

CAROL  
BRAND

**EXZEL**™  
EXCEPTIONAL PERFORMANCE

# *High-Endurance Cabling*

> THE EXCEPTIONAL  
CHOICE FOR  
PEACE OF MIND



 General Cable

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## Carol® Brand EXZEL™ Complete Peace of Mind

As a full electronics solutions provider with a commitment to designing innovative cable constructions, General Cable recognizes the growing demand for a higher performance line of electronic wire and cable to support emerging technology, mission-critical applications and today's environmental concerns. That's why we've introduced a new, tougher addition to the Carol® Brand family – EXZEL™ High-Endurance Electronic Cables.

### EXCEPTIONAL HIGH-ENDURANCE CABLING

General Cable's new EXZEL High-Endurance Electronic Cables are engineered for extreme environments where unparalleled performance is critical and cable failures are not an option. An exceptional choice that offers complete peace of mind, this new cabling line excels in applications where oil, liquids, vapors or other substances can attack the jacketing of conventional "round gray" PVC electronic cables. Along with improved jacketing performance, EXZEL's innovative Dual Foil/Braid Shield technology provides more effective shielding. This dual-foil design with 85% copper-braid coverage significantly reduces electromagnetic and radio frequency interference (EMI/RFI) over traditional single-foil tape designs.

### AN ENVIRONMENTALLY CONSCIOUS CHOICE

In response to environmental concern surrounding the burning of halogens, General Cable also offers the Low-Smoke, Zero-Halogen (LSZH) line of EXZEL High-Endurance Electronic Cables. To reduce the toxicity and corrosive effects that may impact people and equipment, Carol Brand's EXZEL LSZH construction produces low amounts of smoke and acid gas during a fire, while maintaining the same flame requirements, electrical performance and longevity as traditional cable constructions.

Whether you are involved with a green building installation or simply looking for ways to safeguard people and protect the environment, EXZEL High-Endurance Electronic Cables provide a true "green" alternative. And with EXZEL, U.S. manufacturers now have access to a domestic LSZH cable solution required for use on equipment that may be sold internationally.

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## READY TO SERVE

For more than 60 years, General Cable has met the ever-changing needs of major Original Equipment Manufacturers (OEMs) and the most demanding, high-volume bulk requirements of Maintenance Repair Operations (MROs), as well as smaller, niche OEMs around the world. Uniquely qualified to provide superior engineering, products and value-added services, General Cable's customers represent a virtual "who's who" of the industries we serve. All Carol® Brand's EXZEL™ High-Endurance Electronic Cables are ideal for use in the following markets and applications:

### Manufacturing

- Device communications
- Control interconnect
- PLC networking
- Industrial machinery

### Food and Beverage

- Meat and food processing
- Bottling plants
- Packaging machines

### Semiconductor

- Robotic handling systems
- Class I, Division 2
- Automated test equipment
- Wafer processing equipment

### Utilities

- Wastewater treatment plants
- Wind turbine control
- Gas delivery communications

### Military

- Mobile communications
- Avionics control

### Process

- Remote monitoring
- Discrete/analog signaling

### Medical Diagnostics

- Digital imaging control
- Biomedical



### BACKED BY QUALITY

EXZEL™ High-Endurance Electronic Cables are manufactured with the selection, quality and dependability our customers have come to expect from Carol® Brand cables. From special jacket colors, print legends and TRU-Mark sequential footage markings to unique constructions, innovative materials and quality manufacturing, General Cable's expert engineers offer superior service and design assistance. Most of our products carry UL, ETL, RoHS, CSA and other major approvals from around the globe.

Need a specific construction not available in our standard stock? We have you covered. General Cable will customize any standard EXZEL cable construction to meet your unique application requirements, including:

- **Jacket colors**
- **Gauge sizes**
- **Conductor count and construction**
- **Insulation and jacket construction**
- **Shielding options**
- **Armoring**
- **Composites**

EXZEL's LSZH cables, as well as all of our High-Endurance cables, are manufactured in General Cable's Franklin, Massachusetts and Manchester, New Hampshire facilities — both of which are recognized among North America's Top 10 Best Manufacturing Plants by *INDUSTRYWEEK* Magazine.

When exceptional performance and reliability are critical to your application, put your trust in Carol® Brand EXZEL™.

#### Comparison of Traditional Round Gray Electronic Cables to EXZEL™ High-Endurance Electronic Cables

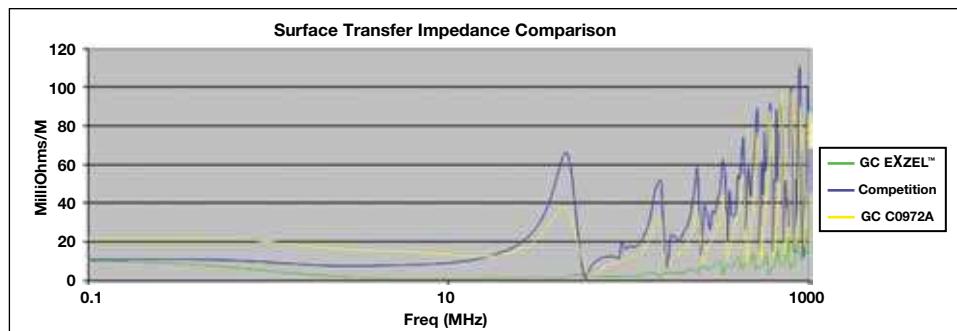
	Traditional Round Gray Electronic Cables	EXZEL™ PVC	EXZEL™ LSZH
<b>Conductor Type</b>	Tinned Copper	Tinned Copper	Tinned Copper
<b>Conductor Strand</b>	7/XX	Flexible	Flexible
<b>Insulation</b>	PVC	PVC	LSZH
<b>Shielding</b>	Limited	Full	Full
<b>Braid Coverage</b>	70	70	85
<b>Jacket</b>	PVC	PVC	LSZH
<b>Footage Markings</b>	No	TRU-Mark®	Yes
<b>Temp Rating</b>	80°C	105°C	105°C
<b>Oil Resistance</b>	No	No	OR I*
<b>UV Resistance</b>	No	Yes	Yes
<b>NEC/UL Type CM</b>	Yes (80°C)	Yes (105°C)	Yes
<b>UL AWM</b>	Style 2464	Style 2464	N/A
<b>CSA CMG</b>	Yes (80°C)	Yes (105°C)	No
<b>UL PLTC-ER</b>	No	No	Yes
<b>PLTC</b>	No	No	Yes
<b>UL Flame Rating</b>	UL 1581	UL 1581	UL 1581
<b>CSA Flame Rating</b>	FT4	FT4	FT4

\*OR I = UL Oil Resistance I

### FEATURES AND BENEFITS OF CAROL® BRAND EXZEL™

- Reduced downtime for lower cost of ownership
- Superior reliability, even in the harshest environments
- Extensive selection to meet application needs
- Optimum lifespan in severe operating conditions
- Highest available shield coverage for maximum EMI/RFI resistance
- Low-Smoke, Zero-Halogen constructions available
- Premium-grade PVC insulation and jacket available for routing in tight spaces
- Resistant to most oils (UL Class 43) and to ambient temperatures up to 105°C

### SURFACE TRANSFER IMPEDANCES (STI)



## Why General Cable?

**Unrivaled service. Unparalleled innovation.**

**Unmatched industry leadership.**

At General Cable, we believe quality is what we put in your product. That's why we employ a LeanSigma management philosophy that eliminates waste and non-value-added processes to improve the flow of information and materials. Always searching for new and better ways of doing things, General Cable consistently identifies and eliminates sources of variation while reducing cycle time and inventory, ensuring better capacity and space utilization and improving productivity. We have the right mix of people, equipment and experience to produce custom cables, wire harnesses and cable assemblies of the highest complexity and quality – High-Endurance Electronic products that exzell!

- Certified ISO 9001 manufacturing facilities
- Rigorous performance standards
- Ongoing R&D for an ever-growing range of materials
- Superior materials and proactive prevention
- Comprehensive process control and quality audits
- Stringent in-house and third-party testing

General Cable is an environmentally conscious company committed to reducing and, where possible, eliminating hazardous substances. Our facilities have fully implemented an ISO 14001-equivalent environmental management system with strict oversight to ensure that regulatory compliance is met or exceeded. All applicable products are certified or are being upgraded to meet RoHS standards, and we are working to comply with evolving REACH requirements as they pertain to wire and cable products and materials.

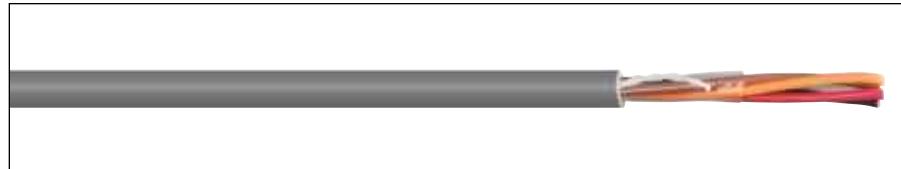
### THE BOTTOM LINE

General Cable recognizes and values the vital importance of total, exceptional customer satisfaction, and we have the experience and know-how to achieve it. Our people may come to work for us, but on the job, our *Wire Wizards* work for you. Put us to work and see what we can do for you.

# EXZEL™ MULTI-CONDUCTOR, UNSHIELDED

## UL 2464, NEC Type CM (UL), CSA CMG

Electronics



### Product Construction:

#### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

#### Insulation:

- Premium-grade, color-coded PVC
- Color per Chart A for 24 AWG and 22 AWG on page 22
- Color per Chart B for 20 AWG and larger on page 22
- International colors per IEC Color Chart on page 22

#### Shield:

- Unshielded

#### Jacket:

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

#### Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

#### Features:

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant per UL 720-hr. UV test
- Nylon ripcord

#### Compliances:

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2464 (UL: 80°C, 300 V, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

