	60	58	55	53	43	37	27	22	14
PS-ACR (dB/100 m)	min.	70.2	59.4	51.3	46.6	44.3	41.8	39.1	29.9	22.4	14.1	8.6	3.3
	typical	76	71	62	58	56	53	51	41	35	25	20	12
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	20.1	18.8	18.0	17.3
	typical	34	34	41	42	44	45	46	45	43	40	40	36

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 70
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 1.05

Nominal overall diameter (mm): 6.5	
Impedance (Ohm): 1–100 MHz: 100 ± 15 %	
100–250 MHz: 100 ± 22 %	
Energy of flame (kJ/m):	
	Single
E	555
ENH	535

Standard lengths (put-ups):		Standard weight:
U 1000 ft.	U 305 m	13.1 kg
1640 ft.	500 m	21.5 kg
3280 ft.	1000 m	43.0 kg

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Belden Data Cables

UTP Category 6

Belden 1872A MediaTwist® Bonded pairs Cat. 6

Belden 1872ANH Halogen-free version

Product description

Unshielded Twisted Pair Cable, 4 pairs x AWG 23. Solid bare copper conductors, polyolefine insulated singles with bonded pairs, ripcord, PVC jacket. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: TIA/EIA 568-B2 , ISO/IEC 11801

Flame test: UL type CMR, CMG, CM, UL 1666 riser, UL 1581 Vertical Tray, CSA FT4

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	310	350
Attenuation (dB/100 m)	max. (TIA/EIA Cat. 6)	2.0	3.8	6.0	7.6	8.5	9.5	10.7	15.4	19.8	25.2	29.0	37.1	39.8
	typical	1.7	3.4	5.5	7.0	7.9	8.8	10.0	14.1	18.5	23.3	27.8	36.0	38.5
PS-NEXT (dB)	min.	72.3	63.3	57.3	54.2	52.8	51.3	49.9	45.4	42.3	39.4	37.8	34.9	34.1
	typical	86	76	70	69	68	66	65	60	54	52	50	47	46
PS-ELFEXT (dB)	min.	64.8	52.8	44.8	40.7	38.8	36.8	34.9	28.9	24.8	21.0	18.8	–	–
	typical	82	72	66	62	60	57	55	50	45	40	38	–	–
PS-ACR (dB/100 m)	min.	70.3	59.5	51.3	46.7	44.3	41.8	39.2	30.0	22.5	14.3	8.8	–	–
	typical	84	73	65	62	60	59	55	46	35	29	22	11	8
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	21.0	21.0	21.0	18.0	17.0
	typical	29	31	34	34	35	35	35	33	33	33	31	30	30

Number of pairs: 4	Nominal overall diameter (mm): 8.0	Standard lengths (put-ups): / Standard weight:
Standard colour: Grey, Gold, Brown, Blue, Red, Green, Yellow, Orange, Violet	Impedance (Ohm): 1 – 20 MHz: 100 ± 12 %	328 ft. / 100 m / 4.3 kg
Velocity of propagation (%): 70	20 – 200 MHz: 100 ± 15 %	A 1000 ft. / A 305 m / 13.2 kg
Typ. DCR (Ohm/100 m): 7.4	200 – 310 MHz: 100 ± 20 %	
Nominal capacitance (pF/ft.): 15	310 – 350 MHz: 100 ± 22 %	
Diameter of insulated conductor (mm): 0.96		

Belden 1875GB MediaTwist® Bonded pairs Patch Cat. 6

Belden 1875GBNH Halogen-free version

Product description

Unshielded Twisted Pair Cable, 4 pairs x AWG 24. Stranded tinned copper conductors, polyolefine insulated singles with bonded pairs, PVC jacket. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: TIA/EIA 568-B2 , ISO/IEC 11801

