

New DataTwist® 600e: Guaranteed Performance to 600 MHz

Belden's new

DataTwist 600e UTP

cable features patented

Bonded-Pair technology

and e-Spline design

that helps push

performance beyond

proposed Category 6

standards.

Belden has long had a reputation for innovative product design. Now Belden has taken the next step in networking cable design with the introduction of DataTwist 600e — a revolutionary UTP cable engineered specifically to perform well beyond proposed Category 6 standards. Utilizing patented Belden® Bonded-Pair technology first developed for the DataTwist 350 and MediaTwist® products, DataTwist 600e translates the experience of the past into the future with performance once thought improbable, if not impossible.

DataTwist 600e was developed not only to exceed proposed Category 6 standards, but also to provide significant amounts of guaranteed headroom over these specifications. While proposed Category 6 cable is specified to 250 MHz, DataTwist 600e is the only UTP cable in the industry fully characterized with guaranteed performance to 600 MHz.

DataTwist 600e delivers guaranteed:

- 8 dB of Power Sum NEXT headroom over proposed Cat 6
- almost 5 dB of guaranteed Return Loss improvement over proposed Category 6 at 100 MHz
- attenuation margin over proposed Cat 6
- positive Power Sum ACR to 460 MHz.

What this means is that DataTwist 600e delivers greater overall performance margins above

industry standards than any other UTP cable. Such headroom performance provides two major benefits. First, headroom allows one to compensate for unforeseen factors that can inhibit the performance of a cabling system — substandard patch cords, flawed NICs, non-compliant installation practices, or such environmental noise factors as EMI and RFI. This results in a stronger transmitted signal that is easier for the receiver to pick up and distinguish. Second, a cable with greater headroom protects one's technology investment for the future and guards against obsolescence.

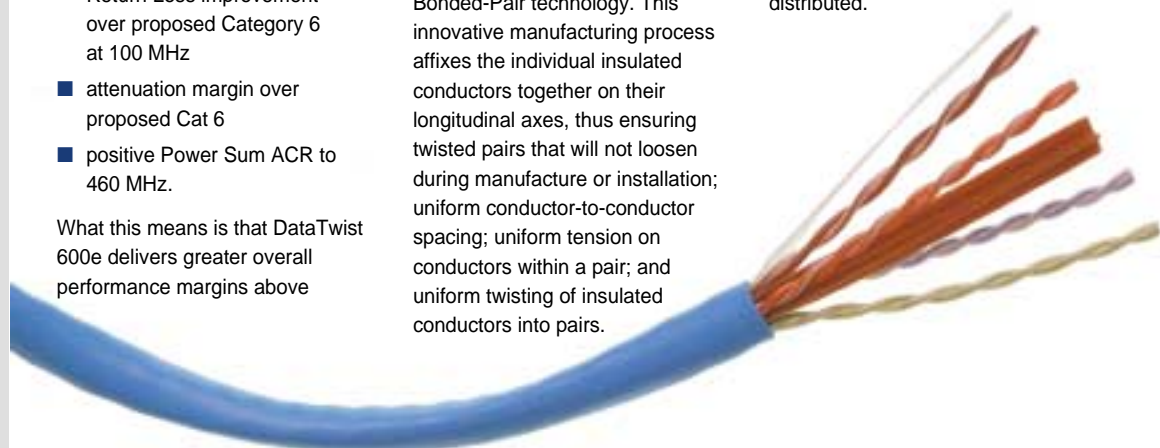
Patented Bonded-Pair Technology

The ideal UTP cable should be structurally stable — even after installation. Topping the list of construction features that provide desired cable consistency and stability are uniform conductor-to-conductor spacing and twisting of the pairs. When the conductors of a twisted pair become separated, impedance mismatches, return loss and crosstalk issues arise. In order to prevent this separation and provide structural stability, Belden developed its patented Bonded-Pair technology. This innovative manufacturing process affixes the individual insulated conductors together on their longitudinal axes, thus ensuring twisted pairs that will not loosen during manufacture or installation; uniform conductor-to-conductor spacing; uniform tension on conductors within a pair; and uniform twisting of insulated conductors into pairs.

Unlike many unbonded-pair cables, DataTwist 600e exhibits the same high degree of performance both off the reel and after installation — the type of performance one should expect from cable in actual use. It is proof positive that Belden cables are engineered to meet a higher performance standard.

Patented e-Spline Design

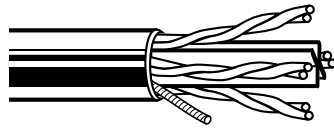
This patented design feature complements the Bonded-Pair technology by providing consistent spacing of the pairs in individual "chambers" and optimally orienting the four lay length pairs. The pairs in the cable that traditionally cause the most NEXT are separated by the greatest distance along the "major" axis. This innovative design results in improved NEXT and PSNEXT margin over proposed Category 6 requirements. The e-Spline also ensures maximum cable separation thereby reducing NEXT between cables. The design also minimizes the conductor length differences and leads to improved attenuation. The equalized conductor lengths allow the pulling tensions and installation loads to be more equally distributed.



DataTwist® 600e

23 AWG

Solid Bare Copper



Product Description

4 pair UTP (unshielded twisted pair) cable, 23 AWG solid bare copper, e-Spline center member, ripcord. Jacket is sequentially marked at two-foot intervals. CMP is FEP insulated with overall Flamarrest® jacket. CMR is polyolefin insulated with flexible PVC jacket. Supports current and future proposed Category 6 applications such as 100 BASE-T, ATM, and Gigabit Ethernet (1000 BASE-T).

Physical Characteristics	Non-Plenum (7851A)	Plenum (7852A)
Temperature Range:	-20 to +75°C	-20 to +75°C
Insulation Material:	Polyolefin	FEP Teflon*
Jacket Material:	PVC	Flamarrest
Max. Pulling Tension:	45 lbs.	45 lbs.
Min. Conductor OD:	0.0234"	0.0234"
Min. Insulation OD:	0.0415"	0.0402"
Nom. Weight/1000 ft.:	31.3 lbs.	33.8 lbs.
Min. Bend Radius:	0.25"	0.25"
Nom. Diameter:	0.265" Avg. (0.225" x 0.310")	0.255" Avg. (0.215" x 0.290")
Applicable Specifications:	TIA/EIA Category 6 Draft 10	TIA/EIA Category 6 Draft 10
Flame Rating and Test:	UL Type CMR, UL 1666 C(UL) Type CMR CSA FT4	UL Type CMP, UL 910 C(UL) Type CMP CSA FT6



DataTwist 600e cable comes in a variety of colors in Belden's crate reel packaging.

Jacket Colors

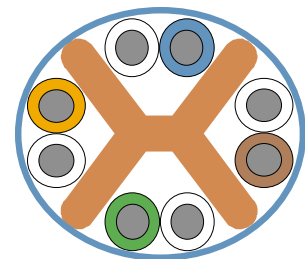
7851A	7852A
White Blue Dark Gray	White Blue Green

Color Codes

Pair No.	Color Combination
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown



3-Dimensional View of Patented e-Spline



Cross Section of DataTwist 600e

For More Information:

Belden Electronics Division
Technical Support:

1-800-BELDEN-1 or
1-800-BELDEN-3

www.belden.com