#### Packaging

- Please contact Customer Service for packaging and color options

PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9000A	2	24	7/32	0.010	0.25	0.032	0.81	0.155	3.94
C9001A	3	24	7/32	0.010	0.25	0.032	0.81	0.161	4.10
C9002A	4	24	7/32	0.010	0.25	0.032	0.81	0.173	4.40
C9003A	6	24	7/32	0.010	0.25	0.032	0.81	0.198	5.03
C9004A	8	24	7/32	0.010	0.25	0.032	0.81	0.211	5.37
C9005A	10	24	7/32	0.010	0.25	0.032	0.81	0.241	6.12
C9006A	15	24	7/32	0.010	0.25	0.032	0.81	0.271	6.89
C9007A	20	24	7/32	0.010	0.25	0.032	0.81	0.297	7.55
C9008A	25	24	7/32	0.010	0.25	0.032	0.81	0.327	8.31
C9009A	2	22	7/30	0.010	0.25	0.032	0.81	0.167	4.24
C9010A	3	22	7/30	0.010	0.25	0.032	0.81	0.174	4.43
C9011A	4	22	7/30	0.010	0.25	0.032	0.81	0.188	4.76
C9012A	6	22	7/30	0.010	0.25	0.032	0.81	0.216	5.49
C9013A	8	22	7/30	0.010	0.25	0.032	0.81	0.231	5.87
C9014A	10	22	7/30	0.010	0.25	0.032	0.81	0.265	6.73
C9015A	15	22	7/30	0.010	0.25	0.032	0.81	0.299	7.60
C9016A	20	22	7/30	0.010	0.25	0.032	0.81	0.329	8.36
C9017A	25	22	7/30	0.010	0.25	0.032	0.81	0.363	9.22
C9018A	2	20	7/28	0.016	0.41	0.032	0.81	0.205	5.21
C9019A	3	20	7/28	0.016	0.41	0.032	0.81	0.215	5.47
C9020A	4	20	7/28	0.016	0.41	0.032	0.81	0.234	5.93
C9021A	6	20	7/28	0.016	0.41	0.032	0.81	0.273	6.93
C9022A	8	20	7/28	0.016	0.41	0.032	0.81	0.294	7.47
C9023A	10	20	7/28	0.016	0.41	0.032	0.81	0.341	8.66
C9024A	15	20	7/28	0.016	0.41	0.032	0.81	0.389	9.87
C9025A	20	20	7/28	0.016	0.41	0.032	0.81	0.430	10.92
C9026A	25	20	7/28	0.016	0.41	0.032	0.81	0.477	12.12
C9027A*	2	18	16/30	0.016	0.41	0.032	0.81	0.225	5.72
C9028A	2	18	16/30	0.016	0.41	0.032	0.81	0.225	5.72
C9029A*	3	18	16/30	0.016	0.41	0.032	0.81	0.237	6.01
C9030A	3	18	16/30	0.016	0.41	0.032	0.81	0.237	6.01
C9031A	4	18	16/30	0.016	0.41	0.032	0.81	0.258	6.55
C9032A	6	18	16/30	0.016	0.41	0.032	0.81	0.303	7.70
C9033A	8	18	16/30	0.016	0.41	0.032	0.81	0.327	8.31
C9034A	10	18	16/30	0.016	0.41	0.032	0.81	0.381	9.68
C9035A	15	18	16/30	0.016	0.41	0.032	0.81	0.436	11.06
C9036A	20	18	16/30	0.016	0.41	0.032	0.81	0.483	12.27
C9037A	25	18	16/30	0.016	0.41	0.032	0.81	0.537	13.64
C9038A*	2	16	19/.0117	0.016	0.41	0.032	0.81	0.245	6.22
C9039A	2	16	19/.0117	0.016	0.41	0.032	0.81	0.245	6.22
C9040A*	3	16	19/.0117	0.016	0.41	0.032	0.81	0.258	6.56
C9041A	3	16	19/.0117	0.016	0.41	0.032	0.81	0.258	6.56
C9042A	4	16	19/.0117	0.016	0.41	0.032	0.81	0.282	7.16
C9043A	6	16	19/.0117	0.016	0.41	0.032	0.81	0.333	8.46
C9044A	8	16	19/.0117	0.016	0.41	0.032	0.81	0.360	9.15
C9045A	10	16	19/.0117	0.016	0.41	0.032	0.81	0.421	10.69
C9046A	15	16	19/.0117	0.016	0.41	0.032	0.81	0.483	12.26
C9047A	20	16	19/.0117	0.016	0.41	0.053	1.35	0.578	14.69
C9048A	25	16	19/.0117	0.016	0.41	0.053	1.35	0.639	16.23

\* IEC Color Code: Brown, Blue, Green/Yellow





PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9100A	2	24	7/32	0.010	0.25	0.032	0.81	0.157	3.99
C9101A	3	24	7/32	0.010	0.25	0.032	0.81	0.163	4.15
C9102A	4	24	7/32	0.010	0.25	0.032	0.81	0.175	4.45
C9103A	6	24	7/32	0.010	0.25	0.032	0.81	0.200	5.08
C9104A	8	24	7/32	0.010	0.25	0.032	0.81	0.213	5.42
C9105A	10	24	7/32	0.010	0.25	0.032	0.81	0.243	6.17
C9106A	15	24	7/32	0.010	0.25	0.032	0.81	0.273	6.94
C9107A	20	24	7/32	0.010	0.25	0.032	0.81	0.299	7.60
C9108A	25	24	7/32	0.010	0.25	0.032	0.81	0.329	8.36
C9109A	2	22	7/30	0.010	0.25	0.032	0.81	0.169	4.29
C9110A	3	22	7/30	0.010	0.25	0.032	0.81	0.176	4.48
C9111A	4	22	7/30	0.010	0.25	0.032	0.81	0.190	4.82
C9112A	6	22	7/30	0.010	0.25	0.032	0.81	0.218	5.54
C9113A	8	22	7/30	0.010	0.25	0.032	0.81	0.233	5.92
C9114A	10	22	7/30	0.010	0.25	0.032	0.81	0.267	6.78
C9115A	15	22	7/30	0.010	0.25	0.032	0.81	0.301	7.65
C9116A	20	22	7/30	0.010	0.25	0.032	0.81	0.331	8.41
C9117A	25	22	7/30	0.010	0.25	0.032	0.81	0.365	9.27
C9118A	2	20	7/28	0.016	0.41	0.032	0.81	0.207	5.26
C9119A	3	20	7/28	0.016	0.41	0.032	0.81	0.217	5.52
C9120A	4	20	7/28	0.016	0.41	0.032	0.81	0.236	5.98
C9121A	6	20	7/28	0.016	0.41	0.032	0.81	0.275	6.99
C9122A	8	20	7/28	0.016	0.41	0.032	0.81	0.296	7.52
C9123A	10	20	7/28	0.016	0.41	0.032	0.81	0.343	8.71
C9124A	15	20	7/28	0.016	0.41	0.032	0.81	0.391	9.92
C9125A	20	20	7/28	0.016	0.41	0.032	0.81	0.432	10.97
C9126A	25	20	7/28	0.016	0.41	0.032	0.81	0.479	12.17
C9127A	2	18	16/30	0.016	0.41	0.032	0.81	0.227	5.77
C9128A*	2	18	16/30	0.016	0.41	0.032	0.81	0.227	5.77
C9129A	3	18	16/30	0.016	0.41	0.032	0.81	0.239	6.06
C9130A*	3	18	16/30	0.016	0.41	0.032	0.81	0.239	6.06
C9131A	4	18	16/30	0.016	0.41	0.032	0.81	0.260	6.60
C9132A	6	18	16/30	0.016	0.41	0.032	0.81	0.305	7.75
C9133A	8	18	16/30	0.016	0.41	0.032	0.81	0.329	8.36
C9134A	10	18	16/30	0.016	0.41	0.032	0.81	0.383	9.73
C9135A	15	18	16/30	0.016	0.41	0.032	0.81	0.438	11.12
C9136A	20	18	16/30	0.016	0.41	0.032	0.81	0.485	12.32
C9137A	25	18	16/30	0.016	0.41	0.032	0.81	0.539	13.69
C9138A	2	16	19/.0117	0.016	0.41	0.032	0.81	0.247	6.27
C9139A*	2	16	19/.0117	0.016	0.41	0.032	0.81	0.247	6.27
C9140A	3	16	19/.0117	0.016	0.41	0.032	0.81	0.260	6.61
C9141A*	3	16	19/.0117	0.016	0.41	0.032	0.81	0.260	6.61
C9142A	4	16	19/.0117	0.016	0.41	0.032	0.81	0.284	7.21
C9143A	6	16	19/.0117	0.016	0.41	0.032	0.81	0.335	8.51
C9144A	8	16	19/.0117	0.016	0.41	0.032	0.81	0.362	9.20
C9145A	10	16	19/.0117	0.016	0.41	0.032	0.81	0.423	10.74
C9146A	15	16	19/.0117	0.016	0.41	0.032	0.81	0.485	12.31
C9147A	20	16	19/.0117	0.016	0.41	0.053	1.35	0.580	14.74
C9148A	25	16	19/.0117	0.016	0.41	0.053	1.35	0.641	16.28

\* IEC Color Code: Brown, Blue, Green/Yellow

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EXCEPTIONAL PERFORMANCE
**Canadian  
Standard  
Association**

**RoHS Compliant**  
 Directive 2002/95/EC


**General Cable**
**Product Construction:****Conductor:**

- Fully annealed stranded tinned copper per ASTM B33

**Insulation:**

- Premium-grade, color-coded PVC
- Color per Chart A for 24 AWG and 22 AWG on page 22
- Color per Chart B for 20 AWG and larger on page 22
- International colors per IEC Color Chart on page 22

**Shield:**

- 100% Flexfoil® aluminum/polyester, foil facing in
- Stranded tinned copper drain wire

**Jacket:**

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

**Applications:**

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

**Packaging**

- Please contact Customer Service for packaging and color options

# EXZEL™ MULTI-CONDUCTOR, FOIL/BRAID SHIELDED

UL 2464, NEC Type CM (UL), CSA CMG

Electronics



## Product Construction:

### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

### Insulation:

- Premium-grade, color-coded PVC
- Color per Chart A for 24 AWG and 22 AWG on page 22
- Color per Chart B for 20 AWG and larger on page 22
- International colors per IEC Color Chart on page 22

### Shield:

- Dual foil with overall braided shield
- Aluminum/polyester/aluminum foil with 100% coverage
- Stranded tinned copper drain wire
- Tinned copper braided shield, 70% min coverage

### Jacket:

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

## Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

## Features:

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

## Compliances:

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2464 (UL: 80°C, 300 V, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

