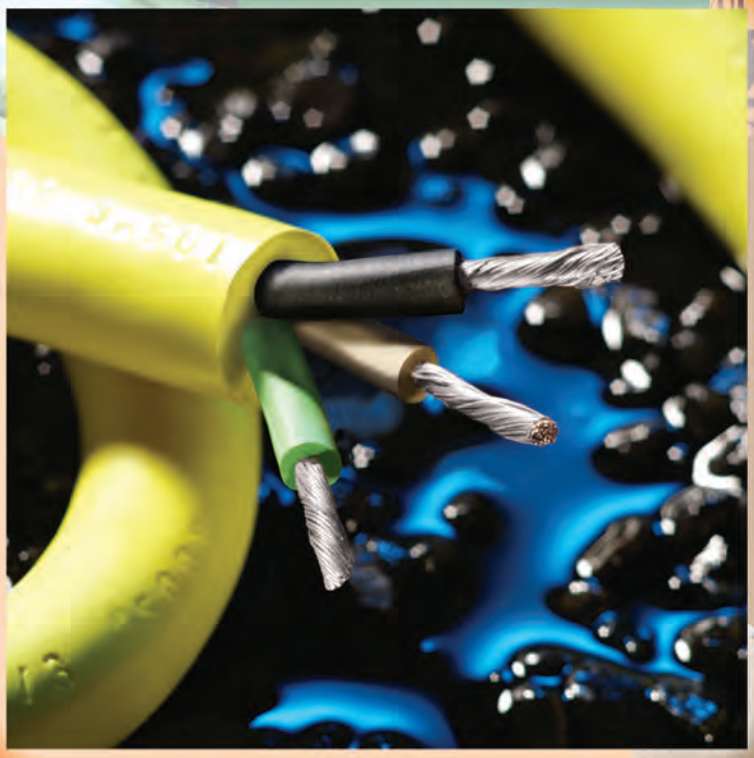
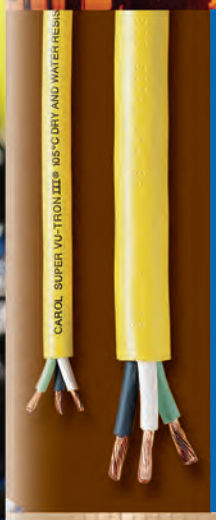
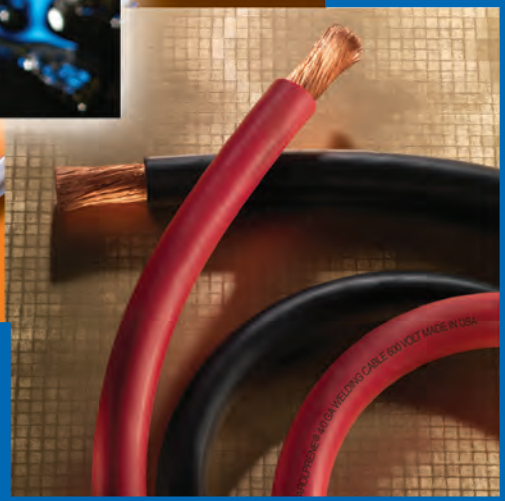
General Cable

CORD & CORDSET

CAROL BRAND® Super Vu-Tron® CarolFlex® Carolprene® FrogHide® Plug-it®







CORD & CORDSET PRODUCTS FOR INDUSTRIAL, COMMERCIAL AND SPECIALTY APPLICATIONS

SEPTEMBER 2012

CORD & CORDSET

This catalog contains in-depth information on the most comprehensive line of cord and cordset products. General Cable's flexible cord products are available today for commercial, industrial and specialty applications. Our contractor-grade extension cords, specialty cords, utility lights and accessories provide power for tools and equipment, and temporary lighting on residential, commercial and industrial job sites.

The product and technical sections have been developed with an easy-to-use "spec-on-a-page" format. They feature the latest information on Carol Cord and Cordset Products, from applications and construction to detailed technical and specification data. There's also a user-friendly numerical part number index.

Our products are readily available through our network of authorized stocking distributors and distribution centers.

General Cable

Demand Better... Expect More™

FROM CAROL® BRAND

QUALITY

General Cable is committed to meeting customer requirements through continuous quality improvements. As a significant part of our commitment to quality, General Cable's manufacturing facilities are certified to the ISO 9001:2000 quality standard. We strive to provide value optimization through innovation and quality solutions.

- Our in-house testing capabilities are extensive, with strict adherence to our product specifications as well as industry standards.
- Cables are safety listed and verified.
- Third-party testing labs like ETL are utilized to quantify and confirm our quality and provide final qualification data that sets the foundation for our extended product warranty.
- General Cable products have stood the test of time with proven reliability and performance.
- Portable Cord products are made in the U.S.A.

CUSTOMER SERVICE

General Cable is dedicated to customer service and satisfaction. Call our team of professionally trained sales associates at

800-243-8020

with any questions to meet your application needs.

GENERALCABLE.COM

Carol Cord ★ Made in USA

What's New?

CHARGING FORWARD WITH PORTABLE POWER FOR HYBRID & ELECTRIC VEHICLES

General Cable's new line of **Carol® Brand CarolGrene™ Ultra Flex® EV Cables** supplies charging power for all electric vehicles on the market today and is compatible with commercial and residential charging applications. The CarolGrene EV line, when terminated in accordance with electric vehicle industry standards, is the most comprehensive product offering, with three standard jacket types: **CarolGrene EV All-Rubber Jacket, CarolGrene EVE Thermoplastic Elastomer (TPE) Jacket, and CarolGrene EVT Polyvinylchloride (PVC) Jacket. To find out more about these products, please see pages 43-44.**

GENERAL CABLE IN STOCK AND AT YOUR SERVICE

General Cable is your ALL IN supplier with in-stock commercial, industrial and residential cables. With over 50 years of experience, General Cable is at your service with Carol® Brand, which leads the industry and is preferred by electrical contractors more than four-to-one over the nearest competitor. Our people may come to work for us, but on the job, we work for you. Go ALL IN with us and win big with Carol Brand!

GOOD/BETTER/BEST SOLUTIONS

For Yellow Rubber Portable Cord

General Cable has the industry's most comprehensive line of rubber portable cord – including **Carolprene®** SOOW/SJOOW 90°C Rubber Portable Cord in a yellow high-visibility color for standard applications, **Super Vu-Tron® III** for applications requiring superior performance, and the ultimate performance of **Super Vu-Tron® Supreme**.