Flame test: UL CM UL1581 Vertical Tray, CSA FT4

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250	350
Attenuation (dB/100 m)	guaranteed max.	2.0	4.1	6.5	8.2	9.3	10.4	11.7	17.0	22.0	30.4	35.0	39.6	51.1
	typical	1.8	3.6	5.8	7.4	8.4	9.4	10.7	15.6	20.8	25.7	31.3	37.1	46.2
PS-NEXT (dB)	guaranteed min.	72.3	63.3	57.3	54.3	52.8	51.3	49.9	45.4	42.3	39.5	37.8	36.3	34.2
	typical	86	76	70	69	68	66	65	60	54	52	50	48	46
PS-ELFEXT (dB)	guaranteed min.	64.8	52.7	44.8	40.7	38.7	36.8	34.9	28.8	24.8	20.9	18.7	–	–
	typical	82	72	66	62	60	57	55	50	45	40	38	–	–
PS-ACR (dB/100 m)	guaranteed min.	72.3	61.2	52.8	48.0	45.5	42.9	40.2	30.4	22.3	11.1	4.8	–	–
	typical	84	73	65	62	59	57	53	44	33	27	20	15	1
RL (dB)	guaranteed min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	21.0	21.0	21.0	18.0	17.0
	typical	29	31	34	34	35	35	35	35	33	33	31	30	30

Number of pairs: 4	Nominal overall diameter (mm): 8.0	Standard lengths (put-ups): / Standard weight:
Standard colour: Grey, Blue, Red, Green, Yellow, Violet, White, Black	Impedance (Ohm): 1 – 20 MHz: 100 ± 12 %	1000 ft. / 305 m / 13.2 kg
Velocity of propagation (%): 70	20 – 200 MHz: 100 ± 15 %	A 1000 ft. / A 305 m / 13.2 kg
Typ. DCR (Ohm/100 m): 8.2	200 – 250 MHz: 100 ± 20 %	
Nominal capacitance (pF/ft.): 15	250 – 350 MHz: 100 ± 22 %	
Diameter of insulated conductor (mm): 0.99		

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UTP Category 6

Belden 7851A DataTwist® 600e Bonded pairs Cat. 6

Belden 7851NH Halogen-free version

Product description

Unshielded Twisted Pair Cable, 4 pairs x AWG 23. Solid bare copper conductors, polyolefine insulated singles with bonded pairs, e-Spline, ripcord, PVC jacket.

Applicable industry standards: TIA/EIA 568-B2

Flame test: UL type CMR, UL1666 riser listed, CSA FT4

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250	350	400	500	600
Attenuation (dB/100 m)	max. (TIA/EIA Cat. 6)	2.0	3.8	6.0	7.6	8.5	9.5	10.7	15.4	19.8	25.2	29.0	32.8	39.8	43.0	48.9	54.5
	guaranteed max.	1.9	3.6	5.7	7.2	8.1	9.1	10.2	14.7	18.9	23.9	27.5	31.2	37.7	40.6	46.2	51.4
PS-NEXT (dB)	min.	72.3	63.3	57.3	54.2	52.8	51.3	49.9	45.4	42.3	39.4	37.8	36.3	34.1	33.3	31.8	30.6
	guaranteed min.	80.3	71.3	65.3	62.3	60.8	59.3	57.9	53.4	50.3	47.5	45.8	44.3	40.2	39.3	37.8	36.6
PS-ELFEXT (dB)	min.	64.8	52.8	44.8	40.7	38.8	36.8	34.9	28.9	24.8	21.0	18.8	16.8	13.9	12.8	10.8	9.2
	guaranteed min.	70.8	58.8	50.8	46.7	44.8	42.8	40.9	34.9	30.8	27.0	24.8	22.8	19.9	18.8	16.8	15.2
PS-ACR (dB/100 m)	min.	70.3	59.5	51.3	46.7	44.3	41.8	39.2	30.0	22.5	14.3	8.8	3.5	–	–	–	–
	guaranteed min.	78.4	67.7	59.6	55.1	52.7	50.2	47.7	38.7	31.4	23.6	18.3	13.1	4.5	0.6	–	–
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	20.1	18.8	18.0	17.3	16.3	15.9	15.2	14.7
	guaranteed min.	20.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	22.8	21.6	20.5	19.8	19.5	18.4	17.6

Number of pairs: 4
Standard colour: Grey, Blue, White
Velocity of propagation (%): 67
Max. DCR (Ohm/100 m): 8.2
Nominal capacitance (pF/ft.): 15.5
Diameter of insulated conductor (mm): 1.05

Nominal overall diameter (mm): 8.0
Impedance (Ohm): 1 – 25 MHz: 100 ± 12 %
25 – 250 MHz: 100 ± 15 %
250 – 350 MHz: 100 ± 20 %
350 – 600 MHz: 100 ± 22 %