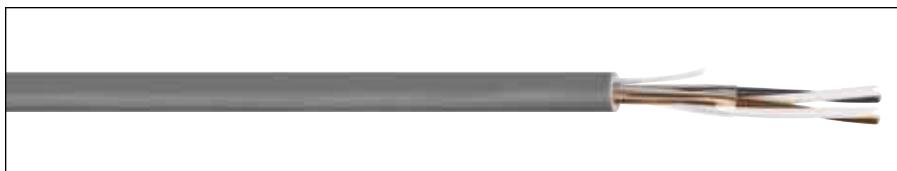
## Packaging

- Please contact Customer Service for packaging and color options

PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9200A	2	24	7/32	0.010	0.25	0.032	0.81	0.184	4.67
C9201A	3	24	7/32	0.010	0.25	0.032	0.81	0.190	4.84
C9202A	4	24	7/32	0.010	0.25	0.032	0.81	0.202	5.13
C9203A	6	24	7/32	0.010	0.25	0.032	0.81	0.227	5.77
C9204A	8	24	7/32	0.010	0.25	0.032	0.81	0.240	6.10
C9205A	10	24	7/32	0.010	0.25	0.032	0.81	0.270	6.86
C9206A	15	24	7/32	0.010	0.25	0.032	0.81	0.300	7.62
C9207A	20	24	7/32	0.010	0.25	0.032	0.81	0.326	8.29
C9208A	25	24	7/32	0.010	0.25	0.032	0.81	0.356	9.04
C9209A	2	22	7/30	0.010	0.25	0.032	0.81	0.196	4.98
C9210A	3	22	7/30	0.010	0.25	0.032	0.81	0.203	5.17
C9211A	4	22	7/30	0.010	0.25	0.032	0.81	0.217	5.50
C9212A	6	22	7/30	0.010	0.25	0.032	0.81	0.245	6.22
C9213A	8	22	7/30	0.010	0.25	0.032	0.81	0.260	6.61
C9214A	10	22	7/30	0.010	0.25	0.032	0.81	0.294	7.47
C9215A	15	22	7/30	0.010	0.25	0.032	0.81	0.328	8.34
C9216A	20	22	7/30	0.010	0.25	0.032	0.81	0.358	9.10
C9217A	25	22	7/30	0.010	0.25	0.032	0.81	0.392	9.96
C9218A	2	20	7/28	0.016	0.41	0.032	0.81	0.234	5.94
C9219A	3	20	7/28	0.016	0.41	0.032	0.81	0.244	6.20
C9220A	4	20	7/28	0.016	0.41	0.032	0.81	0.263	6.67
C9221A	6	20	7/28	0.016	0.41	0.032	0.81	0.302	7.67
C9222A	8	20	7/28	0.016	0.41	0.032	0.81	0.323	8.21
C9223A	10	20	7/28	0.016	0.41	0.032	0.81	0.370	9.40
C9224A	15	20	7/28	0.016	0.41	0.032	0.81	0.418	10.61
C9225A	20	20	7/28	0.016	0.41	0.032	0.81	0.459	11.66
C9226A	25	20	7/28	0.016	0.41	0.032	0.81	0.506	12.85
C9227A*	2	18	16/30	0.016	0.41	0.032	0.81	0.254	6.45
C9228A	2	18	16/30	0.016	0.41	0.032	0.81	0.254	6.45
C9229A*	3	18	16/30	0.016	0.41	0.032	0.81	0.266	6.75
C9230A	3	18	16/30	0.016	0.41	0.032	0.81	0.266	6.75
C9231A	4	18	16/30	0.016	0.41	0.032	0.81	0.287	7.28
C9232A	6	18	16/30	0.016	0.41	0.032	0.81	0.332	8.43
C9233A	8	18	16/30	0.016	0.41	0.032	0.81	0.356	9.05
C9234A	10	18	16/30	0.016	0.41	0.032	0.81	0.410	10.41
C9235A	15	18	16/30	0.016	0.41	0.032	0.81	0.465	11.80
C9236A	20	18	16/30	0.016	0.41	0.032	0.81	0.512	13.01
C9237A	25	18	16/30	0.016	0.41	0.032	0.81	0.566	14.38
C9238A*	2	16	19/.0117	0.016	0.41	0.032	0.81	0.274	6.96
C9239A	2	16	19/.0117	0.016	0.41	0.032	0.81	0.274	6.96
C9240A*	3	16	19/.0117	0.016	0.41	0.032	0.81	0.287	7.29
C9241A	3	16	19/.0117	0.016	0.41	0.032	0.81	0.287	7.29
C9242A	4	16	19/.0117	0.016	0.41	0.032	0.81	0.311	7.90
C9243A	6	16	19/.0117	0.016	0.41	0.032	0.81	0.362	9.19
C9244A	8	16	19/.0117	0.016	0.41	0.032	0.81	0.389	9.89
C9245A	10	16	19/.0117	0.016	0.41	0.032	0.81	0.450	11.43
C9246A	15	16	19/.0117	0.016	0.41	0.032	0.81	0.512	12.99
C9247A	20	16	19/.0117	0.016	0.41	0.053	1.35	0.607	15.42
C9248A	25	16	19/.0117	0.016	0.41	0.053	1.35	0.679	17.25

\* IEC Color Code: Brown, Blue, Green/Yellow





PART NUMBER	PAIRS	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9300A	1	24	7/32	0.010	0.25	0.032	0.81	0.155	3.94
C9301A	2	24	7/32	0.010	0.25	0.032	0.81	0.211	5.37
C9302A	3	24	7/32	0.010	0.25	0.032	0.81	0.222	5.64
C9303A	4	24	7/32	0.010	0.25	0.032	0.81	0.242	6.13
C9304A	5	24	7/32	0.010	0.25	0.032	0.81	0.262	6.65
C9305A	6	24	7/32	0.010	0.25	0.032	0.81	0.283	7.20
C9306A	9	24	7/32	0.010	0.25	0.032	0.81	0.327	8.31
C9307A	11	24	7/32	0.010	0.25	0.032	0.81	0.355	9.03
C9308A	15	24	7/32	0.010	0.25	0.032	0.81	0.406	10.31
C9309A	1	22	7/30	0.010	0.25	0.032	0.81	0.149	3.79
C9310A	2	22	7/30	0.010	0.25	0.032	0.81	0.231	5.88
C9311A	3	22	7/30	0.010	0.25	0.032	0.81	0.244	6.19
C9312A	4	22	7/30	0.010	0.25	0.032	0.81	0.266	6.75
C9313A	5	22	7/30	0.010	0.25	0.032	0.81	0.289	7.34
C9314A	6	22	7/30	0.010	0.25	0.032	0.81	0.314	7.96
C9315A	15	22	7/30	0.010	0.25	0.032	0.81	0.453	11.51
C9316A	2	20	7/28	0.016	0.41	0.032	0.81	0.295	7.49
C9317A	3	20	7/28	0.016	0.41	0.032	0.81	0.312	7.93
C9318A	6	20	7/28	0.016	0.41	0.032	0.81	0.409	10.39
C9319A	9	20	7/28	0.016	0.41	0.032	0.81	0.479	12.16
C9320A	12	20	7/28	0.016	0.41	0.032	0.81	0.540	13.72
C9321A	2	18	16/30	0.016	0.41	0.032	0.81	0.329	8.35
C9322A	3	18	16/30	0.016	0.41	0.032	0.81	0.348	8.85
C9323A	6	18	16/30	0.016	0.41	0.032	0.81	0.459	11.67
C9324A	9	18	16/30	0.016	0.41	0.032	0.81	0.539	13.70
C9325A	12	18	16/30	0.016	0.41	0.053	1.35	0.652	16.56

**Product Construction:****Conductor:**

- Fully annealed stranded tinned copper per ASTM B33

**Insulation:**

- Premium-grade, color-coded PVC
- Color per Chart C for 24 AWG and 22 AWG on page 22
- Color per Chart D for 20 AWG and larger on page 22

**Shield:**

- Unshielded

**Jacket:**

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

**Applications:**

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

**Features:**

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

**Compliances:**

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2464 (UL: 80°C, 300 V, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

**Packaging:**

- Please contact Customer Service for packaging and color options

**CAROL®  
BRAND**
**EXZEL™**  
EXCEPTIONAL PERFORMANCE

**CSA**  
Canadian Standard Association

**RoHS Compliant**  
Directive 2002/95/EC

**General Cable**

# EXZEL™ MULTI-PAIR, FOIL SHIELDED

UL 2464, NEC Type CM (UL), CSA CMG

Electronics



## Product Construction:

### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

### Insulation:

- Premium-grade, color-coded PVC
- Color per Chart C for 24 AWG and 22 AWG on page 22
- Color per Chart D for 20 AWG and larger on page 22

### Shield:

- 100% Flexfoil® aluminum/polyester, foil facing in
- Stranded tinned copper drain wire

### Jacket:

- Premium PVC
- Operating temperature range: -30°C to +105°C (Type CM)
- 30°C to +80°C (AWM)

### Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

### Features:

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

### Compliances:

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2464 (UL: 80°C, 300 V, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

### Packaging

- Please contact Customer Service for packaging and color options

PART NUMBER	PAIRS	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9400A	1	24	7/32	0.010	0.25	0.032	0.81	0.157	3.99
C9401A	2	24	7/32	0.010	0.25	0.032	0.81	0.215	5.47
C9402A	3	24	7/32	0.010	0.25	0.032	0.81	0.226	5.74
C9403A	4	24	7/32	0.010	0.25	0.032	0.81	0.246	6.24
C9404A	5	24	7/32	0.010	0.25	0.032	0.81	0.266	6.75
C9405A	6	24	7/32	0.010	0.25	0.032	0.81	0.287	7.30
C9406A	9	24	7/32	0.010	0.25	0.032	0.81	0.331	8.42
C9407A	11	24	7/32	0.010	0.25	0.032	0.81	0.359	9.13
C9408A	15	24	7/32	0.010	0.25	0.032	0.81	0.410	10.41
C9409A	19	24	7/32	0.010	0.25	0.032	0.81	0.432	10.96
C9410A	1	22	7/30	0.010	0.25	0.032	0.81	0.169	4.29
C9411A	2	22	7/30	0.010	0.25	0.032	0.81	0.235	5.98
C9412A	3	22	7/30	0.010	0.25	0.032	0.81	0.248	6.29
C9413A	4	22	7/30	0.010	0.25	0.032	0.81	0.270	6.85
C9414A	5	22	7/30	0.010	0.25	0.032	0.81	0.293	7.44
C9415A	6	22	7/30	0.010	0.25	0.032	0.81	0.318	8.06
C9416A	9	22	7/30	0.010	0.25	0.032	0.81	0.368	9.34
C9417A	11	22	7/30	0.010	0.25	0.032	0.81	0.400	10.15
C9418A	15	22	7/30	0.010	0.25	0.032	0.81	0.457	11.61
C9419A	19	22	7/30	0.010	0.25	0.032	0.81	0.482	12.24
C9420A	2	20	7/28	0.016	0.41	0.032	0.81	0.299	7.60
C9421A	3	20	7/28	0.016	0.41	0.032	0.81	0.316	8.03
C9422A	6	20	7/28	0.016	0.41	0.032	0.81	0.413	10.49
C9423A	9	20	7/28	0.016	0.41	0.032	0.81	0.483	12.26
C9424A	12	20	7/28	0.016	0.41	0.032	0.81	0.544	13.82
C9425A	19	20	7/28	0.016	0.41	0.053	1.35	0.683	17.35
C9426A	3	18	16/30	0.016	0.41	0.032	0.81	0.352	8.95
C9427A	6	18	16/30	0.016	0.41	0.032	0.81	0.463	11.77





