

## 9544 Multi-Conductor - Computer Cable for EIA RS-232 Applications



### Description:

24 AWG stranded (7x32) tinned copper conductors, conductors cabled, semi-rigid PVC insulation, overall Beldfoil® shield (100% coverage), 24 AWG stranded tinned copper drain wire, PVC jacket.

### Physical Characteristics (Overall)

#### Conductor

##### AWG:

# Conductors	AWG	Stranding	Conductor Material
30	24	7x32	TC - Tinned Copper

#### Insulation

##### Insulation Material:

Insulation Material	Wall Thickness (in.)
PVC - Polyvinyl Chloride	.010

#### 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 Material	Nom. Wall Thickness (in.)
PVC - Polyvinyl Chloride	.040

#### Overall Cabling

##### Overall Cabling Lay Length & Direction:

Length (in.)
4.92

##### Overall Cabling Color Code Chart:

Number	Color
1	Black
2	White
3	Red
4	Green
5	Orange
6	Blue
7	White/Black
8	Red/Black
9	Green/Black
10	Orange/Black
11	Blue/Black
12	Black/White
13	Red/White
14	Green/White
15	Blue/White
16	Black/Red

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17	White/Red
18	Orange/Red
19	Blue/Red
20	Red/Green
21	Orange/Green
22	Black/White/Red
23	White/Black/Red
24	Red/Black/White
25	Green/Black/White
26	Orange/Black/White
27	Blue/Black/White
28	Black/Red/Green
29	White/Red/Green
30	Red/Black/Green

**Overall Nominal Diameter:** 0.380 in.

### Mechanical Characteristics (Overall)

<b>Operating Temperature Range:</b>	-30°C To +80°C
<b>UL Temperature Rating:</b>	80°C (UL AWM Style 2464)
<b>Bulk Cable Weight:</b>	99.100 lbs/1000 ft.
<b>Max. Recommended Pulling Tension:</b>	165 lbs.
<b>Min. Bend Radius (Install)/Minor Axis:</b>	4 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

<b>NEC/UL Specification:</b>	CMG
<b>CEC/C(UL) Specification:</b>	CMG
<b>AWM Specification:</b>	UL Style 2464 (300 V 80°C)
<b>EU CE Mark:</b>	Yes
<b>EU Directive 2000/53/EC (ELV):</b>	Yes
<b>EU Directive 2002/95/EC (RoHS):</b>	Yes
<b>EU RoHS Compliance Date (mm/dd/yyyy):</b>	04/01/2005
<b>EU Directive 2002/96/EC (WEEE):</b>	Yes
<b>EU Directive 2003/11/EC (BFR):</b>	Yes
<b>CA Prop 65 (CJ for Wire &amp; Cable):</b>	Yes
<b>MII Order #39 (China RoHS):</b>	Yes

#### Flame Test

**C(UL) Flame Test:** FT4

#### Plenum/Non-Plenum

**Plenum (Y/N):** No

### Electrical Characteristics (Overall)

**Nom. Capacitance Conductor to Conductor:**

Capacitance (pF/ft)  
30

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

Capacitance (pF/ft)  
55

**Nom. Conductor DC Resistance:**

DCR @ 20°C (Ohm/1000 ft)

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25

**Nominal Outer Shield DC Resistance:**

DCR @ 20°C (Ohm/1000 ft)

18

**Max. Operating Voltage - UL:**

Voltage

300 V RMS (UL AWM Style 2464)

**Max. Recommended Current:**

Current

1.75 Amps per conductor @ 25°C

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9544 060100	100 FT	10.300 LB	CHROME		30 #24 PVC FS PVC
9544 0601000	1,000 FT	102.000 LB	CHROME	C	30 #24 PVC FS PVC
9544 060500	500 FT	51.500 LB	CHROME	C	30 #24 PVC FS PVC

**Notes:**

C = CRATE REEL PUT-UP.

## Introduction

Belden® multi-conductor cables are manufactured in a wide variety of gage sizes, dimensions, insulation materials, shielding configurations, and jacketing materials including Plenum and High-Temperature versions. These cables meet the technical requirements of many different types of systems. In fact, Belden offers one of the broadest lines of UL Listed, NEC and CEC multi-conductor cables available from any single source.