Standard lengths (put-ups):		Standard weight:
1000 ft.	305 m	14.2 kg
U 1000 ft.	U 305 m	14.2 kg
A 1000 ft.	A 305 m	14.2 kg

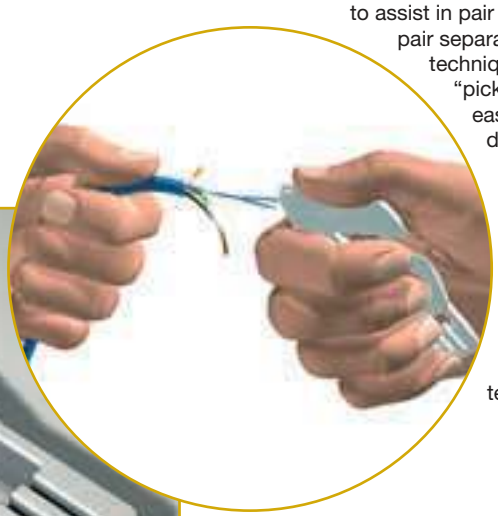
Colour code:	
Pair no. 1	White/Green & Green
Pair no. 2	White/Orange & Orange
Pair no. 3	White/Blue & Blue
Pair no. 4	White/Brown & Brown

The DataTwist® 600e cable is a revolutionary UTP cable engineered specifically to perform well beyond proposed Category 6 standards. While proposed Category 6 cable is specified only to 250 MHz, DataTwist® 600e is the only UTP cable in the industry fully characterized with guaranteed performance to 600 MHz. So users have far more headroom to compensate for unforeseen factors that can inhibit the performance of a cabling system today... and protection of their technology investment for the future.

The Cable Preparation Tool is packed with every spool of Belden DataTwist 600e data cable. The Belden Cable Preparation Tool (1797B) now makes it faster and easier than ever to prepare cables for connector termination. This tool is ideal for use with Belden's Bonded Pair cables, providing special features that help separate twisted pairs. It can also be used to prepare any unbonded pair cable for installation.

Pair Separation Techniques:

Belden's Cable Preparation Tool features both the new Pick technique and the traditional Blade Slot technique to better facilitate pair untwisting. The Pick technique utilizes a steel awl that is incorporated into the tip of the tool that is surrounded on both sides with guards to assist in pair alignment during the pair separation step. The Pick technique allows for a simple "pick-n-pull" motion to easily separate the conductors of a twisted pair cable. The Blade Slot Technique provides the technician an alternate method for separating the conductors quickly and easily. See TB177 for detailed instructions for either technique.



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Belden Data Cables

(S)FTP Category 5E

Belden 1633E — Cat. 5E

Belden 1633ENH Halogen-free version
Belden 1668E Twin version of 1633E
Belden 1668ENH Twin version of 1633ENH

Product description

Shielded Twisted Pair Cable, 4 pairs x AWG 24. Solid bare copper conductors, polyolefine insulation, overall foil shield, tinned copper drain wire. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801

Frequency (MHz)		1	4	8	10	16	20	25	31.25	62.5	100
Attenuation (dB/100 m)	max. (Cat. 5E)	2.1	4.0	5.7	6.3	8.0	9.0	10.1	11.4	16.5	21.3
	typical	2.0	3.8	5.5	6.0	7.6	8.5	9.5	10.8	15.0	19.3
NEXT (dB)	min.	65	56	52	50	47	46	44	43	38	35
	typical	70	62	58	57	54	52	50	49	45	43
PS-NEXT (dB)	min.	62	53	49	47	44	43	41	40	35	32
	typical	68	60	56	55	52	50	48	47	43	41
PS-ELFEXT (dB)	min.	61	49	43	41	37	35	33	31	25	21
	typical	73	61	55	53	47	45	43	41	37	33
ACR (dB/100 m)	min.	63.2	52.3	46.1	44.0	39.2	36.8	34.2	31.5	21.8	14.0
	typical	68	58	53	51	46	44	41	38	30	24
PS-ACR (dB/100 m)	min.	60.2	49.3	43.1	41.0	36.2	33.8	31.2	28.5	18.8	11.0
	typical	66	56	51	49	44	42	39	36	28	22
RL (dB)	min.	20.0	23.0	24.5	25.0	25.0	25.0	24.3	23.6	21.5	20.1
	typical	33	34	40	42	42	41	38	35	32	29