PART NUMBER	PAIRS	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9500A	1	24	7/32	0.010	0.25	0.032	0.81	0.184	4.67
C9501A	2	24	7/32	0.010	0.25	0.032	0.81	0.242	6.10
C9502A	3	24	7/32	0.010	0.25	0.032	0.81	0.253	6.40
C9503A	4	24	7/32	0.010	0.25	0.032	0.81	0.273	6.88
C9504A	5	24	7/32	0.010	0.25	0.032	0.81	0.293	7.42
C9505A	6	24	7/32	0.010	0.25	0.032	0.81	0.314	7.98
C9506A	9	24	7/32	0.010	0.25	0.032	0.81	0.358	9.14
C9507A	11	24	7/32	0.010	0.25	0.032	0.81	0.386	9.78
C9508A	15	24	7/32	0.010	0.25	0.032	0.81	0.437	10.90
C9509A	19	24	7/32	0.010	0.25	0.032	0.81	0.459	11.61
C9510A	1	22	7/30	0.010	0.25	0.032	0.81	0.196	4.98
C9511A	2	22	7/30	0.010	0.25	0.032	0.81	0.262	6.60
C9512A	3	22	7/30	0.010	0.25	0.032	0.81	0.275	6.93
C9513A	4	22	7/30	0.010	0.25	0.032	0.81	0.297	7.49
C9514A	5	22	7/30	0.010	0.25	0.032	0.81	0.320	8.10
C9515A	6	22	7/30	0.010	0.25	0.032	0.81	0.345	8.74
C9516A	9	22	7/30	0.010	0.25	0.032	0.81	0.395	10.06
C9517A	11	22	7/30	0.010	0.25	0.032	0.81	0.427	10.77
C9518A	15	22	7/30	0.010	0.25	0.032	0.81	0.484	12.07
C9519A	19	22	7/30	0.010	0.25	0.032	0.81	0.509	12.88
C9520A	2	20	7/28	0.016	0.41	0.032	0.81	0.326	8.28
C9521A	3	20	7/28	0.016	0.41	0.032	0.81	0.343	8.74
C9522A	6	20	7/28	0.016	0.41	0.032	0.81	0.440	11.25
C9523A	9	20	7/28	0.016	0.41	0.032	0.81	0.510	13.08
C9524A	19	20	7/28	0.016	0.41	0.053	1.35	0.710	18.26
C9525A	2	18	16/30	0.016	0.41	0.032	0.81	0.360	9.02
C9526A	3	18	16/30	0.016	0.41	0.032	0.81	0.379	9.55
C9527A	6	18	16/30	0.016	0.41	0.032	0.81	0.490	12.40
C9528A	9	18	16/30	0.016	0.41	0.053	1.35	0.612	15.52

**Product Construction:****Conductor:**

- Fully annealed stranded tinned copper per ASTM B33

**Insulation:**

- Premium-grade, color-coded PVC
- Color per Chart C for 24 AWG and 22 AWG on page 22
- Color per Chart D for 20 AWG and larger on page 22

**Shield:**

- Dual foil with overall braided shield
- Aluminum/polyester/aluminum foil with 100% coverage
- Stranded tinned copper drain wire
- Tinned copper braided shield, 70% min coverage

**Jacket:**

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

**Applications:**

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

**Features:**

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

**Compliances:**

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2464 (UL: 80°C, 300 V, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

**Packaging:**

- Please contact Customer Service for packaging and color options

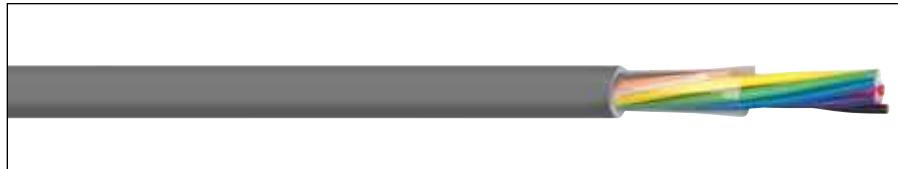
**CAROL®  
BRAND**
**EXZEL™**  
EXCEPTIONAL PERFORMANCE

**RoHS Compliant**  
Directive 2002/95/EC

# EXZEL™ MULTI-CONDUCTOR, UNSHIELDED, HEAVY DUTY

UL 2343, NEC Type CM (UL), CSA CMG

Electronics



## Product Construction:

### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

### Insulation:

- Premium-grade, color-coded PVC
- Color per Chart A on page 22

### Shield:

- Unshielded

### Jacket:

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

### Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

### Features:

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

### Compliances:

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2343 (UL: 80°C, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

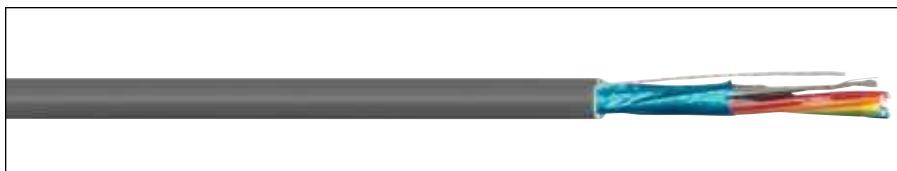
### Packaging:

- Please contact Customer Service for packaging and color options

PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9058A	7	24	7/32	0.010	0.25	0.063	1.6	0.260	6.60
C9059A	12	24	7/32	0.010	0.25	0.063	1.6	0.309	7.86
C9060A	15	24	7/32	0.010	0.25	0.063	1.6	0.333	8.46
C9061A	19	24	7/32	0.010	0.25	0.063	1.6	0.346	8.79
C9062A	2	22	7/30	0.010	0.25	0.063	1.6	0.229	5.82
C9063A	7	22	7/30	0.010	0.25	0.063	1.6	0.278	7.06
C9064A	12	22	7/30	0.010	0.25	0.063	1.6	0.334	8.49
C9065A	15	22	7/30	0.010	0.25	0.063	1.6	0.361	9.18
C9066A	19	22	7/30	0.010	0.25	0.063	1.6	0.376	9.55
C9067A	25	22	7/30	0.010	0.25	0.063	1.6	0.425	10.80
C9068A	2	20	7/28	0.010	0.25	0.063	1.6	0.243	6.17
C9069A	5	20	7/28	0.010	0.25	0.063	1.6	0.282	7.17
C9070A	7	20	7/28	0.010	0.25	0.063	1.6	0.299	7.59
C9071A	12	20	7/28	0.010	0.25	0.063	1.6	0.363	9.23
C9072A	15	20	7/28	0.010	0.25	0.063	1.6	0.394	10.01
C9073A	19	20	7/28	0.010	0.25	0.063	1.6	0.411	10.44
C9074A	25	20	7/28	0.010	0.25	0.063	1.6	0.467	11.86

# EXZEL™ MULTI-CONDUCTOR, FOIL SHIELDED, HEAVY DUTY

UL 2343, NEC Type CM (UL), CSA CMG



PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9158A	3	24	7/32	0.010	0.25	0.063	1.6	0.225	5.73
C9159A	5	24	7/32	0.010	0.25	0.063	1.6	0.249	6.33
C9160A	7	24	7/32	0.010	0.25	0.063	1.6	0.262	6.65
C9161A	12	24	7/32	0.010	0.25	0.063	1.6	0.311	7.91
C9162A	15	24	7/32	0.010	0.25	0.063	1.6	0.335	8.51
C9163A	19	24	7/32	0.010	0.25	0.063	1.6	0.348	8.84
C9164A	2	22	7/30	0.010	0.25	0.063	1.6	0.231	5.87
C9165A	5	22	7/30	0.010	0.25	0.063	1.6	0.265	6.74
C9166A	7	22	7/30	0.010	0.25	0.063	1.6	0.280	7.11
C9167A	12	22	7/30	0.010	0.25	0.063	1.6	0.336	8.54
C9168A	15	22	7/30	0.010	0.25	0.063	1.6	0.363	9.23
C9169A	19	22	7/30	0.010	0.25	0.063	1.6	0.378	9.60
C9170A	2	20	7/28	0.010	0.25	0.063	1.6	0.245	6.22
C9171A	5	20	7/28	0.010	0.25	0.063	1.6	0.284	7.22
C9172A	7	20	7/28	0.010	0.25	0.063	1.6	0.301	7.65
C9173A	12	20	7/28	0.010	0.25	0.063	1.6	0.365	9.28
C9174A	15	20	7/28	0.010	0.25	0.063	1.6	0.396	10.06
C9175A	19	20	7/28	0.010	0.25	0.063	1.6	0.413	10.49

**Product Construction:****Conductor:**

- Fully annealed stranded tinned copper per ASTM B33

**Insulation:**

- Premium-grade, color-coded PVC
- Color per Chart A on page 22

**Shield:**

- 100% Flexfoil® aluminum/polyester, foil facing in
- Stranded tinned copper drain wire

**Jacket:**

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

**Applications:**

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

**Features:**

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

**Compliances:**

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2343 (UL: 80°C, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

**Packaging:**

- Please contact Customer Service for packaging and color options

**CAROL.  
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**EXZEL**  
EXCEPTIONAL PERFORMANCE



RoHS Compliant  
Directive 2002/95/EC

General Cable

# EXZEL™ MULTI-CONDUCTOR, FOIL/BRAID SHIELDED, HEAVY DUTY

Electronics  
UL 2343, NEC Type CM (UL), CSA CMG



## Product Construction:

### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

### Insulation:

- Premium-grade, color-coded PVC
- Color per Chart A on page 22

### Shield:

- Dual foil with overall braided shield
- Aluminum/polyester/aluminum foil with 100% coverage
- Stranded tinned copper drain wire
- Tinned copper braided shield, 70% min coverage

### Jacket:

- Premium PVC
- Operating temperature range:  
-30°C to +105°C (Type CM)  
-30°C to +80°C (AWM)

## Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

## Features:

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

## Compliances:

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2343 (UL: 80°C, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

## Packaging

- Please contact Customer Service for packaging and color options

PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9258A	5	24	7/32	0.010	0.25	0.063	1.6	0.276	7.01
C9259A	7	24	7/32	0.010	0.25	0.063	1.6	0.289	7.34
C9260A	12	24	7/32	0.010	0.25	0.063	1.6	0.338	8.60
C9261A	15	24	7/32	0.010	0.25	0.063	1.6	0.362	9.20
C9262A	19	24	7/32	0.010	0.25	0.063	1.6	0.375	9.53
C9263A	5	22	7/30	0.010	0.25	0.063	1.6	0.292	7.42
C9264A	7	22	7/30	0.010	0.25	0.063	1.6	0.307	7.80
C9265A	12	22	7/30	0.010	0.25	0.063	1.6	0.363	9.23
C9266A	15	22	7/30	0.010	0.25	0.063	1.6	0.390	9.91
C9267A	19	22	7/30	0.010	0.25	0.063	1.6	0.405	10.29
C9268A	4	20	7/28	0.010	0.25	0.063	1.6	0.296	7.51
C9269A	5	20	7/28	0.010	0.25	0.063	1.6	0.311	7.90
C9270A	7	20	7/28	0.010	0.25	0.063	1.6	0.328	8.33
C9271A	12	20	7/28	0.010	0.25	0.063	1.6	0.392	9.97
C9272A	15	20	7/28	0.010	0.25	0.063	1.6	0.423	10.75
C9273A	19	20	7/28	0.010	0.25	0.063	1.6	0.440	11.18