CAROL® BRAND CORD PRODUCTS FEATURING

TRU-Mark® Print Legends

General Cable continues to add the TRU-Mark® footage marking system to our most popular sizes and lengths of Carol® Brand Portable Cord jackets. This enhanced numerical printing feature indicates the exact length of cable, so installers do not waste time pulling wire that is too short while optimizing their wire inventory by choosing the right length of wire for the job. This sequential marker will be clearly printed on the jacket and will be packaged according to the length you order. You will always know how much is left on your reel.

GENERAL CABLE WIRE WIZARDS℠

Add Value

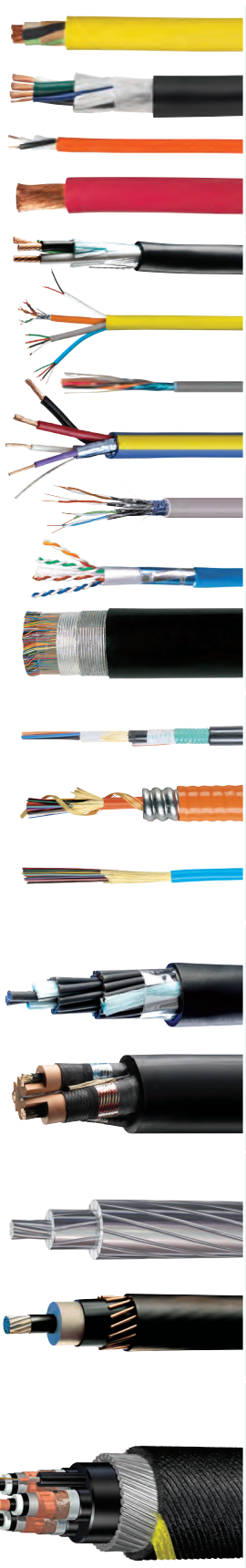
Whether it's providing a prototype, solving an applications problem, or answering a technical question, General Cable's associates make magic happen. Our Wire Wizards always seem to find the answer and serve the customer. And there's no smoke or mirrors about that.

General Cable

IN STOCK. AT YOUR SERVICE.

CHOOSE GENERAL CABLE FOR ALL YOUR COMMERCIAL, INDUSTRIAL & RESIDENTIAL CABLE NEEDS

General Cable and its long line of respected brands are here to serve the electrical distribution market with a complete line of in-stock wire and cable products including: **Carol®, BICC®, Brand Rex, Gen*SPEED*® and NextGen®.**



Cord & Cordset Products

High-Endurance, Security, Access Control, Fire Alarm, Lighting & A/V Cables

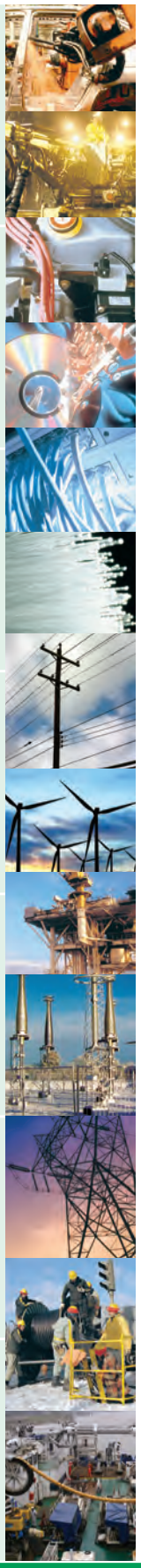
Copper Communications Cables

Fiber Optic Communications Cables

Solar & Wind Energy Renewable Cables

Transmission & Distribution Energy Cables

Undersea Submarine Cables



With General Cable's brands, we've got you wired.

CAROL BRAND · BICC BRAND · Brand Rex BRAND · GenSPEED BRAND · NEXTGEN BRAND

General Cable

Phone (800) 243-8020
www.generalcable.com

PRODUCT SELECTION LOCATOR

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Table of Contents

GREEN INITIATIVE

Our Green Initiative symbol recognizes our role and responsibility in promoting sustainability. The symbol also reflects our commitment to achieving industry-leading standards and responding proactively to environmental global issues.

Look for our products with the RoHS symbol for your green building initiatives.

RoHS Compliant
Directive 2002/95/EC

Visit www.generalcable.com
Select "COMPANY," then select "Corporate Social Responsibility"

General Cable

General Cable | One Company Connecting the World

General Cable is a leader in the development, design, manufacture, marketing and distribution of copper, aluminum and fiber optic wire and cable for the energy, industrial, specialty and communications markets.

Our products inspire progress worldwide … customers use our value-added products to create global infrastructure that improves the standard of living for people everywhere.

Each day we're building business momentum — developing ideas into innovative solutions and industry-leading products, expanding geographic access and furthering our investment in highly capable associates, Lean Manufacturing, material science and technology resources.

General Cable is influencing the world … with more than two-thirds of our sales generated outside North America and more than 12,000 associates in 50 manufacturing facilities throughout 26 countries. As one of the largest wire and cable manufacturers, we are the *One Company Connecting the World.*

Energy Cables

Our cables carry energy across the world — through the air, underground and under the sea. Increasing demand for energy is accelerating investment in exploration, extraction, power generation, transmission and distribution — whether based on coal, natural gas, oil, nuclear, wind, solar or water.

Industrial & Specialty Cables

Our cables channel the power and signals that make equipment hum and engines run. From oil rigs and broadcast studios to cars and trains, and in commercial buildings, public venues, factory floors and special applications such as military, nuclear, marine and mining — we serve an extensive range of markets.

Communications Cables

Our cables keep information flowing — facilitating a non-stop stream of words and images around the world. We meet the high-speed bandwidth needs of global communications networks from fiber optic submarine communications cables, copper and fiber aerial and underground cables to copper and fiber optic enterprise cables and system solutions.

World Headquarters

General Cable
4 Tesseneer Drive
Highland Heights, KY
41076-9753 U.S.A.

Portable Cord Specifications

General Cable Wire Wizard℠ 1

When specifying and purchasing portable cord products, application details are important and often essential in determining the right product for the right job. Often, the same application can be served using one or more products.

Accurate understanding of the application and the environment where the cable is being used will often point to the product line providing the correct cord products. For those extreme application environments or very specific technical requirements, General Cable's engineering and customer service **Wire Wizards** are eager to assist you. We will help you find the right cable for your needs.