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 94
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 1.05

Nominal overall diameter (mm): 6.0		
Impedance (Ohm): 100 Ohm ± 15 %		
Energy of flame (kJ/m):		
	Single	Twin
E	474	949
ENH	464	929

Standard lengths (put-ups):		Standard weight:
1000 ft.	305 m	13.0 kg
1640 ft.	500 m	21.5 kg
3280 ft.	1000 m	43.0 kg

Belden 1730A — Bonded pairs — Cat. 5E

Belden 1730ANH Halogen-free version

Product description

Shielded Twisted Pair Cable, 4 bonded pairs x AWG 24. Solid bare copper conductors, polyolefine insulation, lateral foil shield, spiral tinned copper drain wire, Nylon ripcord, PVC jacket. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: ISO/IEC 11801

Frequency (MHz)		1	4	8	10	16	20	31.25	62.5	100
Attenuation (dB/100 m)	max. (Cat. 5E)	4.0	4.0	5.7	6.3	8.0	9.0	11.4	16.5	21.3
	typical	1.9	3.7	5.2	5.8	7.4	8.3	10.4	14.7	19.5
NEXT (dB)	min.	60	56	52	50	47	46	43	38	35
	typical	70	61	56	55	52	50	48	43	40
PS-ELFEXT (dB)	min.	61	49	43	41	37	35	31	25	21
	typical	73	61	55	53	47	45	41	37	33
ACR (dB/100 m)	min.	56.0	52.3	46.1	44.0	39.2	36.8	31.5	21.8	14.0
	typical	68	57	51	49	45	42	38	28	21
RL (dB)	min.	20.0	23.0	24.5	25.0	25.0	25.0	23.6	21.5	20.1
	typical	23	23	23	23	23	23	21	18	16

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 66
Max. DCR (Ohm/km): 82
Nominal capacitance (pF/m): 14
Diameter of insulated conductor (mm): 1.06

Nominal overall diameter (mm): 6.7
Impedance (Ohm): 100 Ohm ± 15 %

Standard lengths (put-ups):		Standard weight:
U 1000 ft.	U 305 m	14.3 kg
1000 ft.	305 m	16.2 kg
3280 ft.	1000 m	53.2 kg

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(S)FTP Category 5E

Belden 1633E+ — Braided — Cat. 5E

Belden 1633ENH+ Halogen-free version
Belden 1668E+ Twin version of 1633E+
Belden 1668ENH+ Twin version of 1633ENH+

Product description

Shielded Twisted Pair Cable. 4 pairs x AWG 24. Solid bare copper conductors, polyolefine insulation, overall foil shield, tinned copper drain wire and tinned copper braid. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801

Frequency (MHz)		1	4	8	10	16	20	25	31.25	62.5	100
Attenuation (dB/100 m)	max. (Cat. 5E)	2.1	4.0	5.7	6.3	8.0	9.0	10.1	11.4	16.5	21.3
	typical	2.0	3.8	5.5	6.0	7.6	8.5	9.5	10.8	15.0	19.3
NEXT (dB)	min.	65	56	52	50	47	46	44	43	38	35
	typical	70	62	58	57	54	52	50	49	45	43
PS-NEXT (dB)	min.	62	53	49	47	44	43	41	40	35	32
	typical	68	60	56	55	52	50	48	47	43	41
PS-ELFEXT (dB)	min.	61	49	43	41	37	35	33	31	25	21
	typical	73	61	55	53	47	45	43	41	37	33
ACR (dB/100 m)	min.	63.2	52.3	46.1	44.0	39.2	36.8	34.2	31.5	21.8	14.0
	typical	68	58	53	51	46	44	41	38	30	24
PS-ACR (dB/100 m)	min.	60.2	49.3	43.1	41.0	36.2	33.8	31.2	28.5	18.8	11.0
	typical	66	56	51	49	44	42	39	36	28	22
RL (dB)	min.	20.0	23.0	24.5	25.0	25.0	25.0	24.3	23.6	21.5	20.1
	typical	33	34	40	42	42	41	38	35	32	29

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 94
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 1.05

Nominal overall diameter (mm): 6.3		
Impedance (Ohm): 100 Ohm ± 15 %		
Energy of flame (kJ/m):		
	Single	Twin
E	525	1050
ENH	505	1010