 General Cable

 RoHS Compliant  
Directive 2002/95/EC



 Canadian Standard Association



 EXZEL™  
EXCEPTIONAL PERFORMANCE

 CAROL BRAND®

# EXZEL™ MULTI-PAIR, FOIL/BRAID SHIELDED, HEAVY DUTY

UL 2343, NEC Type CM (UL), CSA CMG



PART NUMBER	PAIRS	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9538A	5	24	7/32	0.010	0.25	0.063	1.6	0.355	9.01
C9539A	7	24	7/32	0.010	0.25	0.063	1.6	0.376	9.56
C9540A	12	24	7/32	0.010	0.25	0.063	1.6	0.459	11.67
C9541A	15	24	7/32	0.010	0.25	0.063	1.6	0.499	12.67
C9542A	19	24	7/32	0.010	0.25	0.063	1.6	0.521	13.22
C9543A	2	22	7/30	0.010	0.25	0.063	1.6	0.324	8.24
C9544A	5	22	7/30	0.010	0.25	0.063	1.6	0.382	9.70
C9545A	7	22	7/30	0.010	0.25	0.063	1.6	0.407	10.33
C9546A	12	22	7/30	0.010	0.25	0.063	1.6	0.501	12.73
C9547A	19	22	7/30	0.010	0.25	0.063	1.6	0.571	14.50
C9548A	4	20	7/28	0.010	0.25	0.063	1.6	0.387	9.84
C9549A	5	20	7/28	0.010	0.25	0.063	1.6	0.414	10.50
C9550A	7	20	7/28	0.010	0.25	0.063	1.6	0.442	11.22
C9551A	9	20	7/28	0.010	0.25	0.063	1.6	0.499	12.68
C9552A	15	20	7/28	0.010	0.25	0.063	1.6	0.601	15.28
C9553A	19	20	7/28	0.010	0.25	0.063	1.6	0.630	15.99

**Product Construction:****Conductor:**

- Fully annealed stranded tinned copper per ASTM B33

**Insulation:**

- Premium-grade, color-coded PVC
- Color per Chart C on page 22

**Shield:**

- Dual foil with overall braided shield
- Aluminum/polyester/aluminum foil with 100% coverage
- Stranded tinned copper drain wire
- Tinned copper braided shield, 70% min coverage

**Jacket:**

- Premium PVC
- Operating temperature range: -30°C to +105°C

**Applications:**

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

**Features:**

- Oil-resistant per UL Oil Res I and Class 43
- Sunlight-resistant
- Nylon ripcord

**Compliances:**

- NEC Article 800 Type CM (UL: 105°C)
- UL Style 2343 (UL: 80°C, VW-1)
- CSA Type CMG (CSA: 105°C, FT4)
- CE: Low-Voltage Directive (LVD) 2006/95/EC
- RoHS Compliant Directive 2002/95/EC
- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)

**Packaging**

- Please contact Customer Service for packaging and color options

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BRAND**

**EXZEL™**  
EXCEPTIONAL PERFORMANCE



**CSA**  
Canadian  
Standard  
Association



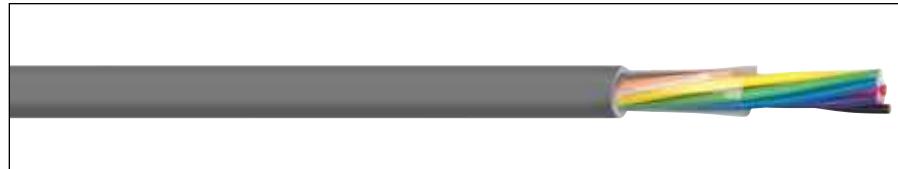
**RoHS Compliant**  
Directive 2002/95/EC

**General Cable**

# EXZEL™ LSZH MULTI-CONDUCTOR, UNSHIELDED

NEC Type CM, CMG, CL2 or PLTC-ER (UL)

Electronics



## Product Construction:

### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

### Insulation:

- Premium-grade, color-coded LSZH
- Color per Chart A for 24 AWG and 22 AWG on page 22
- Color per Chart B for 20 AWG and larger on page 22
- International colors per IEC Color Chart on page 22

### Shield:

- Unshielded

### Jacket:

- Premium FR-LSZH (Thermoplastic Polyolefin)
- Operating temperature range: -40°C to +105°C

### Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

### Features:

- Oil-resistant (OIL RES I)
- Sunlight-resistant (SUN RES)
- Nylon ripcord
- UV-resistant

### Compliances:

- NEC Article 725 Type PLTC-ER (22 AWG and larger, UL: 105°C, 300 V)
- (-ER): approved for Exposed Run as defined per NEC Article 725
- NEC Article 725 Type CL2 (UL: 105°C, 150 V)
- NEC Article 800 Type CM/CMG (UL: 105°C, 300 V)
- CE Compliant to IEC Directive 93/68/EEC
- RoHS Compliant Directive 2002/95/EC

### Compliances: Flame & Smoke

- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)
- CSA FT4/IEEE 1202 flame test per UL 1685
- IEC 60332-1, 3, Cat A: Flammability
- IEC 61034-1, 2 and Mil-DTL-24643B and NES 711: Smoke Index Emission
- IEC 60754-1, 2 and Mil-DTL-24643B: Halogen Content and Acid Gas Generation

### Packaging

- Please contact Customer Service for packaging and color options

PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9000ZH	2	24	7/32	0.010	0.25	0.032	0.81	0.160	4.06
C9001ZH	3	24	7/32	0.010	0.25	0.032	0.81	0.167	4.23
C9002ZH	4	24	7/32	0.010	0.25	0.032	0.81	0.178	4.53
C9003ZH	6	24	7/32	0.010	0.25	0.032	0.81	0.204	5.18
C9004ZH	8	24	7/32	0.010	0.25	0.032	0.81	0.218	5.53
C9005ZH	10	24	7/32	0.010	0.25	0.032	0.81	0.248	6.30
C9006ZH	15	24	7/32	0.010	0.25	0.037	0.94	0.289	7.34
C9007ZH	20	24	7/32	0.010	0.25	0.037	0.94	0.316	8.02
C9008ZH	25	24	7/32	0.010	0.25	0.037	0.94	0.346	8.79
C9009ZH	2	22	7/30	0.010	0.25	0.037	0.94	0.182	4.62
C9010ZH	3	22	7/30	0.010	0.25	0.037	0.94	0.190	4.81
C9011ZH	4	22	7/30	0.010	0.25	0.037	0.94	0.203	5.16
C9012ZH	6	22	7/30	0.010	0.25	0.037	0.94	0.232	5.89
C9013ZH	8	22	7/30	0.010	0.25	0.037	0.94	0.248	6.29
C9014ZH	10	22	7/30	0.010	0.25	0.042	1.07	0.292	7.42
C9015ZH	15	22	7/30	0.010	0.25	0.042	1.07	0.327	8.31
C9016ZH	20	22	7/30	0.010	0.25	0.042	1.07	0.358	9.08
C9017ZH	25	22	7/30	0.010	0.25	0.052	1.32	0.412	10.46
C9018ZH	2	20	7/28	0.016	0.41	0.037	0.94	0.222	5.64
C9019ZH	3	20	7/28	0.016	0.41	0.037	0.94	0.233	5.91
C9020ZH	4	20	7/28	0.016	0.41	0.037	0.94	0.251	6.39
C9021ZH	6	20	7/28	0.016	0.41	0.042	1.07	0.302	7.67
C9022ZH	8	20	7/28	0.016	0.41	0.042	1.07	0.324	8.22
C9023ZH	10	20	7/28	0.016	0.41	0.042	1.07	0.372	9.45
C9024ZH	15	20	7/28	0.016	0.41	0.052	1.32	0.441	11.20
C9025ZH	20	20	7/28	0.016	0.41	0.052	1.32	0.484	12.29
C9026ZH	25	20	7/28	0.016	0.41	0.052	1.32	0.532	13.51
C9027ZH*	2	18	16/30	0.016	0.41	0.037	0.94	0.238	6.05
C9028ZH	2	18	16/30	0.016	0.41	0.037	0.94	0.238	6.05
C9029ZH*	3	18	16/30	0.016	0.41	0.037	0.94	0.250	6.34
C9030ZH	3	18	16/30	0.016	0.41	0.037	0.94	0.250	6.34
C9031ZH	4	18	16/30	0.016	0.41	0.037	0.94	0.271	6.88
C9032ZH	6	18	16/30	0.016	0.41	0.042	1.07	0.326	8.28
C9033ZH	8	18	16/30	0.016	0.41	0.042	1.07	0.350	8.89
C9034ZH	10	18	16/30	0.016	0.41	0.052	1.32	0.424	10.77
C9035ZH	15	18	16/30	0.016	0.41	0.052	1.32	0.479	12.16
C9036ZH	20	18	16/30	0.016	0.41	0.052	1.32	0.526	13.36
C9037ZH	25	18	16/30	0.016	0.41	0.052	1.32	0.580	14.73
C9038ZH*	2	16	19/.0117	0.016	0.41	0.037	0.94	0.262	6.65
C9039ZH	2	16	19/.0117	0.016	0.41	0.037	0.94	0.262	6.65
C9040ZH*	3	16	19/.0117	0.016	0.41	0.037	0.94	0.276	7.00
C9041ZH	3	16	19/.0117	0.016	0.41	0.037	0.94	0.276	7.00
C9042ZH	4	16	19/.0117	0.016	0.41	0.042	1.07	0.310	7.87
C9043ZH	6	16	19/.0117	0.016	0.41	0.042	1.07	0.362	9.19
C9044ZH	8	16	19/.0117	0.016	0.41	0.052	1.32	0.410	10.41
C9045ZH	10	16	19/.0117	0.016	0.41	0.052	1.32	0.472	11.99
C9046ZH	15	16	19/.0117	0.016	0.41	0.052	1.32	0.535	13.59
C9047ZH	20	16	19/.0117	0.016	0.41	0.052	1.32	0.590	14.98
C9048ZH	25	16	19/.0117	0.016	0.41	0.062	1.57	0.672	17.07

\* IEC Color Code: Brown, Blue, Green/Yellow.