Applications for multi-conductor cables include computers, communications, instrumentation, sound, control, audio, and data transmission. Each of these cables is designed to protect signal integrity under critical conditions by reducing hum, noise, and crosstalk.

To assist you in selecting the proper cable for your application, both the suggested working voltages and the maximum temperature ratings are indicated for each applicable product in this section.

Most of our multi-conductor 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 multi-conductor cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

### Multi-Conductor Cables Packaging

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

## Selection Guide

### Shielded Multi-Conductor Computer Cables for RS-232 Applications

Specifications		Cable Series*			
		9925	9608	9533	9939
<b>Conductor Size:</b> (AWG)	28				
	24	✓	✓	✓	
	22				✓
	20				
	18				
Page No.		4.18	4.17	4.11	4.19
<b>Insulation:</b>	S-R PVC		✓	✓	✓
	Polyethylene				
	Polypropylene				
	Datalene®†	✓			
<b>Shield:</b>	Overall Foil			✓	
	Drain Wire	✓		✓	
	Overall Foil/Braid	✓	✓		✓
	Braid Coverage	65%	65%		65%
<b>Drain Wire Overall:</b>		Yes	No	Yes	No
<b>No. of Cond. Available:</b>	1				
	2				
	3	✓	✓	✓	✓
	4	✓	✓	✓	✓
	5	✓	✓	✓	✓
	6	✓	✓	✓	✓
	7	✓	✓	✓	✓
	8	✓	✓	✓	✓
	9	✓	✓	✓	✓
	10	✓	✓	✓	✓
	11				
	12				
	13				
	15	✓	✓	✓	✓
	17				
	18				
	19				
	20			✓	
	25	✓	✓	✓	✓
	27				
30			✓		
31					
37	✓	✓		✓	
40			✓		
50		✓	✓	✓	
<b>Capacitance ** (pF/ft.)</b>		12.0	30.0	30.0	35.0

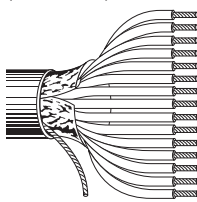
\*All cables are UL-listed.

\*\*Capacitance may vary on some cables.

† Foam high density polyethylene.