Standard lengths (put-ups):		Standard weight:
1000 ft.	305 m	14.6 kg
1640 ft.	500 m	24.0 kg
3280 ft.	1000 m	48.0 kg

Belden 1868E — Patch — Cat. 5E

Belden 1868ENH Halogen-free version

Product description

Shielded Twisted Pair Cable, 4 pairs x AWG 26. Stranded bare copper conductors, polyolefine insulation, overall foil shield, tinned copper drain. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801

Frequency (MHz)		1	4	8	10	16	20	25	31.25	62.5	100
Attenuation (dB/100 m)	max. (Cat. 5E)	3.2	6.0	8.5	9.5	12.1	13.6	15.2	17.1	24.8	32.0
	typical	2.5	5.0	7.0	7.9	9.9	11.1	12.5	14.0	20.5	26.3
NEXT (dB)	min.	65	56	52	50	47	46	44	43	38	35
	typical	69	60	56	54	51	50	48	47	42	39
PS-NEXT (dB)	min.	62	53	49	47	44	43	41	40	35	32
	typical	67	58	54	52	49	48	46	45	40	37
PS-ELFEXT (dB)	min.	61	49	43	41	37	35	33	31	25	21
	typical	77	65	59	57	53	51	49	47	40	36
ACR (dB/100 m)	min.	62.1	50.3	43.3	40.8	35.2	32.2	29.1	25.8	13.6	3.3
	typical	67	55	49	46	41	39	36	33	22	13
PS-ACR (dB/100 m)	min.	59.1	47.3	40.3	37.8	32.2	29.2	26.1	22.8	10.6	0.3
	typical	65	53	47	44	39	37	34	31	20	11
RL (dB)	min.	20.0	23.0	24.5	25.0	25.0	25.0	24.3	23.6	21.5	20.1
	typical	32	33	41	42	41	40	37	33	30	27

Number of pairs: 4
Standard colour: Grey, Blue, Red, Green, Yellow
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 135
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 0.95

Nominal overall diameter (mm): 5.2	
Impedance (Ohm): 100 Ohm ± 15 %	
Energy of flame (kJ/m):	
	Single
E	370
ENH	355

Standard lengths (put-ups):		Standard weight:
1000 ft.	305 m	8.3 kg
1640 ft.	500 m	13.5 kg
3280 ft.	1000 m	27.0 kg

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Belden 7860E — Bonded pairs — Cat. 6

Belden 7860ENH Halogen-free version

Product description

Shielded Twisted Pair Cable, 4 bonded pairs x AWG 23. Solid bare copper conductors, polyolefine insulation, overall foil shield and tinned copper drain wire. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250
Attenuation (dB/100 m)	max. (Cat. 6)	2.1	3.8	6.0	7.6	8.5	9.6	10.7	15.5	19.9	25.3	29.1	33.0
	typical	1.9	3.5	5.5	6.9	7.6	8.6	9.7	13.8	17.7	22.4	25.1	28.2
NEXT (dB)	min.	75	66	60	57	56	54	53	48	45	42	41	39
	typical	80	76	70	67	66	64	63	58	55	51	49	45
PS-NEXT (dB)	min.	72	63	57	54	53	51	50	45	42	39	38	36
	typical	78	74	68	65	64	62	61	56	53	49	47	43
PS-ELFEXT (dB)	min.	65	53	45	41	39	37	35	29	25	21	19	17
	typical	70	64	57	51	49	47	45	39	35	31	29	27
ACR (dB/100 m)	min.	73.2	62.4	54.3	49.6	47.3	44.8	42.1	32.9	25.4	17.1	11.6	6.3
	typical	78	73	65	60	58	55	53	44	37	29	24	17
PS-ACR (dB/100 m)	min.	70.2	59.4	51.3	46.6	44.3	41.8	39.1	29.9	22.4	14.1	8.6	3.3
	typical	76	71	63	58	56	53	51	42	35	27	22	15
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	20.1	18.8	18.0	17.3
	typical	30	35	40	44	44	44	44	34	30	25	24	24

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 91
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 1.17

Nominal overall diameter (mm): 7.2	
Impedance (Ohm): 1 – 100 MHz: 100 ± 15 %	
100 – 250 MHz: 100 ± 22 %	
Energy of flame (kJ/m):	
	Single
E	560
ENH	540

Standard lengths (put-ups):		Standard weight:
1640 ft.	500 m	24.9 kg
3280 ft.	1000 m	50.0 kg

Belden 7860E+ — Bonded pairs — Braided — Cat. 6

Belden 7860ENH+ Halogen-free version

Product description

Shielded Twisted Pair Cable, 4 bonded pairs x AWG 23. Solid bare copper conductors, polyolefine insulation, overall foil shield and tinned copper drain wire and tinned copper braid. Colour code: see DataTwist® colour code table on page 14.