# EXZEL™ LSZH MULTI-CONDUCTOR, FOIL SHIELDED

NEC Type CM, CMG, CL2 or PLTC-ER (UL)



PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9100ZH	2	24	7/32	0.010	0.25	0.032	0.81	0.165	4.19
C9101ZH	3	24	7/32	0.010	0.25	0.032	0.81	0.172	4.36
C9102ZH	4	24	7/32	0.010	0.25	0.032	0.81	0.183	4.66
C9103ZH	6	24	7/32	0.010	0.25	0.032	0.81	0.209	5.31
C9104ZH	8	24	7/32	0.010	0.25	0.032	0.81	0.223	5.66
C9105ZH	10	24	7/32	0.010	0.25	0.032	0.81	0.253	6.43
C9106ZH	15	24	7/32	0.010	0.25	0.037	0.94	0.294	7.46
C9107ZH	20	24	7/32	0.010	0.25	0.037	0.94	0.321	8.14
C9108ZH	25	24	7/32	0.010	0.25	0.037	0.94	0.351	8.92
C9109ZH	2	22	7/30	0.010	0.25	0.037	0.94	0.187	4.75
C9110ZH	3	22	7/30	0.010	0.25	0.037	0.94	0.195	4.94
C9111ZH	4	22	7/30	0.010	0.25	0.037	0.94	0.208	5.28
C9112ZH	6	22	7/30	0.010	0.25	0.037	0.94	0.237	6.02
C9113ZH	8	22	7/30	0.010	0.25	0.037	0.94	0.253	6.41
C9114ZH	10	22	7/30	0.010	0.25	0.042	1.07	0.297	7.54
C9115ZH	15	22	7/30	0.010	0.25	0.042	1.07	0.332	8.43
C9116ZH	20	22	7/30	0.010	0.25	0.042	1.07	0.363	9.21
C9117ZH	25	22	7/30	0.010	0.25	0.052	1.32	0.417	10.59
C9118ZH	2	20	7/28	0.016	0.41	0.037	0.94	0.227	5.77
C9119ZH	3	20	7/28	0.016	0.41	0.037	0.94	0.238	6.03
C9120ZH	4	20	7/28	0.016	0.41	0.037	0.94	0.256	6.51
C9121ZH	6	20	7/28	0.016	0.41	0.042	1.07	0.307	7.80
C9122ZH	8	20	7/28	0.016	0.41	0.042	1.07	0.329	8.35
C9123ZH	10	20	7/28	0.016	0.41	0.042	1.07	0.377	9.58
C9124ZH	15	20	7/28	0.016	0.41	0.052	1.32	0.446	11.33
C9125ZH	20	20	7/28	0.016	0.41	0.052	1.32	0.489	12.41
C9126ZH	25	20	7/28	0.016	0.41	0.052	1.32	0.537	13.64
C9127ZH	2	18	16/30	0.016	0.41	0.037	0.94	0.243	6.17
C9128ZH*	2	18	16/30	0.016	0.41	0.037	0.94	0.243	6.17
C9129ZH	3	18	16/30	0.016	0.41	0.037	0.94	0.255	6.47
C9130ZH*	3	18	16/30	0.016	0.41	0.037	0.94	0.255	6.47
C9131ZH	4	18	16/30	0.016	0.41	0.037	0.94	0.276	7.00
C9132ZH	6	18	16/30	0.016	0.41	0.042	1.07	0.331	8.41
C9133ZH	8	18	16/30	0.016	0.41	0.042	1.07	0.355	9.02
C9134ZH	10	18	16/30	0.016	0.41	0.052	1.32	0.429	10.90
C9135ZH	15	18	16/30	0.016	0.41	0.052	1.32	0.484	12.28
C9136ZH	20	18	16/30	0.016	0.41	0.052	1.32	0.531	13.49
C9137ZH	25	18	16/30	0.016	0.41	0.052	1.32	0.585	14.86
C9138ZH	2	16	19/.0117	0.016	0.41	0.037	0.94	0.267	6.78
C9139ZH*	2	16	19/.0117	0.016	0.41	0.037	0.94	0.267	6.78
C9140ZH	3	16	19/.0117	0.016	0.41	0.037	0.94	0.281	7.12
C9141ZH*	3	16	19/.0117	0.016	0.41	0.037	0.94	0.281	7.12
C9142ZH	4	16	19/.0117	0.016	0.41	0.042	1.07	0.315	8.00
C9143ZH	6	16	19/.0117	0.016	0.41	0.042	1.07	0.367	9.32
C9144ZH	8	16	19/.0117	0.016	0.41	0.052	1.32	0.415	10.54
C9145ZH	10	16	19/.0117	0.016	0.41	0.052	1.32	0.477	12.12
C9146ZH	15	16	19/.0117	0.016	0.41	0.052	1.32	0.540	13.72
C9147ZH	20	16	19/.0117	0.016	0.41	0.052	1.32	0.595	15.11
C9148ZH	25	16	19/.0117	0.016	0.41	0.062	1.57	0.677	17.20

\* IEC Color Code: Brown, Blue, Green/Yellow.

**CAROL.  
BRAND**

**EXZEL**  
EXCEPTIONAL PERFORMANCE



RoHS Compliant  
Directive 2002/95/EC

**General Cable**

#### Product Construction:

##### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

##### Insulation:

- Premium-grade, color-coded LSZH (Thermoplastic Polyolefin)
- Color per Chart A for 24 AWG and 22 AWG on page 22
- Color per Chart B for 20 AWG and larger on page 22
- International colors per IEC Color Chart on page 22

##### Shield:

- 100% Flexfoil®, aluminum/polyester/aluminum, foil facing in
- Stranded tinned copper drain wire

##### Jacket:

- Premium FR-LSZH (Thermoplastic Polyolefin)
- Operating temperature range: -40°C to +105°C

#### Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

#### Features:

- Oil-resistant (OIL RES)
- Sunlight-resistant (SUN RES)
- Nylon ripcord
- UV-resistant

#### Compliances:

- NEC Article 725 Type PLTC-ER (22 AWG and larger, UL: 105°C, 300 V)
- (-ER): approved for Exposed Run as defined per NEC Article 725
- NEC Article 725 Type CL2 (UL: 105°C, 150 V)
- NEC Article 800 Type CM/CMG (UL: 105°C, 300 V)
- CE Compliant to IEC Directive 93/68/EEC
- RoHS Compliant Directive 2002/95/EC

#### Compliances: Flame & Smoke

- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)
- CSA FT4/IEEE 1202 flame test per UL 1685
- IEC 60332-1, 3, Cat A: Flammability
- IEC 61034-1, 2 and Mil-DTL-24643B and NES 711: Smoke Index Emission
- IEC 60754-1, 2 and Mil-DTL-24643B: Halogen Content and Acid Gas Generation

#### Packaging

- Please contact Customer Service for packaging and color options

# EXZEL™ LSZH MULTI-CONDUCTOR, FOIL/BRAID SHIELDED

NEC Type CM, CMG, CL2 or PLTC-ER (UL)

Electronics



## Product Construction:

### Conductor:

- Full annealed stranded tinned copper per ASTM B33

### Insulation:

- Premium-grade, color-coded LSZH (Thermoplastic Polyolefin)
- Color per Chart A for 24 AWG and 22 AWG on page 22
- Color per Chart B for 20 AWG and larger on page 22
- International colors per IEC Color Chart on page 22

### Shield:

- Dual foil with overall braided shield
- Aluminum/polyester/aluminum foil with 100% coverage
- Stranded tinned copper drain wire
- Tinned copper braided shield, 85% min. coverage

### Jacket:

- Premium FR-LSZH (Thermoplastic Polyolefin)
- Operating temperature range: -40°C to +105°C

## Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

## Features:

- Oil-resistant (OIL RES I)
- Sunlight-resistant (SUN RES)
- Nylon ripcord
- UV-resistant

## Compliances:

- NEC Article 725 Type PLTC-ER (22 AWG and larger, UL: 105°C, 300 V)
- (-ER): approved for Exposed Run as defined per NEC Article 725
- NEC Article 725 Type CL2 (UL: 105°C, 150 V)
- NEC Article 800 Type CM/CMG (UL: 105°C, 300 V)
- CE Compliant to IEC Directive 93/68/EEC
- RoHS Compliant Directive 2002/95/EC

## Compliances: Flame & Smoke

- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)
- CSA FT4/IEEE 1202 flame test per UL 1685
- IEC 60332-1, 3, Cat A: Flammability
- IEC 61034-1, 2 and Mil-DTL-24643B and NES 711: Smoke Index Emission
- IEC 60754-1, 2 and Mil-DTL-24643B: Halogen Content and Acid Gas Generation