This easy-to-use checklist outlines the key questions you will need to ask to determine the right cable for a particular application:

1. What is the application? (identifies where cable is being used)
   a. Environmental Conditions
   b. Temperature/Humidity (minimum/maximum ranges)
   c. Moisture (will the cable be submerged or exposed to weather, rain, etc.?)
   d. Dirt/Dust
   e. Chemical Exposure (gases, oils, alkalis, acids, cleaning materials)
   f. Critical Service/ Reliability Needs
2. What is the voltage? See **page 2** for additional information regarding **Voltage Drop.**
3. What is the amperage? See **page 3** for additional information regarding **Ampacity.**
4. What is the gauge size?
5. How many conductors are required for the application?
6. What is the stranding? (some applications require higher count stranding for better flexibility)
7. What is the overall length needed? (important in calculating voltage drop)
8. Is any special color-coding of conductors needed?
9. Does this cable need agency approvals (UL, CSA, MSHA, RoHS, etc.)?

Answers to these questions will help you determine the right product for the application. While this information is sufficient for most application requirements, good engineering practices are still essential.

General Cable's customer service and engineering **Wire Wizards** are ready to help you in finding the right cord product for all of your application needs. Our **Wire Wizards** have the skill and knowledge to select and even custom-engineer cord products for your most demanding and challenging applications.

Voltage Drop: Picking the Right Cable for the Long Run

BY SAM FRIEDMAN, DIRECTOR, TECHNICAL SERVICES — CAROL® BRAND CORD PRODUCTS — GENERAL CABLE

Reliability may not be a tangible item that's installed alongside a new furnace or wired into a dock-side crane, but nonetheless, it is an essential "accessory" that can mean the difference between overtime and lost time; in-stock and out-of-stock; perfect fits and refits. Being labeled as "unreliable" can mean ruin for a business, regardless of what you're making, installing or servicing. That's why it is vital to understand simple yet often overlooked problems, like voltage drop, in product applications.

Voltage drop is the reduction in voltage in an electrical circuit between the source and load. For equipment to operate properly, it must be supplied with the right amount of power, which is measured in watts: current (amps) times voltage (volts). Motors, generators, tools — anything that runs on electricity is rated for power, as in a 100-watt light bulb. The correct amount of power enables equipment to meet its designed power rating and operate efficiently. Incorrect or insufficient power amounts can result in inefficient operation, wasteful power usage, and even equipment damage. That is why understanding voltage drop calculations and selecting the correct cable for each application is so important.

The National Electrical Code (NEC) catalogs the requirements for safe electrical installations and represents the primary document for guidance in the United States. Providing direction for both trained professionals and end users, these codes set the foundation for the design and inspection of electrical installations. So how does the Code treat voltage drop issues? For branch circuits, look to NEC (NFPA 70) Section 215.2(A)(3) footnote 2 and Section 210.19(A)(1) footnote 4. Both advise that conductors for feeders to dwelling units should be sized to prevent voltage drop exceeding 3% and maximum total voltage drop on both feeders and branch circuits should not exceed 5% for "reasonable efficiency of operation."

In addition, look to NEC (NFPA 70) Section 647.4 (D) when dealing with sensitive electronic equipment. It states that voltage drop on any branch circuit shall not exceed 1.5% and the combined voltage drop on branch-circuit and feeder conductors shall not exceed 2.5%. It is important to note that much of the equipment manufactured today contains sensitive electronics.

Ampacity, a cable's electric current-carrying capacity, is also connected to voltage drop. The Code stresses the importance of accounting for voltage drop when considering a cable's ampacity rating and the need to satisfy both requirements. NEC Section 310.15 (A)(1) states that ampacity tables do not take voltage drop into consideration.

For DC current, voltage drop is proportional to amount of current flow and wire resistance. In AC circuits, total impedance and power factor (power loss ratio) also need to be considered. Since wire resistance is a factor of wire size, material and length of run, it is important to choose the proper wire size for length of run to keep voltage drop at the desired level.

To simplify your voltage drop calculations, turn to the *Carol Brand Cord & Cordset Catalog* and/or our online resources. Use either the "Voltage Drop Calculations" table on page 84 in the catalog or download a PDF of the catalog by visiting:

www.generalcable.com/GeneralCable/en-US/Products/CordandCordsetProducts/Catalog/

Wherever you find it — in print or online — this table makes calculating project voltage drop straightforward and easy. For example, let's say your project involves a 100-foot run of 12/3 SOOW wire, 12 amps line current for equipment, line circuit of 120 volts AC, 3 phase, 100% power factor. According to the calculation table, the factor is 3190. Next, multiply current times distance (feet) times factor: 12 x 100 x 3190 = 3,828,000. Finally, place a decimal in front of the last six figures, and the result is the volts lost — voltage drop = 3.8 volts (3.2% of overall voltage).

So, to ensure the reliability of your products/installations/service calls, be sure to account for voltage drop when making your cable selections. While it is mainly a nuisance issue, voltage drop can affect equipment efficiency, power consumption and potential damage to sensitive electronics and other systems. Fortunately, these issues are easily avoided, especially when you rely upon the NEC codes and standards that relate to voltage drop — each of which provides useful guidance in ensuring the success of your application.

By selecting a cable with the correct voltage drop characteristics, you will optimize the operation of your connected equipment, increase your efficiencies and prevent equipment damage. And that's a pretty good payoff, in the short term or the long run.

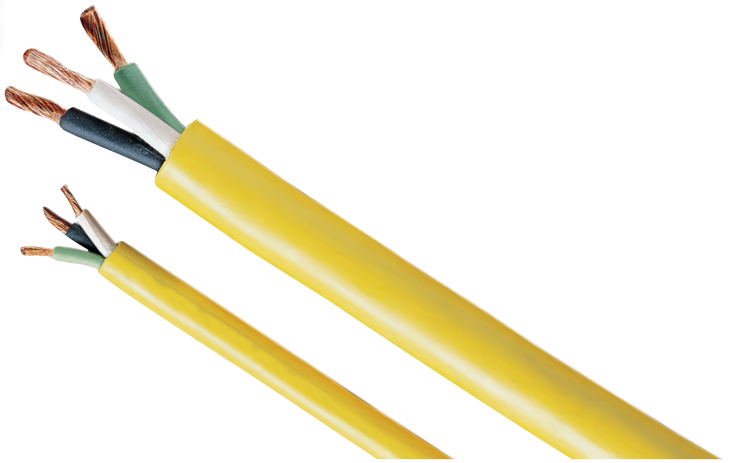
Still need help? Carol's Wire Wizards are ready with first-class customer support, printed catalog materials and detailed product specifications. Please give us a call at 1.800.243.8020, send us an e-mail at info@generalcable.com or visit www.generalcable.com.