Applicable industry standards: EN 50173, ISO/IEC 11801

Frequency (MHz)		1	4	10	16	20	25	31.25	62.5	100	155	200	250
Attenuation (dB/100 m)	max. (Cat. 6)	2.1	3.8	6.0	7.6	8.5	9.6	10.7	15.5	19.9	25.3	29.1	33.0
	typical	1.9	3.5	5.5	6.9	7.6	8.6	9.7	13.8	17.7	22.4	25.1	28.2
NEXT (dB)	min.	75	66	60	57	56	54	53	48	45	42	41	39
	typical	80	76	70	67	66	64	63	58	55	51	49	45
PS-NEXT (dB)	min.	72	63	57	54	53	51	50	45	42	39	38	36
	typical	78	74	68	65	64	62	61	56	53	49	47	43
PS-ELFEXT (dB)	min.	65	53	45	41	39	37	35	29	25	21	19	17
	typical	70	64	57	51	49	47	45	39	35	31	29	27
ACR (dB/100 m)	min.	73.2	62.4	54.3	49.6	47.3	44.8	42.1	32.9	25.4	17.1	11.6	6.3
	typical	78	73	65	60	58	55	53	44	37	29	24	17
PS-ACR (dB/100 m)	min.	70.2	59.4	51.3	46.6	44.3	41.8	39.1	29.9	22.4	14.1	8.6	3.3
	typical	76	71	63	58	56	53	51	42	35	27	22	15
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	24.3	23.6	21.5	20.1	18.8	18.0	17.3
	typical	30	35	40	44	44	44	44	34	30	25	24	24

Number of pairs: 4
Standard colour: Grey, Blue
Typical velocity of propagation (%): 70
Max. DCR (Ohm/km): 91
Nominal capacitance (pF/m): 50
Diameter of insulated conductor (mm): 1.17

Nominal overall diameter (mm): 7.5	
Impedance (Ohm): 1 – 100 MHz: 100 ± 15 %	
100 – 250 MHz: 100 ± 22 %	
Energy of flame (kJ/m):	
	Single
E	560
ENH	540

Standard lengths (put-ups):		Standard weight:
1640 ft.	500 m	28.5 kg
3280 ft.	1000 m	56.9 kg

ISTP Category 7

Belden 1885ENH — Halogen-free — Cat. 7

Belden 1887ENH Twin version of 1885ENH

Product description

Shielded Twisted Pair Cable, 4 pairs x AWG 23. Solid bare copper, foam skin polyolefin insulated, pairs individually shielded with Aluminum/Polyester foil, overall tinned copper braid, ripcord, flame retardant NH jacket. Colour code: see DataTwist® colour code table below.

Applicable industry standards: EN 50173, ISO/IEC 11801

Frequency (MHz)		1	4	10	16	20	31.2	62.5	100	155	200	300	600	1000
Attenuation (dB/100 m)	max. (Cat. 7)	2.0	3.7	5.9	7.4	8.3	10.4	14.9	19.0	24.0	27.5	34.2	50.1	66.9
	typical	1.9	3.5	5.4	6.9	7.6	9.6	13.6	17.4	21.7	24.7	30.5	44.6	56.6
NEXT (dB)	min.	78	78	78	78	78	78	75	72	70	68	65	61	57
	typical	100	100	100	100	100	100	100	95	95	95	90	90	90
PS-NEXT (dB)	min.	75	75	75	75	75	75	72	69	67	65	62	58	54
	typical	98	98	98	98	98	98	98	93	93	93	88	88	88
PS-ELFEXT (dB)	min.	75	75	71	67	65	61	55	51	47	45	41	35	31
	typical	95	95	95	90	87	84	80	76	72	70	65	50	56
ACR (dB/100 m)	min.	76.0	74.3	72.1	70.6	69.7	67.6	60.6	53.4	45.6	40.4	31.1	10.6	–
	typical	98	97	95	93	92	90	86	78	73	70	60	45	33.4
PS-ACR (dB/100 m)	min.	73.0	71.3	69.1	67.6	66.7	64.6	57.6	50.4	42.6	37.4	28.1	7.6	–
	typical	96	95	93	91	90	88	84	76	71	68	58	43	31
RL (dB)	min.	20.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	16.8	14.7	13.1
	typical	26	30	35	35	35	34	32	31	29	29	28	28	20

