

## Description:

22 AWG stranded (7x30) TC conductors, polypropylene insulation, paper wrap, twisted pair, overall Beldfoil shield (100% coverage), 22 AWG stranded TC drain wire, PVC jacket.

## Physical Characteristics (Overall)

### Conductor

#### AWG:

# Pairs	AWG	Stranding	Conductor Material
1	22	7x30	TC - Tinned Copper

### Insulation

#### Insulation Material:

Insulation Material	Wall Thickness (in.)
PP - Polypropylene	.008

### Outer Shield

#### Outer Shield Material:

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

#### Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire	Conductor Material
22	7x30		TC - Tinned Copper

### Outer Jacket

#### Outer Jacket Material:

Outer Jacket Material	Nom. Wall Thickness (in.)
PVC - Polyvinyl Chloride	.020

### Overall Cabling

Overall Nominal Diameter: 0.138 in.

### Pair

#### Pair Color Code Chart:

Number	Color
1	Black & Red

#### Pair Lay Length & Direction:

Lay Length (in.)	Twists/ft. (twist/ft)
1.750	6.860

## Mechanical Characteristics (Overall)

Operating Temperature Range:	-20°C To +75°C
Bulk Cable Weight:	14.100 lbs/1000 ft.
Max. Recommended Pulling Tension:	27 lbs.
Min. Bend Radius (Install)/Minor Axis:	1.400 in.

## Applicable Specifications and Agency Compliance (Overall)

### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMR

## 8451 Multi-Conductor - Single-Pair Cable

CEC/C(UL) Specification:	CMG
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):	01/01/2004
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:	UL1666 Riser
CSA Flame Test:	FT4

### Plenum/Non-Plenum

Plenum (Y/N):	No
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## Electrical Characteristics (Overall)

### Nom. Characteristic Impedance:

Impedance (Ohm)

45

### Nom. Inductance:

Inductance (µH/ft)

.17

### Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)

34

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

Capacitance (pF/ft)

67

### Nominal Velocity of Propagation:

VP (%)

66

### Nominal Delay:

Delay (ns/ft)

1.5

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

14.5

### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

14.1

### Max. Operating Voltage - UL:

Voltage

300 V RMS

### Max. Recommended Current:

Current

2.9 Amps per conductor @ 25°C

## Notes (Overall)

**Notes:** Unique paper separator facilitates jacket stripping.

**Put Ups and Colors:**

Item #	Putup	Ship Weight	Color	Notes	Item Desc
8451 008U1000	1,000 FT	16.000 LB	GRAY		2 #22 PP SHLD PVC FR
8451 008U500	500 FT	8.500 LB	GRAY		2 #22 PP SHLD PVC FR
8451 0081000	1,000 FT	16.000 LB	GRAY	C	2 #22 PP SHLD PVC FR
8451 008500	500 FT	8.000 LB	GRAY		2 #22 PP SHLD PVC FR
8451 010U1000	1,000 FT	16.000 LB	BLACK		2 #22 PP SHLD PVC FR
8451 010U500	500 FT	8.500 LB	BLACK		2 #22 PP SHLD PVC FR
8451 010100	100 FT	2.200 LB	BLACK		2 #22 PP SHLD PVC FR
8451 0101000	1,000 FT	16.000 LB	BLACK	C	2 #22 PP SHLD PVC FR
8451 010500	500 FT	8.000 LB	BLACK		2 #22 PP SHLD PVC FR

**Notes:**

C = CRATE REEL PUT-UP.


# Overall Beldfoil® Shield

## Audio, Control and Instrumentation Cables

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


**22 AWG Stranded (7x30) TC Conductors • Twisted Pair • Overall Beldfoil Shield (100% Coverage) • 22 AWG Stranded TC Drain Wire** (continued)

**Polypropylene Insulation • Paper Wrap • Gray or Black PVC Jacket**

 <p>300V RMS 75°C</p> <p>Z-Fold®</p>	<b>8451</b>	NEC:	1	Black, Red	100*	30.5	2.3	1.1	.008	.20	.020	.51	.138	3.51	34	112	67	220			
		CMR			U-500	U-152.4	8.5	3.8													
		CEC:			500	152.4	8.0	3.6													
		CMG			U-1000	U-304.8	16.0	7.3													
					1000	304.8	16.0	7.3													

\*100 ft. put-up available in Black only.  
Unique paper separator facilitates jacket stripping.