General Cable Wire Wizard℠

CAROL® BRAND

General Cable

Portable Power Cords: Why Choose Rubber?



Advantages

Thermoset rubber delivers superior performance. Thermoset compounds have been vulcanized by heat and will not soften or distort from their formed shape when exposed to excessive heat or open flame. On the contrary, thermoplastics will deform under high temperatures, resulting in degradation of their physical attributes. Rubber not only exhibits excellent heat-resistant characteristics; it offers other advantages as well.

- Flexibility
- Durability
- Tear Resistance
- Abrasion Resistance
- Melt Resistance
- Oil, Water and Chemical Resistance
- Impact Resistance

Carolprene®
Super Vu-Tron®

Applications

Since rubber was first introduced, it has been the product of choice for portable power applications. It is more durable in the harsh conditions encountered in the following environments:

- Mining and Submersible Pumps
- Control Circuits
- Motors and Associated Machinery
- Temporary and Portable Power
- Construction Equipment
- Portable Tools and Equipment
- Portable Appliances

Product Offering

Cable Types: SOOW, SJOOW, SO and SJ
Voltage: 600V and 300V
Gauges: 2 AWG to 18 AWG
Conductors: 1 to 50
Jacket Color: Black (standard) and Yellow
Compliances: UL, CSA, MSHA

General Cable

Carol Cord ★ Made in USA

CAROL® BRAND

Rubber Portable Power Cords

General Cable's Carol® Brand rubber portable cords, which are manufactured in the U.S.A., are an obvious choice for portable power applications. Rubber surpasses plastic compounds in flexibility, high temperature performance, durability and more. This quick reference guide summarizes the key performance differences among the various portable cord compounds available in today's market.

Properties	Thermoplastic PVC	Thermoplastic Elastomer	Thermoset Rubber	Benefits of Thermoset Rubber Products
Hot Oil Resistance			✓	Thermoset rubber will maintain mechanical integrity in high temperature oil
High Temperature Performance			✓	Thermoset rubber is heat-cured, so it will not melt at high temperatures
Flexibility at Room Temperature		✓	✓	Thermoset rubber and thermoplastic elastomer are more flexible at room temperature than PVC
Flexibility at Low Temperatures			✓	Thermoset rubber will stay more flexible while approaching low temperatures
Industrial Abrasion Resistance			✓	Thermoset rubber products are preferred in industrial applications
Wear Resistance			✓	Field experience has proven thermoset rubber cords to be the most durable products on the market
Electrical Resistance			✓	Thermoset rubber insulation compounds have lower dielectric constants, providing greater dielectric strength than thermoplastic products
Tear Resistance			✓	Thermoset rubber jackets have better tear resistance than thermoplastic jackets
Water Resistance	✓	✓	✓	All three products are designed to meet UL & CSA water resistance requirements for outdoor cords
Sunlight Resistance	✓	✓	✓	All three products are formulated to have UV stability
UL Listing (Indoor & Outdoor) and CSA	✓	✓	✓	Only rubber compounds can be used on SOOW products
MSHA Approval	✓	✓	✓	Thermoset rubber will not deform after exposure to open flame

General Cable

General Cable Wire Wizard℠

CAROL® BRAND

Carol Cord ★ Made in USA

General Cable

Ampacity: Choosing Cable When the Heat Is On

BY SAM FRIEDMAN, DIRECTOR, TECHNICAL SERVICES — CAROL® BRAND CORD PRODUCTS — GENERAL CABLE

Thanks to the dedication and ingenuity of cable engineers around the world, there are cables available for an almost infinite number of applications. Welding cable, extension cords, stage lighting cable, landscape lighting wire, diesel locomotive cable, major appliance cord — you name the energy transmission need, and I'll name the applicable product. Whether your project faces environmental extremes, necessitates considerable flexibility, or simply requires unfailing reliability and longevity, it's essential that your quest for the optimal cable begin with identifying its optimal ampacity.

Ampacity is the maximum current an insulated conductor can safely carry without exceeding its insulation and jacket temperature limitations — or in plain terms, it's a cable's electric current-carrying capacity. Most power cable is sized according to its ampacity, a fact that underscores the importance of first considering amperage needs when selecting portable power cable. By doing so, you'll avoid serious safety hazards, equipment damage and production downtime caused by overcurrent — i.e., too much current flowing through a conductor — which is a significant threat to under-amped cable. Excessive current can cause overheating, insulation damage and fire/shock hazards that, in turn, can harm equipment through heat buildup and produce cable faults that lead to lost productivity. Therefore, it is essential to start every project with the correct cable and then have every installation reviewed and carried out by a trained electrical professional.

There are several systems of codes and standards that can help identify the correct ampacity for your power cable needs. Developed to provide direction for both trained professionals and end users, these codes set the foundation for the design and inspection of electrical installations. First, there is the National Electric Code (NEC or NFPA 70), which catalogs the requirements for safe electrical installations and represents the primary document for guidance in the United States. There are also regulations set forth by the Insulated Cable Engineers Association (ICEA) and the Institute of Electrical and Electronics Engineers (IEEE) — both of which address ampacity standards for power cables. Because there are so many diverse electrical specialties, be sure to select a professional who has expertise in your particular application and its specific code requirements.

For the purpose of this discussion, let's focus on the standards established by the National Electric Code. It's amazing how many sections of the NEC deal with wire, depending on the user's particular application. It is essential for project safety that you study the portion of the code that concentrates on your intended environment and use.

As I mentioned earlier, temperature plays an important role in determining cable ampacity. For purposes of design rating, the ambient temperature is set at the maximum expected ambient temperature. In the NEC, the values in the ampacity tables are based on 30°C ambient. In order to determine ampacities at ambient temperatures other than 30°C, the code has included correction factors for these other temperatures in the ampacity tables in Article 310.

Cable ampacity of a single conductor is calculated based on the size of the electrified conductor, the established ambient temperature and the temperature rating of the insulation and jacket compounds. An increase in temperature rating of the compounds and/or an increase in conductor size will increase cable ampacity. Conversely, an increase in ambient temperature will decrease ampacity.

However, the number of current-carrying conductors found in a cable also affects ampacity. When a group of cables are bunched closely together, the NEC requires a derating of the ampacity for each individual cable. This is because tightly gathered cables can create a significant buildup of heat, which could rise above the rated temperature of the compounds used. This bunching effect also hinders heat dissipation, further increasing the risk of heat-related cable damage. Refer to NEC Table 310.15(B)(2)(a) for specifics about ampacity derating based on number of cables used in cable, conduit or raceway.

