

## 82506 Multi-Conductor - Computer Cable for EIA RS-232 Applications

**Description:**

24 AWG stranded (7x32) tinned copper conductors, plenum, FEP insulation, twisted pair, overall Beldfoil shield (100% coverage), 24 AWG stranded TC drain wire, Flammarrest® jacket.

**Physical Characteristics (Overall)****Conductor****AWG:**

# Pairs	AWG	Stranding	Conductor Material
6	24	7x32	TC - Tinned Copper

**Insulation****Insulation Material:**

Insulation Material	Wall Thickness (in.)
FEP - Fluorinated Ethylene Propylene	.006

**Outer Shield****Outer Shield Material:**

Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100

**Outer Shield Drain Wire AWG:**

AWG	Stranding	Drain Wire	Conductor Material
24	7x32		TC - Tinned Copper

**Outer Jacket****Outer Jacket Material:**

Outer Jacket Trade Name	Outer Jacket Material	Nom. Wall Thickness (in.)
Flammarrest®	LS PVC - Low Smoke Polyvinyl Chloride	.015

**Overall Cabling**

Overall Nominal Diameter: 0.209 in.

**Pair****Pair Color Code Chart:**

Number	Color
1	Black & Red
2	Black & White
3	Black & Green
4	Black & Blue
5	Black & Yellow
6	Black & Brown

**Pair Lay Length & Direction:**

Lay Length (in.)
2.500

**Mechanical Characteristics (Overall)**

Operating Temperature Range: 0°C To +60°C

Bulk Cable Weight: 35.100 lbs/1000 ft.

Max. Recommended Pulling Tension: 71 lbs.

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Min. Bend Radius (Install)/Minor Axis: 2 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMP

CEC/C(UL) Specification: CMP

EU CE Mark: Yes

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2002/95/EC (RoHS): Yes

EU RoHS Compliance Date (mm/dd/yyyy): 04/01/2005

EU Directive 2002/96/EC (WEEE): Yes

EU Directive 2003/11/EC (BFR): Yes

CA Prop 65 (CJ for Wire & Cable): Yes

MII Order #39 (China RoHS): Yes

#### Flame Test

UL Flame Test: NFPA 262

C(UL) Flame Test: FT6

#### Plenum/Non-Plenum

Plenum (Y/N): Yes

### Electrical Characteristics (Overall)

#### Nom. Inductance:

Inductance (µH/ft)  
.17

#### Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)  
25

#### Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/ft)  
45

#### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)  
24.1

#### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)  
15

#### Max. Operating Voltage - UL:

Voltage  
300 V RMS

#### Max. Recommended Current:

Current  
1.5 Amps per conductor @ 25°C

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
82506 877U500	500 FT	17.500 LB	NATURAL		6 PR #24 FEP FS FLMRST
82506 8771000	1,000 FT	35.000 LB	NATURAL	C	6 PR #24 FEP FS FLMRST

#### Notes:

C = CRATE REEL PUT-UP.

## Introduction

Belden® paired cable products are manufactured in a variety of gage sizes, dimensions, insulation materials, shielding configurations, and jacketing materials including Plenum and High-Temperature versions to meet the technical requirements of many different types of systems.

Paired cables allow balanced signal transmission, which results in lower crosstalk through common mode rejection. Due to the improved noise immunity of twisted pairs, they generally permit higher data speeds than multi-conductor cables.

As an aid to proper cable selection, both the suggested working voltages and the maximum temperature ratings are indicated for each applicable paired cable selection.

Most of our paired cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a paired cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

### Paired Cables Packaging

Belden's unique UnReel® cable dispenser is available for many of the paired cable products listed in this section. The letter "U" before the specified put-up length denotes UnReel packaging.

# Overall Beldfoil® Shield


## Computer Cables for EIA RS-232 Applications

### Plenum-Rated


Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m

**24 AWG Stranded (7x32) TC Conductors • Twisted Pairs • Overall Beldfoil Shield (100% Coverage) • 24 AWG Stranded TC Drain Wire**

**Plenum • FEP Insulation • Natural Flamarrest® Jacket**

	300V RMS	<b>82641</b>	NEC: CMP CEC: CMP FT6	1	See Chart 3 (Tech Info Section)	U-1000† 1000†	U-304.8 304.8	9.0 8.0	4.1 3.6	.006 .15	.15 .014	.36 .36	.106 2.69	31	102	59	194
		<b>82502</b>	NEC: CMP CEC: CMP FT6	2	See Chart 3 (Tech Info Section)	U-500† 1000†	U-152.4 U-304.8	8.0 16.0	3.6 7.3	.006 .15	.15 .014	.36 .36	.162 4.11	25	82	45	148
		<b>82503</b>	NEC: CMP CEC: CMP FT6	3	See Chart 3 (Tech Info Section)	U-1000† 1000†	U-304.8 304.8	19.0 18.0	8.6 8.2	.006 .15	.15 .014	.36 .36	.169 4.29	25	82	45	148
		<b>82504</b>	NEC: CMP CEC: CMP FT6	4	See Chart 3 (Tech Info Section)	U-1000† 1000†	U-304.8 304.8	24.0 26.0	10.9 11.8	.006 .15	.15 .014	.36 .36	.193 4.90	25	82	45	148
		<b>82505</b>	NEC: CMP CEC: CMP FT6	5	See Chart 3 (Tech Info Section)	U-1000† 1000†	U-304.8 304.8	29.0 31.0	13.2 14.0	.006 .15	.15 .015	.38 .38	.196 4.98	25	82	45	148
		<b>82506</b>	NEC: CMP CEC: CMP FT6	6	See Chart 3 (Tech Info Section)	U-500† 1000†	U-152.4 U-304.8	17.5 34.0	8.0 15.5	.006 .15	.15 .015	.38 .38	.209 5.31	25	82	45	148
		<b>82509</b>	NEC: CMP CEC: CMP FT6	9	See Chart 3 (Tech Info Section)	1000†	304.8	49.0	22.3	.006 .15	.15 .015	.38 .38	.246 6.25	23	75	42	138

**Plenum • FEP Insulation • Red FEP Jacket**

	300V RMS	<b>88641</b>	NEC: CMP CEC: CMP FT6	1	See Chart 3 (Tech Info Section)	100 500† 1000†	30.5 152.4 304.8	2.4 6.0 9.0	1.1 2.7 4.1	.006 .15	.15 .014	.36 .36	.106 2.69	31	102	59	194
		<b>89503</b>	NEC: CMP CEC: CMP FT6	3	See Chart 3 (Tech Info Section)	100 500† 1000†	30.5 152.4 304.8	4.0 10.5 21.0	1.8 4.8 9.5	.006 .15	.15 .014	.36 .36	.175 4.45	21	69	40	131
		<b>89504</b>	NEC: CMP CEC: CMP FT6	4	See Chart 3 (Tech Info Section)	500† 1000†	152.4 304.8	13.0 29.0	6.0 13.1	.006 .15	.15 .014	.36 .36	.192 4.88	21	69	40	131
		<b>89505</b>	NEC: CMP CEC: CMP FT6	5	See Chart 3 (Tech Info Section)	100 1000†	30.5 304.8	4.9 33.0	2.2 15.0	.006 .15	.15 .014	.36 .36	.197 5.00	21	69	40	131

TC = Tinned Copper

\* Capacitance between conductors.

\*\* Capacitance between one conductor and other conductors connected to shield.

† Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel from length shown.