## Packaging

- Please contact Customer Service for packaging and color options

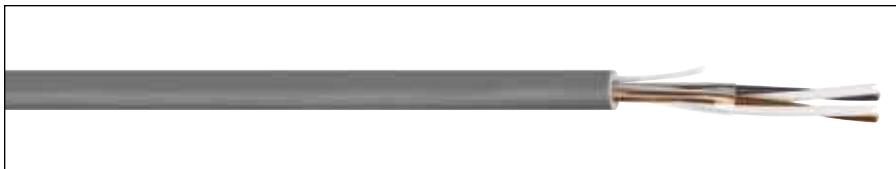
PART NUMBER	COND.	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9200ZH	2	24	7/32	0.010	0.25	0.032	0.81	0.187	4.75
C9201ZH	3	24	7/32	0.010	0.25	0.032	0.81	0.194	4.92
C9202ZH	4	24	7/32	0.010	0.25	0.032	0.81	0.205	5.22
C9203ZH	6	24	7/32	0.010	0.25	0.032	0.81	0.231	5.87
C9204ZH	8	24	7/32	0.010	0.25	0.032	0.81	0.245	6.21
C9205ZH	10	24	7/32	0.010	0.25	0.037	0.94	0.285	7.24
C9206ZH	15	24	7/32	0.010	0.25	0.037	0.94	0.316	8.02
C9207ZH	20	24	7/32	0.010	0.25	0.037	0.94	0.343	8.70
C9208ZH	25	24	7/32	0.010	0.25	0.037	0.94	0.373	9.47
C9209ZH	2	22	7/30	0.010	0.25	0.037	0.94	0.209	5.31
C9210ZH	3	22	7/30	0.010	0.25	0.037	0.94	0.217	5.50
C9211ZH	4	22	7/30	0.010	0.25	0.037	0.94	0.230	5.84
C9212ZH	6	22	7/30	0.010	0.25	0.037	0.94	0.259	6.58
C9213ZH	8	22	7/30	0.010	0.25	0.037	0.94	0.275	6.97
C9214ZH	10	22	7/30	0.010	0.25	0.042	1.07	0.319	8.10
C9215ZH	15	22	7/30	0.010	0.25	0.042	1.07	0.354	8.99
C9216ZH	20	22	7/30	0.010	0.25	0.042	1.07	0.385	9.77
C9217ZH	25	22	7/30	0.010	0.25	0.052	1.32	0.444	11.28
C9218ZH	2	20	7/28	0.016	0.41	0.037	0.94	0.249	6.32
C9219ZH	3	20	7/28	0.016	0.41	0.037	0.94	0.260	6.59
C9220ZH	4	20	7/28	0.016	0.41	0.037	0.94	0.278	7.07
C9221ZH	6	20	7/28	0.016	0.41	0.042	1.07	0.329	8.36
C9222ZH	8	20	7/28	0.016	0.41	0.042	1.07	0.351	8.91
C9223ZH	10	20	7/28	0.016	0.41	0.052	1.32	0.419	10.64
C9224ZH	15	20	7/28	0.016	0.41	0.052	1.32	0.473	12.01
C9225ZH	20	20	7/28	0.016	0.41	0.052	1.32	0.516	13.10
C9226ZH	25	20	7/28	0.016	0.41	0.052	1.32	0.564	14.33
C9227ZH*	2	18	16/30	0.016	0.41	0.037	0.94	0.265	6.73
C9228ZH	2	18	16/30	0.016	0.41	0.037	0.94	0.265	6.73
C9229ZH*	3	18	16/30	0.016	0.41	0.037	0.94	0.277	7.03
C9230ZH	3	18	16/30	0.016	0.41	0.037	0.94	0.277	7.03
C9231ZH	4	18	16/30	0.016	0.41	0.042	1.07	0.308	7.82
C9232ZH	6	18	16/30	0.016	0.41	0.042	1.07	0.353	8.97
C9233ZH	8	18	16/30	0.016	0.41	0.042	1.07	0.377	9.58
C9234ZH	10	18	16/30	0.016	0.41	0.052	1.32	0.456	11.58
C9235ZH	15	18	16/30	0.016	0.41	0.052	1.32	0.511	12.97
C9236ZH	20	18	16/30	0.016	0.41	0.052	1.32	0.558	14.18
C9237ZH	25	18	16/30	0.016	0.41	0.062	1.57	0.632	16.05
C9238ZH*	2	16	19/.0117	0.016	0.41	0.042	1.07	0.299	7.59
C9239ZH	2	16	19/.0117	0.016	0.41	0.042	1.07	0.299	7.59
C9240ZH*	3	16	19/.0117	0.016	0.41	0.042	1.07	0.313	7.94
C9241ZH	3	16	19/.0117	0.016	0.41	0.042	1.07	0.313	7.94
C9242ZH	4	16	19/.0117	0.016	0.41	0.042	1.07	0.337	8.55
C9243ZH	6	16	19/.0117	0.016	0.41	0.052	1.32	0.409	10.39
C9244ZH	8	16	19/.0117	0.016	0.41	0.052	1.32	0.437	11.10
C9245ZH	10	16	19/.0117	0.016	0.41	0.052	1.32	0.504	12.80
C9246ZH	15	16	19/.0117	0.016	0.41	0.052	1.32	0.567	14.40
C9247ZH	20	16	19/.0117	0.016	0.41	0.062	1.57	0.642	16.30
C9248ZH	25	16	19/.0117	0.016	0.41	0.062	1.57	0.704	17.88

\* IEC Color Code: Brown, Blue, Green/Yellow



# EXZEL™ LSZH MULTI-PAIR, UNSHIELDED

NEC Type CM, CMG, CL2 or PLTC-ER (UL)



PART NUMBER	PAIRS	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9300ZH	1	24	7/32	0.010	0.25	0.032	0.81	0.160	4.06
C9301ZH	2	24	7/32	0.010	0.25	0.032	0.81	0.220	5.58
C9302ZH	3	24	7/32	0.010	0.25	0.032	0.81	0.231	5.87
C9303ZH	4	24	7/32	0.010	0.25	0.032	0.81	0.251	6.37
C9304ZH	5	24	7/32	0.010	0.25	0.037	0.94	0.282	7.15
C9305ZH	6	24	7/32	0.010	0.25	0.037	0.94	0.304	7.72
C9306ZH	9	24	7/32	0.010	0.25	0.037	0.94	0.350	8.88
C9307ZH	11	24	7/32	0.010	0.25	0.037	0.94	0.378	9.59
C9308ZH	15	24	7/32	0.010	0.25	0.047	1.19	0.449	11.42
C9309ZH	1	22	7/30	0.010	0.25	0.037	0.94	0.182	4.62
C9310ZH	2	22	7/30	0.010	0.25	0.037	0.94	0.250	6.35
C9311ZH	3	22	7/30	0.010	0.25	0.037	0.94	0.263	6.67
C9312ZH	4	22	7/30	0.010	0.25	0.042	1.07	0.295	7.50
C9313ZH	5	22	7/30	0.010	0.25	0.042	1.07	0.319	8.10
C9314ZH	6	22	7/30	0.010	0.25	0.042	1.07	0.344	8.74
C9326ZH	9	22	7/30	0.010	0.25	0.052	1.32	0.416	10.57
C9327ZH	12	22	7/30	0.010	0.25	0.052	1.32	0.461	11.70
C9315ZH	15	22	7/30	0.010	0.25	0.052	1.32	0.507	12.87
C9328ZH	1	20	7/28	0.016	0.41	0.037	0.94	0.222	5.64
C9316ZH	2	20	7/28	0.016	0.41	0.042	1.07	0.327	8.31
C9317ZH	3	20	7/28	0.016	0.41	0.042	1.07	0.345	8.76
C9329ZH	4	20	7/28	0.016	0.41	0.042	1.07	0.377	9.57
C9330ZH	5	20	7/28	0.016	0.41	0.052	1.32	0.430	10.91
C9318ZH	6	20	7/28	0.016	0.41	0.052	1.32	0.465	11.81
C9319ZH	9	20	7/28	0.016	0.41	0.052	1.32	0.538	13.66
C9320ZH	12	20	7/28	0.016	0.41	0.052	1.32	0.600	15.24
C9331ZH	15	20	7/28	0.016	0.41	0.062	1.57	0.685	17.39
C9332ZH	1	18	16/30	0.016	0.41	0.037	0.94	0.238	6.05
C9321ZH	2	18	16/30	0.016	0.41	0.042	1.07	0.354	8.99
C9322ZH	3	18	16/30	0.016	0.41	0.042	1.07	0.374	9.49
C9333ZH	4	18	16/30	0.016	0.41	0.052	1.32	0.429	10.90
C9334ZH	5	18	16/30	0.016	0.41	0.052	1.32	0.466	11.83
C9323ZH	6	18	16/30	0.016	0.41	0.052	1.32	0.505	12.83
C9324ZH	9	18	16/30	0.016	0.41	0.052	1.32	0.586	14.89
C9325ZH	12	18	16/30	0.016	0.41	0.062	1.57	0.656	16.67
C9335ZH	15	18	16/30	0.016	0.41	0.062	1.57	0.748	19.00

**Product Construction:****Conductor:**

- Fully annealed stranded tinned copper per ASTM B33

**Insulation:**

- Premium-grade, color-coded LSZH (Thermoplastic Polyolefin)
- Color per Chart C for 24 AWG and 22 AWG on page 22
- Color per Chart D for 20 AWG and larger on page 22

**Shield:**

- Unshielded

**Jacket:**

- Premium FR-LSZH (Thermoplastic Polyolefin)
- Operating temperature range: -40°C to +105°C

**Applications:**

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

**Features:**

- Oil-resistant (OIL RES I)
- Sunlight-resistant (SUN RES)
- Nylon ripcord
- UV-resistant

**Compliances:**

- NEC Article 725 Type PLTC-ER (22 AWG and larger, UL: 105°C, 300 V)
- (-ER): approved for Exposed Run as defined per NEC Article 725
- NEC Article 725 Type CL2 (UL: 105°C, 150 V)
- NEC Article 800 Type CM/CMG (UL: 105°C, 300 V)
- CE Compliant to IEC Directive 93/68/EEC
- RoHS Compliant Directive 2002/95/EC

**Compliances: Flame & Smoke**

- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)
- CSA FT4/IEEE 1202 flame test per UL 1685
- IEC 60332-1, 3, Cat A: Flammability
- IEC 61034-1, 2 and Mil-DTL-24643B and NES 711: Smoke Index Emission
- IEC 60754-1, 2 and Mil-DTL-24643B: Halogen Content and Acid Gas Generation

**Packaging**

- Please contact Customer Service for packaging and color options

**CAROL®  
BRAND**
**EXZEL™**  
EXCEPTIONAL PERFORMANCE

**General Cable**

# EXZEL™ LSZH MULTI-PAIR, FOIL SHIELDED

NEC Type CM, CMG, CL2 or PLTC-ER (UL)

Electronics



## Product Construction:

### Conductor:

- Fully annealed stranded tinned copper per ASTM B33

### Insulation:

- Premium-grade, color-coded LSZH (Thermoplastic Polyolefin)
- Color per Chart C for 24 AWG and 22 AWG on page 22
- Color per Chart D for 20 AWG and larger on page 22

### Shield:

- 100% Flexfoil®, aluminum/polyester/aluminum, foil facing in
- Stranded tinned copper drain wire

### Jacket:

- Premium FR-LSZH (Thermoplastic Polyolefin)
- Operating temperature range: -40°C to +105°C

## Applications:

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

## Features:

- Oil-resistant (OIL RES I)
- Sunlight-resistant (SUN RES)
- Nylon ripcord
- UV-resistant

## Compliances:

- NEC Article 725 Type PLTC-ER (22 AWG and larger, UL: 105°C, 300 V)
- (-ER): approved for Exposed Run as defined per NEC Article 725
- NEC Article 725 Type CL2 (UL: 105°C, 150 V)
- NEC Article 800 Type CM/CMG (UL: 105°C, 300 V)
- CE Compliant to IEC Directive 93/68/EEC
- RoHS Compliant Directive 2002/95/EC

## Compliances: Flame & Smoke

- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)
- CSA FT4/IEEE 1202 flame test per UL 1685
- IEC 60332-1, 3, Cat A: Flammability
- IEC 61034-1, 2 and Mil-DTL-24643B and NES 711: Smoke Index Emission
- IEC 60754-1, 2 and Mil-DTL-24643B: Halogen Content and Acid Gas Generation