It is important to remember that heat degrades most ordinary insulating materials, and this decay directly affects cable ampacity — yet another reason to take current-carrying capacity into account when selecting a cable. By doing so, you confirm that the conductor's insulating material and jacket can handle the heat load caused by electrical current flow and eliminate the possibility of exposing cables to temperatures higher than they are designed to manage.

The NEC also permits ampacities to be calculated. However, this should only be attempted under engineering supervision and when the parameters of the cable and installation are known. Article 310.15(C) provides the method for doing this calculation.

There are some specific cabling applications for which the NEC does not set ampacity guidelines, including mining cable and utility cable. For example, most ampacity ratings for mining cable come from ICEA standard tables, which assume an ambient temperature of 40°C vs. 30°C. Because of its many specialized applications, the ampacity ratings for most power generation and energy transmission/distribution utility cables are specified by use — such as direct-buried cable, suspended cable (e.g., transmission lines) and in-duct cable. These particular installations also require specific engineering calculations that incorporate factors like temperature, wind speeds and sunlight exposure. Understandably, such highly specialized setups require not only unique ampacity guidelines but also engineering supervision and the seasoned judgment of a trained electrical professional.

So, the next time you're in the market for a cable solution, start your search by first establishing the project's ampacity requirements. By doing so, you can avoid dangerous heat buildup, prevent equipment damage and ensure the long-term safety of your cable selection. But don't worry, you don't have to go it alone! The codes and standards established for your particular application can provide invaluable guidance throughout your product search and final installation. If your project falls into one of the specialized setups addressed in a unique code section, please consider having your cable installation carried out under engineering supervision.

Put simply, safety depends on selecting the right cable. By paying attention to the current-carrying capacity of your chosen cable, you'll help maximize the life of your cable and contribute to the well-being of anyone who comes into contact — be it directly or indirectly — with your installation. Now that's a hot idea!

Still need help? Carol's Wire Wizards are ready with first-class customer support, printed catalog materials and detailed product specifications. Please give us a call at 1.800.243.8020, send us an e-mail at info@generalcable.com or visit www.generalcable.com.

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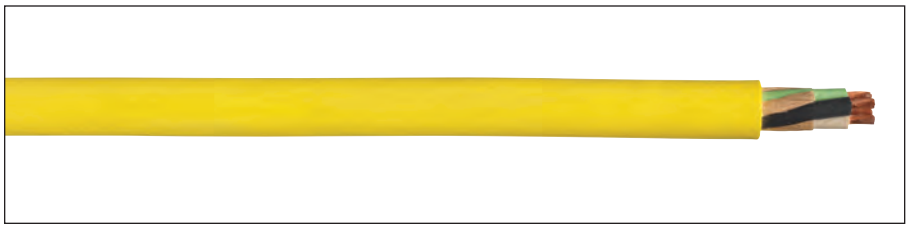
Index By Wire Type

Wire and Cable Abbreviations

E	Thermoplastic Elastomer (TPE)
J	Junior (300 V)
O	Oil-Resistant
P	Parallel
S	Service (600 V)
T	Thermoplastic/Vinyl
W	Weather Approved (water-, moisture-, damp-, sunlight-resistant)

EPDM	Ethylene-propylene-diene monomer rubber.
HPN	Two-conductor, neoprene-insulated heater cord. Parallel construction. For use in damp locations.
S	Heavy-duty, rubber-insulated portable cord. Stranded copper conductors with separator and individual rubber insulation. Two or more color-coded conductors cabled with filler, wrapped with separator and rubber jacketed overall. 600 V.
SJ	Junior hard-service, rubber-insulated pendant or portable cord. Same construction as Type S, but 300 V. Jacket thickness different.
SJEOW	Hard-service thermoplastic or rubber-insulated conductors and oil-resistant thermoplastic outer jacket. All-elastomer construction. 300 V, 90˚C to 105˚C. Weather-resistant. Meets UL specifications.
SJEW	Hard-service thermoplastic or rubber-insulated conductors and overall thermoplastic jacket. All elastomer construction. 300V, 90˚C to 105˚C. Weather-resistant. Meets UL specifications.
SJO	Same as SJ, but Carolprene®, oil-resistant compound outer jacket. Can also be made water-resistant. 300 V, 60˚C.
SJOO	Same as SJO but inner conductor insulation as well as the outer jacket is oil-resistant.
SJOOW	Same as SJOO but also water- and weather-resistant.
SJT	Junior hard-service thermoplastic or rubber-insulated conductors with overall thermoplastic jacket. 300 V, 60˚C to 105˚C.
SJTO	Same as SJT, but oil-resistant thermoplastic outer jacket. 60˚C.
SJTW	Hard-usage thermoplastic or rubber-insulated conductors and overall thermoplastic jacket. 300 V, 60˚C to 105˚C. Weather-resistant for outdoor use.
SO	Hard-service cord, same construction as Type S, except oil-resistant Carolprene® jacket. 600 V, 60˚C to 90˚C.
SOO	Same as SO, but inner conductor insulation as well as the outer jacket is oil-resistant.
SOOW	Same as SOO, but also weather-, water- and sunlight- (UV) resistant.
SP-1	All-rubber, parallel-jacketed, two-conductor light-duty cord for pendant or portable use in damp locations. 300 V.
SP-2	Same as SP-1, but heavier construction, with or without third conductor for grounding purposes. 300 V.
SPT-1	Same as SP-1, except all-thermoplastic. 300 V. With or without third conductor for grounding.
SPT-2	Same as SP-2, except all-thermoplastic. 300 V. With or without third conductor for grounding.
SPT-3	Same as SP-3, except all-thermoplastic. 300 V. With or without third conductor for grounding.
SRD	Portable range or dryer cable. Three or four rubber-insulated conductors with rubber or neoprene jacket, flat or round construction. 300 V, 60°C rated.
SRDT	Same as SRD, except all-thermoplastic with a maximum temperature of 90˚C.
ST	Hard-service cord, jacketed, same as Type S except all-plastic construction. 600 V, 60˚C to 105˚C.
STO	Same as ST, but with oil-resistant thermoplastic outer jacket. 600 V, 60˚C.
STW	Extra-hard-usage cord, jacketed. 600 V, 60˚C to 105˚C. Weather- and water-resistant for outdoor use.
SV	Vacuum cleaner cord, two- or three-conductor, rubber insulated. Overall rubber jacket. For light-duty in damp locations. 300 V, 60˚C.
SVO	Same as SV, except oil-resistant Carolprene® jacket. 300 V, 60˚C.
SVT	Same as SV, except all-plastic construction. With or without third conductor for grounding purposes only. 300 V, 60˚C to 90˚C.
XLP	Crosslinked polyethylene.
XLPE	Crosslinked polyethylene.