# Overall Beldfoil® Shield

## Computer Cables for EIA RS-232 Applications

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	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		
<b>24 AWG Stranded (7x32) TC Conductors • Conductors Cabled • Overall Beldfoil Shield (100% Coverage) • 24 AWG Stranded TC Drain Wire</b>																				
<b>Semi-rigid PVC Insulation • Chrome PVC Jacket</b>																				
 <p>UL AWM Style 2464 (300V 80°C)</p>	<b>9533</b>	NEC:	3	See	100	30.5	2.7	1.2	.010	.25	.032	.81	.162	4.11	33	108	65	213		
		CMG:		Chart 1	U-500	U-152.4	9.5	4.3												
		CEC:		(Tech Info Section)	500	152.4	9.0	4.1												
		CMG FT4			U-1000	U-304.8	18.0	8.2												
						1000	304.8	18.0	8.2											
		<b>9534</b>	NEC:	4	See	100	30.5	3.0	1.4	.010	.25	.032	.81	.184	4.67	33	108	65	213	
	CMG:		Chart 1		U-500	U-152.4	11.0	5.0												
	CEC:		(Tech Info Section)		500	152.4	11.5	5.2												
	CMG FT4				U-1000	U-304.8	21.0	9.5												
						1000	304.8	22.0	10.0											
		<b>9535</b>	NEC:	5	See	100	30.5	3.2	1.5	.010	.25	.032	.81	.189	4.80	33	108	65	213	
	CMG:		Chart 1		U-500	U-152.4	12.0	5.4												
	CEC:		(Tech Info Section)		500	152.4	11.0	5.0												
	CMG FT4				U-1000	U-304.8	23.0	10.4												
						1000	304.8	22.0	10.0											
		<b>9536</b>	NEC:	6	See	100	30.5	3.6	1.6	.010	.25	.032	.81	.209	5.31	33	108	65	213	
	CMG:		Chart 1		U-500	U-152.4	14.5	6.6												
CEC:	(Tech Info Section)		500		152.4	12.5	5.7													
CMG FT4			U-1000		U-304.8	27.0	12.3													
					1000	304.8	29.0	13.2												
	<b>9537</b>	NEC:	7	See	100	30.5	3.7	1.7	.010	.25	.032	.81	.209	5.31	33	108	65	213		
CMG:		Chart 1		U-500	U-152.4	15.0	6.8													
CEC:		(Tech Info Section)		500	152.4	13.5	6.2													
CMG FT4				U-1000	U-304.8	29.0	13.2													
					1000	304.8	30.0	13.7												
	<b>9538</b>	NEC:	8	See	100	30.5	3.8	1.7	.010	.25	.032	.81	.224	5.69	33	108	65	213		
CMG:		Chart 1		U-500	U-152.4	17.0	7.7													
CEC:		(Tech Info Section)		500	152.4	15.0	6.8													
CMG FT4				U-1000	U-304.8	32.0	14.6													
					1000	304.8	34.0	15.4												
	<b>9539</b>	NEC:	9	See	100	30.5	4.2	1.9	.010	.25	.032	.81	.244	6.20	30	98	55	180		
CMG:		Chart 1		U-500	U-152.4	20.0	9.1													
CEC:		(Tech Info Section)		500	152.4	17.0	7.8													
CMG FT4				U-1000	U-304.8	37.0	16.9													
					1000	304.8	38.0	17.3												
	<b>9540</b>	NEC:	10	See	100	30.5	4.3	2.0	.010	.25	.032	.81	.244	6.20	30	98	55	180		
CMG:		Chart 1		U-500	U-152.4	19.5	8.9													
CEC:		(Tech Info Section)		500	152.4	18.0	8.2													
CMG FT4				U-1000	U-304.8	38.0	17.2													
					1000	304.8	36.0	16.4												
	<b>9541</b>	NEC:	15	See	100	30.5	5.9	2.7	.010	.25	.032	.81	.284	7.21	30	98	55	180		
CMG:		Chart 2R		U-500	U-152.4	27.5	12.5													
CEC:		(Tech Info Section)		500	152.4	28.0	12.7													
CMG FT4				U-1000	U-304.8	54.0	24.5													
					1000	304.8	56.0	25.4												
	<b>9542</b>	NEC:	20	See	100	30.5	7.3	3.3	.010	.25	.032	.81	.314	7.98	30	98	55	180		
CMG:		Chart 2R		U-500	U-152.4	34.0	15.4													
CEC:		(Tech Info Section)		500	152.4	35.5	16.1													
CMG FT4				1000	304.8	69.0	31.3													
	<b>9543</b>	NEC:	25	See	100	30.5	8.7	4.0	.010	.25	.032	.81	.339	8.61	30	98	55	180		
CMG:		Chart 2R		500	152.4	44.0	20.0													
CEC:		(Tech Info Section)		1000	304.8	86.0	39.0													
CMG FT4																				
	<b>9544</b>	NEC:	30	See	100	30.5	10.3	4.7	.010	.25	.040	1.02	.380	9.65	30	98	55	180		
CMG:		Chart 2R		500	152.4	51.5	23.4													
CEC:		(Tech Info Section)		1000	304.8	102.0	46.3													
CMG FT4																				
	<b>9545</b>	NEC:	40	See	100	30.5	13.5	6.1	.010	.25	.040	1.02	.430	10.92	30	98	55	180		
CMG:		Chart 2R		500	152.4	65.0	29.5													
CEC:		(Tech Info Section)		1000	304.8	130.0	59.0													
CMG FT4																				
	<b>9546</b>	NEC:	50	See	100	30.5	16.4	7.4	.010	.25	.045	1.14	.490	12.45	30	98	55	180		
CMG:		Chart 2R		500	152.4	81.5	37.0													
CEC:		(Tech Info Section)		1000	304.8	168.0	76.3													
CMG FT4																				

TC = Tinned Copper

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