## Packaging

- Please contact Customer Service for packaging and color options

PART NUMBER	PAIRS	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9400ZH	1	24	7/32	0.010	0.25	0.032	0.81	0.165	4.19
C9401ZH	2	24	7/32	0.010	0.25	0.032	0.81	0.225	5.71
C9402ZH	3	24	7/32	0.010	0.25	0.032	0.81	0.236	5.99
C9403ZH	4	24	7/32	0.010	0.25	0.032	0.81	0.256	6.50
C9404ZH	5	24	7/32	0.010	0.25	0.037	0.94	0.287	7.28
C9405ZH	6	24	7/32	0.010	0.25	0.037	0.94	0.309	7.84
C9406ZH	9	24	7/32	0.010	0.25	0.037	0.94	0.355	9.01
C9407ZH	11	24	7/32	0.010	0.25	0.047	1.19	0.403	10.23
C9408ZH	15	24	7/32	0.010	0.25	0.047	1.19	0.454	11.54
C9410ZH	1	22	7/30	0.010	0.25	0.037	0.94	0.187	4.75
C9411ZH	2	22	7/30	0.010	0.25	0.037	0.94	0.255	6.48
C9412ZH	3	22	7/30	0.010	0.25	0.037	0.94	0.268	6.80
C9413ZH	4	22	7/30	0.010	0.25	0.042	1.07	0.300	7.63
C9414ZH	5	22	7/30	0.010	0.25	0.042	1.07	0.324	8.22
C9415ZH	6	22	7/30	0.010	0.25	0.042	1.07	0.349	8.86
C9416ZH	9	22	7/30	0.010	0.25	0.052	1.32	0.421	10.70
C9417ZH	11	22	7/30	0.010	0.25	0.052	1.32	0.453	11.51
C9418ZH	15	22	7/30	0.010	0.25	0.052	1.32	0.512	13.00
C9450ZH	1	20	7/28	0.016	0.41	0.037	0.94	0.227	5.77
C9420ZH	2	20	7/28	0.016	0.41	0.042	1.07	0.332	8.44
C9421ZH	3	20	7/28	0.016	0.41	0.042	1.07	0.350	8.89
C9451ZH	4	20	7/28	0.016	0.41	0.042	1.07	0.382	9.69
C9452ZH	5	20	7/28	0.016	0.41	0.052	1.32	0.435	11.04
C9422ZH	6	20	7/28	0.016	0.41	0.052	1.32	0.470	11.93
C9423ZH	9	20	7/28	0.016	0.41	0.052	1.32	0.543	13.78
C9424ZH	12	20	7/28	0.016	0.41	0.052	1.32	0.587	14.92
C9453ZH	15	20	7/28	0.016	0.41	0.062	1.57	0.690	17.52
C9454ZH	1	18	16/30	0.016	0.41	0.037	0.94	0.243	6.17
C9455ZH	2	18	16/30	0.016	0.41	0.042	1.07	0.359	9.12
C9426ZH	3	18	16/30	0.016	0.41	0.042	1.07	0.379	9.62
C9456ZH	4	18	16/30	0.016	0.41	0.052	1.32	0.434	11.03
C9457ZH	5	18	16/30	0.016	0.41	0.052	1.32	0.471	11.96
C9427ZH	6	18	16/30	0.016	0.41	0.052	1.32	0.510	12.96
C9458ZH	9	18	16/30	0.016	0.41	0.052	1.32	0.591	15.02
C9459ZH	12	18	16/30	0.016	0.41	0.062	1.57	0.681	17.29
C9460ZH	15	18	16/30	0.016	0.41	0.062	1.57	0.753	19.12



# EXZEL™ LSZH MULTI-PAIR, FOIL/BRAID SHIELDED

NEC Type CM, CMG, CL2 or PLTC-ER (UL)



PART NUMBER	PAIRS	AWG SIZE	COND. STRAND	NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		NOMINAL CABLE DIAMETER	
				INCHES	mm	INCHES	mm	INCHES	mm
C9500ZH	1	24	7/32	0.010	0.25	0.032	0.81	0.187	4.75
C9501ZH	2	24	7/32	0.010	0.25	0.032	0.81	0.247	6.27
C9502ZH	3	24	7/32	0.010	0.25	0.032	0.81	0.258	6.55
C9503ZH	4	24	7/32	0.010	0.25	0.037	0.94	0.288	7.31
C9504ZH	5	24	7/32	0.010	0.25	0.037	0.94	0.309	7.84
C9505ZH	6	24	7/32	0.010	0.25	0.037	0.94	0.331	8.40
C9506ZH	9	24	7/32	0.010	0.25	0.037	0.94	0.377	9.57
C9507ZH	11	24	7/32	0.010	0.25	0.047	1.19	0.425	10.79
C9508ZH	15	24	7/32	0.010	0.25	0.047	1.19	0.476	12.10
C9510ZH	1	22	7/30	0.010	0.25	0.037	0.94	0.209	5.31
C9511ZH	2	22	7/30	0.010	0.25	0.037	0.94	0.277	7.04
C9512ZH	3	22	7/30	0.010	0.25	0.042	1.07	0.300	7.61
C9513ZH	4	22	7/30	0.010	0.25	0.042	1.07	0.322	8.19
C9514ZH	5	22	7/30	0.010	0.25	0.042	1.07	0.346	8.78
C9515ZH	6	22	7/30	0.010	0.25	0.042	1.07	0.371	9.42
C9516ZH	9	22	7/30	0.010	0.25	0.052	1.32	0.443	11.25
C9517ZH	11	22	7/30	0.010	0.25	0.052	1.32	0.480	12.19
C9518ZH	15	22	7/30	0.010	0.25	0.052	1.32	0.539	13.69
C9529ZH	1	20	7/28	0.016	0.41	0.037	0.94	0.249	6.32
C9530ZH	2	20	7/28	0.016	0.41	0.042	1.07	0.354	9.00
C9521ZH	3	20	7/28	0.016	0.41	0.042	1.07	0.372	9.44
C9531ZH	4	20	7/28	0.016	0.41	0.052	1.32	0.424	10.76
C9532ZH	5	20	7/28	0.016	0.41	0.052	1.32	0.457	11.60
C9522ZH	6	20	7/28	0.016	0.41	0.052	1.32	0.497	12.62
C9523ZH	9	20	7/28	0.016	0.41	0.052	1.32	0.570	14.47
C9533ZH	12	20	7/28	0.016	0.41	0.062	1.57	0.652	16.56
C9534ZH	15	20	7/28	0.016	0.41	0.062	1.57	0.717	18.20
C9535ZH	1	18	16/30	0.016	0.41	0.037	0.94	0.265	6.73
C9525ZH	2	18	16/30	0.016	0.41	0.042	1.07	0.381	9.68
C9526ZH	3	18	16/30	0.016	0.41	0.052	1.32	0.421	10.69
C9536ZH	4	18	16/30	0.016	0.41	0.052	1.32	0.461	11.71
C9537ZH	5	18	16/30	0.016	0.41	0.052	1.32	0.498	12.64
C9527ZH	6	18	16/30	0.016	0.41	0.052	1.32	0.537	13.64
C9528ZH	9	18	16/30	0.016	0.41	0.062	1.57	0.638	16.21
C9538ZH	12	18	16/30	0.016	0.41	0.062	1.57	0.708	17.98
C9539ZH	15	18	16/30	0.016	0.41	0.062	1.57	0.780	19.81

**Product Construction:****Conductor:**

- Fully annealed stranded tinned copper per ASTM B33

**Insulation:**

- Premium-grade, color-coded LSZH (Thermoplastic Polyolefin)
- Color per Chart C for 24 AWG and 22 AWG on page 22
- Color per Chart D for 20 AWG and larger on page 22

**Shield:**

- Dual foil with overall braided shield
- Aluminum/polyester/aluminum foil with 100% coverage
- Stranded tinned copper drain wire
- Tinned copper braided shield, 85% min. coverage

**Jacket:**

- Premium FR-LSZH (Thermoplastic Polyolefin)
- Operating temperature range: -40°C to +105°C

**Applications:**

- Advanced signal transmission in controlled environments
- Medical instrumentation and equipment
- Consumer electronic peripherals
- Industrial process control systems
- Suitable for EIA RS-232 applications

**Features:**

- Oil-resistant (OIL RES I)
- Sunlight-resistant (SUN RES)
- Nylon ripcord
- UV-resistant

**Compliances:**

- NEC Article 725 Type PLTC-ER (22 AWG and larger, UL: 105°C, 300 V)
- (-ER): approved for Exposed Run as defined per NEC Article 725
- NEC Article 725 Type CL2 (UL: 105°C, 150 V)
- NEC Article 800 Type CM/CMG (UL: 105°C, 300 V)
- CE Compliant to IEC Directive 93/68/EEC
- RoHS Compliant Directive 2002/95/EC

**Compliances: Flame & Smoke**

- Vertical Tray Cable Flame Test per UL 1581 and IEEE 383 (70,000 BTU)
- CSA FT4/IEEE 1202 flame test per UL 1685
- IEC 60332-1, 3, Cat A: Flammability
- IEC 61034-1, 2 and Mil-DTL-24643B and NES 711: Smoke Index Emission
- IEC 60754-1, 2 and Mil-DTL-24643B: Halogen Content and Acid Gas Generation

**Packaging**

- Please contact Customer Service for packaging and color options

**CAROL®  
BRAND**
**EXZEL™**  
EXCEPTIONAL PERFORMANCE

**General Cable**

# COLOR CODE CHARTS

## Multi-Conductor Cables

NO. OF CONDUCTORS	Color Chart A 24 AWG & 22 AWG	Color Chart B 20 AWG and Larger
	COLOR	COLOR
1	Black	Black
2	Brown	Red
3	Red	White
4	Orange	Green
5	Yellow	Orange
6	Green	Blue
7	Blue	Brown
8	Violet	Yellow
9	Slate	Violet
10	White	Slate
11	White/Black	Pink
12	White/Brown	Tan
13	White/Red	Red/Green
14	White/Orange	Red/Yellow
15	White/Yellow	Red/Black
16	White/Green	White/Black
17	White/Blue	White/Red
18	White/Violet	White/Green
19	White/Slate	White/Yellow
20	White/Black/Brown	White/Blue
21	White/Black/Red	White/Brown
22	White/Black/Orange	White/Orange
23	White/Black/Yellow	White/Slate
24	White/Black/Green	White/Violet
25	White/Black/Blue	White/Black/Red

## IEC Color Chart

NO. OF CONDUCTORS	COLOR
1	Brown
2	Blue
3	Green/Yellow

## Multi-Pair Cables

NO. OF PAIRS	Color Chart C 24 AWG & 22 AWG	Color Chart D 20 AWG and Larger
	COLOR	COLOR
1	White-Black	Black-Red
2	White-Brown	Black-White
3	White-Red	Black-Green
4	White-Orange	Black-Blue
5	White-Yellow	Black-Brown
6	White-Green	Black-Yellow
7	White-Blue	Black-Orange
8	White-Violet	Red-Green
9	White-Slate	Red-White
10	Black-Brown	Red-Blue
11	Black-Red	Red-Yellow
12	Black-Orange	Red-Brown
13	Black-Yellow	Red-Orange
14	Black-Green	Green-Blue
15	Black-Blue	Green-White

# PART NUMBER INDEX



A commitment to achieving industry-leading standards and responding proactively to environmental global issues.

## Global Reach



General Cable serves customers through a global network of 47 manufacturing facilities in 25 countries and sales representatives and distribution centers worldwide. The Company is solely dedicated to the production of high-quality energy, industrial, specialty and communications wire and cable products. In addition to its breadth of product line and strong brand recognition, the Company offers competitive strengths in such areas as technology, manufacturing, distribution and logistics, and sales and customer service. This combination enables General Cable to better serve its customers as they expand into new geographic markets.



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