Number of pairs: 4
Standard colour: Grey
Velocity of propagation (%): 75
Max. DCR (Ohm/km): 75
Nominal capacitance (pF/m): 48
Diameter of insulated conductor (mm): 1.45

Nominal overall diameter (mm): 8.0
Impedance (Ohm): 1 – 100 MHz: 100 ± 15 %
100 – 250 MHz: 100 ± 22 %
250 – 600 MHz: 100 ± 25 %

Energy of flame (kJ/m):		
	Single	Twin
ENH	500	1000

Standard lengths (put-ups):		Standard weight:
1640 ft.	500 m	30.0 kg
3280 ft.	1000 m	60.0 kg

Ordering Information & DataTwist® Colour Code Table

Page	Belden part number	Colour	Standard lengths (put-ups)
6	1583E, 1583ENH	Grey (RAL 7032), Blue (RAL 5015)	U-305 m, 305 m, 500 m, 1000 m
6	1667E, 1667ENH	Grey (RAL 7032)	305 m, 500 m, 1000 m
6	1700A, 1700ANH	Grey (RAL 7032), Blue (RAL 5015)	U-305 m, 305 m, 500 m, 1000 m
6	1702E, 1702ENH	Grey (RAL 7032)	305 m, 500 m, 1000 m
7	1592A*	Grey, Blue (RAL 5015), Red, Green, Yellow (RAL 1021), Orange, Violet, White, Black	U-305 m, 305 m
7	1752A*	Grey, Blue (RAL 5015), Red, Green, Yellow (RAL 1021), Orange, Violet, White, Black	U-305 m, 305 m
8	7965E, 7965ENH	Grey (RAL 7032), Blue (RAL 5015)	500 m, 1000 m
8	7812E, 7812ENH	Grey (RAL 7032), Blue (RAL 5015)	U-305 m, 500 m, 1000 m
9	1872A, 1872ANH	Grey, Gold, Brown, Blue (RAL 5015), Red, Green, Yellow (RAL 1021), Orange, Violet	100 m, A-305 m
9	1875GB*	Grey, Blue (RAL 5015), Red, Green, Yellow (RAL 1021), Violet, White, Black	A-305 m, 305 m
10	7851A, 7851NH	Grey, Blue (RAL 5015), White	A-305 m, U-305 m, 305 m
10	1797B	Cable preparation tool (White)	
11	1633E, 1633ENH	Grey (RAL 7032), Blue (RAL 5015)	305 m, 500 m, 1000 m
11	1668E, 1668ENH	Grey (RAL 7032)	305 m, 500 m, 1000 m
11	1730A, 1730ANH	Grey, Blue (RAL 5015)	U-305 m, 305 m, 1000 m
12	1633E+, 1633ENH+	Grey (RAL 7032), Blue (RAL 5015)	305 m, 500 m, 1000 m
12	1668E+, 1668ENH+	Grey (RAL 7032)	305 m, 500 m, 1000 m
12	1868E, 1868ENH	Grey, Blue (RAL 5015), Red, Green, Yellow (RAL 1021)	305 m, 500 m, 1000 m
13	7860E, 7860ENH	Grey (RAL 7032), Blue (RAL 5015)	500 m, 1000 m
13	7860E+, 7860ENH+	Grey (RAL 7032), Blue (RAL 5015)	500 m, 1000 m
14	1885ENH	Grey (RAL 7032)	500 m, 1000 m
14	1887ENH	Grey (RAL 7032)	500 m, 1000 m

* Halogen-free version available upon request.

DataTwist® colour code table:	
Pair no. 1	White/Blue & Blue
Pair no. 2	White/Orange & Orange
Pair no. 3	White/Green & Green
Pair no. 4	White/Brown & Brown

Notes:

- Special put-ups available upon request.
- Packaging on non-returnable reels, unreel box (U-305 m) or reel in box (A-305 m).

Table of Contents

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