**Polypropylene Insulation • PVC Jacket** (Available in Black, Gray, Brown, Red, Orange, Yellow, Green, Blue, Purple or White)

 <p>300V RMS 75°C</p>	<b>9451</b>	NEC:	1	Black, Red	U-500 <sup>▲</sup>	U-152.4	8.5	3.9	.008	.20	.020	.51	.135	3.43	35	115	67	220			
		CMR			500 <sup>▲</sup>	152.4	8.0	3.6													
		CEC:			T-1000 <sup>▲</sup>	T-304.8	18.0	8.2													
		CMG FT4			U-1000	U-304.8	15.0	6.8													
					5000	1524.0	75.0	34.0													


<sup>▲</sup>U-500 ft., 500 ft. and T-1000 ft. put-ups available in Gray only.  
The jacket and shield are bonded so both can be removed on automatic stripping equipment. Drain wire is inside foil shield.

**Polypropylene Insulation • Black Low-Smoke, Zero-Halogen Jacket**

 <p>300V RMS 105°C</p>	<b>9451SB</b> <small>new</small>	NEC:	1	Black, Red	1000	304.8	20.0	9.1	.008	.20	.032	.81	.160	4.06	35	115	67	220			
		CMG-LS																			
		CEC:			CMG-LS FT4																
		CMG-LS FT4			Limited Smoke																

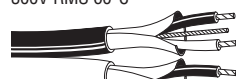
The jacket and shield are bonded so both can be removed on automatic stripping equipment. Drain wire is inside foil shield.

**Polyolefin Insulation • PVC Jacket in Zip-Cord Construction** (Red & Green, Red & Black, Red & Purple or Red & Gray)

 <p>300V 105°C</p>	<b>9451D</b>	NEC:	2	Black, Red	U-1000	U-304.8	29.0	13.2	.008	.20	.020	.51	.135	3.43	34	112	67	220			
		CMR			2000*	620.8	62.0	28.1							x	x					
		CEC:														.270	6.86				
		CMR FT4																			

\*2000 ft. put-up available in Red & Green only.  
The jacket and shield are bonded so both can be removed on automatic stripping equipment. Drain wire is inside foil shield.


**Plenum • FEP Insulation • White Flamarrest® Jacket in Zip-Cord Construction**

 <p>300V RMS 60°C</p>	<b>9451DP</b> <small>new</small>	NEC:	2	Black & Red, Black & White	1000	304.8	24.0	10.9	.007	.18	.017	.43	.127	3.23	35	115	67	220		
		CMP														x	x			
		CEC:			CMP FT6												.269	6.83		

The jacket and shield are bonded so both can be removed on automatic stripping equipment. Drain wire is inside foil shield.


**22 AWG Stranded (7x30) TC Conductors • Twisted Pairs • Overall Beldfoil Shield (100% Coverage) • 24 AWG Stranded TC Drain Wire**

**Polypropylene Insulation • PVC Jacket** (Available in Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White or Black)

 <p>300V RMS</p>	<b>1266A</b>	NEC:	1	Black, Red	U-1000	U-304.8	15.0	6.8	.010	.25	.020	.51	.143	3.63	30	99	54	177			
		CM			1000†	304.8	15.0	6.8													
		CEC:																			
		CM																			

†1000 ft. put-up available in Black only.  
Unique design features lower capacitance and greater flexibility than standard audio pair constructions.

**PVC Insulation • PVC Jacket** (Available in Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White or Black)

 <p>300V 90°C</p>	<b>1503A</b>	NEC:	1	Black, Red	U-1000	U-304.8	16.0	7.3	.010	.25	.020	.51	.142	3.61	53	174	97	318		
		CM																		
		CEC:																		

TC = Tinned Copper

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