Rubber Cord 2



Thermoset rubber cord products have evolved over the last 50 years from simple and unsophisticated to a product line where specialized, technologically advanced products are in demand for exacting commercial and industrial applications.

No longer are rubber cord products used only in applications where flexibility is needed; today typical applications require cord to perform well in environments of extreme heat and cold and on job sites and factory floors where resistance to oil, chemicals and abrasion is mandatory.

General Cable's role, as the producer of the premiere Carol® Brand rubber cord products, is to ensure that new product development, product innovation and quality not only keep pace with industry requirements but also set the trends.

Our rubber cord products carry a full range of listings and certifications with Underwriters Laboratories, Inc. and the Canadian Standard Association. In addition, many products meet or exceed the requirements of OSHA, MSHA and other relevant industry standards.

Carol Brand is simply the most accepted in the industry, having proven itself on the job time after time. Our rubber cord line is the most comprehensive in the industry, ensuring that the proper Carol product can always be specified.

Super Vu-Tron® Supreme Types SJOOW/SOOW

105°C, 300 and 600 Volt, UL/CSA Portable Cord

NOW WITH TRU-Mark® Footage Marking System PRECISION

Product Construction:

Conductors:
- 18 through 10 AWG fully annealed stranded tinned copper

Insulation:
- Premium-grade, color-coded, oil-resistant 105°C EPDM
- European color code: See chart below

Jacket:
- Super Vu-Tron® Supreme, yellow
- Temperature range: –50°C to +105°C UL/CSA
- Voltage rating: 300 volts Type SJOOW 600 volts Type SOOW

Jacket Marking:
- SUPER VU-TRON® SUPREME SJOOW - CAROL SUPER VU-TRON® SUPREME (SIZE) (mm^2) 105°C (UL) WATER RESISTANT SJOOW CSA (-50°C) FT1 --- P-123-103 MSHA 300 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)
- SUPER VU-TRON® SUPREME SOOW - CAROL SUPER VU-TRON® SUPREME (SIZE) (mm^2) 105°C (UL) WATER RESISTANT SOOW CSA (-50°C) FT1 --- P-123-103 MSHA 600 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

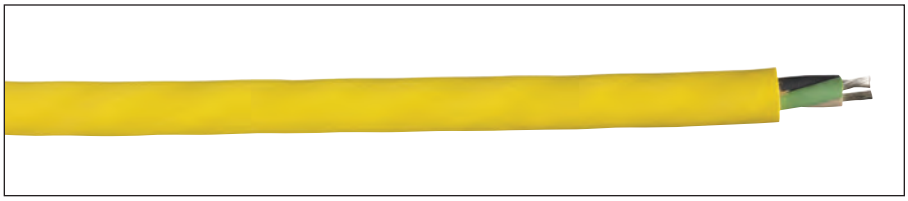
Applications:
- Machine tools
- Power tools
- Dockside power applications
- Motor leads
- Portable machinery
- Cranes
- Submersible pumps
- Where water immersion is required
- Severe environment OEM/MRO applications

Features:
- Excellent flexibility in cold temperatures
- Lasts longer in flex applications (extra-flexible Class M stranding)
- Integral Flexfill®
- Ozone-, sunlight (UV)- and weather-resistant
- UL Listed and CSA Certified for indoor and outdoor use
- Water-resistant*
- Safety-colored, with high-visibility yellow jacket
- High heat and flame resistance
- Resistant to sunlight, oils, acids and chemicals
- Excellent abrasion and cut resistance
- TRU-Mark® sequential footage marking
- Tinned copper conductors — corrosion/oxidation-resistant

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- OSHA Acceptable
- RoHS Compliant

Packaging:
- 250' (76.2 m), 500' (152.4 m), 1000' (304.8 m)
- Other put-ups available on special order

*Suitable for immersion in water if properly sealed and terminated.



TYPE SJOOW – 300 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	STRAND O.D.	NOM. INS. THICKNESS		JACKET NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	COPPER WT. LBS/M'	STD. CTN.
					INCHES	mm	INCHES	mm				
02601	2	18	41/34	.048"	0.030	0.76	0.310	7.87	10	56	10	1000'
02602	3	18	41/34	.048"	0.030	0.76	0.320	8.13	10	66	15	1000'
02603	4	18	41/34	.048"	0.030	0.76	0.345	8.76	7	79	20	250'
02604	2	16	65/34	.061"	0.030	0.76	0.315	8.00	13	62	16	1000'
02605	3	16	65/34	.061"	0.030	0.76	0.335	8.51	13	77	24	250'
02606	4	16	65/34	.061"	0.030	0.76	0.370	9.40	10	98	32	250'
02607	2	14	105/34	.077"	0.030	0.76	0.370	9.40	18	75	24	250'
02608	3	14	105/34	.077"	0.030	0.76	0.375	9.53	18	99	36	250'
02609	4	14	105/34	.077"	0.030	0.76	0.405	10.29	15	122	48	250'

TYPE SOOW – 600 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOM. INS. THICKNESS		JACKET NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	COPPER WT. LBS/M'	STD. CTN.
				INCHES	mm	INCHES	mm				
02631*	2	18	41/34	0.030	0.76	0.365	9.27	10	75	10	250'
02632	3	18	41/34	0.030	0.76	0.375	9.53	10	84	15	250'
02633*	4	18	41/34	0.030	0.76	0.400	10.16	7	110	21	250'
02634	2	16	65/34	0.030	0.76	0.370	9.40	13	80	16	250'
02635	3	16	65/34	0.030	0.76	0.395	10.03	13	96	24	250'
02636	4	16	65/34	0.030	0.76	0.425	10.80	10	118	32	250'
02621	5	16	65/34	0.030	0.76	0.515	13.08	8	166	40	250'
02637*	2	14	105/34	0.045	1.14	0.510	12.95	18	153	24	250'
02638	3	14	105/34	0.045	1.14	0.525	13.34	18	164	36	250'
02639	4	14	105/34	0.045	1.14	0.575	14.61	15	204	48	250'
02622*	5	14	105/34	0.045	1.14	0.675	17.15	12	279	60	250'
02641*	2	12	168/34	0.045	1.14	0.590	14.99	25	198	38	250'
02642	3	12	168/34	0.045	1.14	0.600	15.24	25	224	57	250'
02643	4	12	168/34	0.045	1.14	0.650	16.51	20	270	76	250'
02623*	5	12	168/34	0.045	1.14	0.730	18.54	16	308	96	250'
02645	3	10	259/34	0.045	1.14	0.660	16.76	30	295	99	250'
02646	4	10	259/34	0.045	1.14	0.710	18.03	25	365	132	250'
02624*	5	10	259/34	0.045	1.14	0.770	19.56	20	422	168	250'

* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

TOP PERFORMANCE IN THE TOUGHEST ENVIRONMENTS

Volume change (%) of SUPER VU-TRON® SUPREME after 28 days at room temperature in the following materials			
ACETIC ACID (30%)	+19.00	LINSEED OIL	+1.04
AMMONIA HYDROXIDE	+3.12	LUBE OIL	-1.82
ASTM 3 OIL	+0.26	MILK	+4.16
BEER	+4.42	NITRIC ACID (10%)	+7.29
BLEACH WATER	+2.60	SAE 30 OIL	-1.30
BUTYL ALCOHOL	-1.82	SKYDROL 500	+17.10
CORN OIL	0.00	SODIUM HYDROXIDE	+10.90
FORMALDEHYDE	+3.38	SULFURIC ACID (10%)	+2.34
GLYCOL (ANTI-FREEZE)	-2.60	TOLUENE	+30.20
HYDROCHLORIC ACID (20%)	+10.60	UNLEADED GAS	+22.10
JP-4	+10.90	WATER	+2.86
KEROSENE	+10.60		

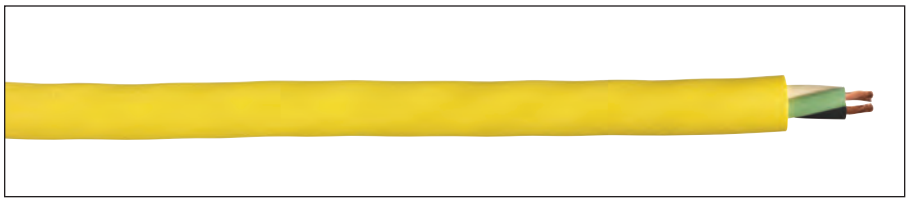
COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green/Yellow
4	Black, White, Red, Green/Yellow
5	Black, White, Red, Green/Yellow, Orange

General Cable Made in U.S.A. RoHS Compliant Directive 2002/95/EC MSHA Mine Safety and Health Administration OSHA Acceptable Occupational Safety and Health Administration Certified Canadian Standard Association UL LISTED CAROL BRAND

Super Vu-Tron® III Types SJOOW/SOOW

105°C, 300 and 600 Volt, UL/CSA Portable Cord



TYPE SJOOW – 300 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M1(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
02001*	2	18	41/34	0.030	0.76	0.310	8.00	10	56	1000'
02002*	3	18	41/34	0.030	0.76	0.320	8.12	10	65	1000'
02003*	4	18	41/34	0.030	0.76	0.345	8.76	7	80	250'
02004*	2	16	65/34	0.030	0.76	0.315	8.00	13	68	1000'
02005*	3	16	65/34	0.030	0.76	0.335	8.51	13	80	250'
02006*	4	16	65/34	0.030	0.76	0.370	9.40	10	95	250'
02007*	2	14	41/30	0.030	0.76	0.370	9.40	18	90	250'
02008*	3	14	41/30	0.030	0.76	0.375	9.52	18	110	250'
02009*	4	14	41/30	0.030	0.76	0.405	10.29	15	130	250'

TYPE SOOW – 600 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M1(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
02031*	2	18	41/34	0.030	0.76	0.365	9.27	10	75	250'
02032*	3	18	41/34	0.030	0.76	0.375	9.53	10	80	250'
02033*	4	18	41/34	0.030	0.76	0.400	10.16	7	110	250'
02034*	2	16	65/34	0.030	0.76	0.370	9.40	13	75	250'
02035*	3	16	65/34	0.030	0.76	0.395	10.80	13	100	250'
02036*	4	16	65/34	0.030	0.76	0.425	10.80	10	120	250'
02021*	5	16	65/34	0.030	0.76	0.515	13.08	8	150	250'
02037*	2	14	41/30	0.045	1.14	0.510	12.95	18	155	250'
02038*	3	14	41/30	0.045	1.14	0.525	13.34	18	165	250'
02039*	4	14	41/30	0.045	1.14	0.575	14.61	15	215	250'
02022*	5	14	41/30	0.045	1.14	0.675	17.15	12	285	250'
02041*	2	12	65/30	0.045	1.14	0.590	14.99	25	200	250'
02042*	3	12	65/30	0.045	1.14	0.600	15.24	25	250	250'
02043*	4	12	65/30	0.045	1.14	0.650	16.51	20	280	250'
02023*	5	12	65/30	0.045	1.14	0.730	18.54	16	315	250'
02045*	3	10	104/30	0.045	1.14	0.660	16.76	30	320	250'
02046*	4	10	104/30	0.045	1.14	0.710	18.03	25	375	250'
02024*	5	10	104/30	0.045	1.14	0.770	19.56	20	432	250'

* Non-stock item available by special order; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

Product Construction:

Conductors:
- 18 through 10 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded, oil-resistant 105°C EPDM
- Color code: See chart below

Jacket:
- Super Vu-Tron® III, yellow
- Temperature range: –50°C to +105°C UL/CSA
- Voltage rating: 300 volts Type SJOOW 600 volts Type SOOW

Jacket Marking:
- SUPER VU-TRON® III SJOOW - CAROL SUPER VU-TRON® III (SIZE) (mm^2) 105°C (UL) WATER RESISTANT SJOOW CSA (-50°C) FT1 --- P-123-103 MSHA 300 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)
- SUPER VU-TRON® III SOOW - CAROL SUPER VU-TRON® III (SIZE) (mm^2) 105°C (UL) WATER RESISTANT SOOW CSA (-50°C) FT1 --- P-123-103 MSHA 600 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Machine tools
- Power tools
- Dockside power applications
- Motor leads
- Portable machinery
- Cranes
- Submersible pumps

Features:
- Excellent flexibility in cold temperatures
- Last longer in flex applications
- Integral Flexfill®
- Ozone-, sunlight (UV)- and weather-resistant
- UL Listed and CSA Certified for indoor and outdoor use
- Water-resistant*
- Safety-colored
- High heat and flame resistance
- Resistant to oils, acids and chemicals
- Excellent abrasion and cut resistance
- TRU-Mark® sequential footage marking

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

Packaging:
- 250' (76.2 m), 500' (152.4 m), 1000' (304.8 m)
- Other put-ups available on special order

*Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green
5	Black, White, Red, Green, Orange

CAROL BRAND · UL LISTED · CSA Certified Canadian Standard Association · OSHA Acceptable Occupational Safety and Health Administration · MSHA Mine Safety and Health Administration · RoHS Compliant Directive 2002/95/EC · Made in U.S.A. · General Cable

Carolprene® Jacketed Type SOOW/SJOOW

90°C, 600 Volt, UL/CSA Portable Cord

Product Construction:

Conductors:
- 18 through 10 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Yellow
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL (SIZE) (mm^2) 90°C (UL) WATER RESISTANT SJOOW CSA (-40°C) FT2 P-7K-123033 MSHA 300 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)
- CAROL (SIZE) (mm^2) 90°C (UL) WATER RESISTANT SOOW CSA (-40°C) FT2 P-7K-123033 MSHA 600 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Portable tools and equipment
- Portable appliances
- Small motors and associated machinery
- Food processing plants and equipment
- Marinas/docks
- Shipyards
- OEM/MRO
- OSHA VPP safety
- Construction site power
- Industrial plants
- Mining

Features:
- Excellent resistance to oil and moisture
- Good tensile strength, elongation and aging characteristics
- High flexibility
- Excellent abrasion resistance
- Water-resistant*
- UL Listed and CSA Certified for indoor and outdoor use
- Ozone-, sunlight (UV)- and weather-resistant
- TRU-Mark® sequential footage marking

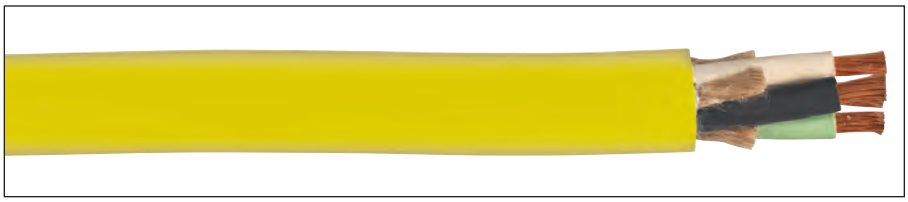
Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

Packaging:
- 250' (76.2 m), 1000' (304.8 m)
- Other put-ups available on special order

*Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
3	Black, White, Green
4	Black, White, Red, Green



YELLOW HIGH-VISIBILITY – TYPE SJOOW – 300 VOLT – 90°C – UL/CSA

CATALOG NUMBER	NO. OF COND	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
01411	3	18	16/30	0.030	0.76	0.305	7.75	10	63	1000'
01444	4	18	16/30	0.030	0.76	0.330	8.38	7	76	250'
01442	3	16	26/30	0.030	0.76	0.330	8.38	13	76	250'
01443	4	16	26/30	0.030	0.76	0.365	9.27	10	95	250'
01460	3	14	41/30	0.030	0.76	0.370	9.40	18	106	250'
01464	4	14	41/30	0.030	0.76	0.410	10.41	15	121	250'
01480	3	12	65/30	0.030	0.76	0.430	10.92	25	146	250'
01481	4	12	65/30	0.030	0.76	0.475	12.07	20	185	250'
01483	3	10	104/30	0.045	1.14	0.580	14.73	30	242	250'
01484	4	10	104/30	0.045	1.14	0.655	16.64	25	304	250'

YELLOW HIGH-VISIBILITY – TYPE SOOW – 600 VOLT – 90°C – UL/CSA

CATALOG NUMBER	NO. OF COND	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
02469	3	18	16/30	0.030	0.76	0.365	9.27	10	84	250'
02470	4	18	16/30	0.030	0.76	0.390	9.91	7	101	250'
02465	3	16	26/30	0.030	0.76	0.390	9.91	13	103	250'
02466	4	16	26/30	0.030	0.76	0.420	10.67	10	119	250'
02462	3	14	41/30	0.045	1.14	0.535	13.59	18	172	250'
02468	4	14	41/30	0.045	1.14	0.575	14.61	15	208	250'
02425	3	12	65/30	0.045	1.14	0.595	15.11	25	229	250'
02426	4	12	65/30	0.045	1.14	0.650	16.51	20	280	250'
02428	3	10	104/30	0.045	1.14	0.660	16.76	30	295	250'
02427	4	10	104/30	0.045	1.14	0.715	18.16	25	353	250'

Cord furnished with UL and CSA labels.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

MSHA Mine Safety and Health Administration

Certified Canadian Standard Association

UL LISTED

CAROL BRAND

Carolprene® Jacketed Type SOOW

90°C, 600 Volt, UL/CSA Portable Cord

TYPE SOOW – 600 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
02763	2	18	16/30	0.030	0.76	0.345	8.76	10	65	250'
02769	3	18	16/30	0.030	0.76	0.365	9.27	10	80	250'
02770	4	18	16/30	0.030	0.76	0.390	9.91	7	94	250'
02722	2	16	26/30	0.030	0.76	0.370	9.40	13	77	250'
02765	3	16	26/30	0.030	0.76	0.390	9.91	13	94	250'
02766	4	16	26/30	0.030	0.76	0.420	10.67	10	114	250'
02723	2	14	41/30	0.045	1.14	0.510	12.95	18	154	250'
02762	3	14	41/30	0.045	1.14	0.535	13.59	18	171	250'
02768	4	14	41/30	0.045	1.14	0.575	14.61	15	209	250'
02724	2	12	65/30	0.045	1.14	0.570	14.48	25	168	250'
02725	3	12	65/30	0.045	1.14	0.595	15.11	25	223	250'
02726	4	12	65/30	0.045	1.14	0.650	16.51	20	276	250'
02767	2	10	104/30	0.045	1.14	0.620	15.75	30	230	250'
02728	3	10	104/30	0.045	1.14	0.660	16.76	30	289	250'
02727	4	10	104/30	0.045	1.14	0.715	18.16	25	351	250'
16063	3	8	133/29	0.060	1.52	0.840	21.33	40	450	250'
16064	4	8	133/29	0.060	1.52	0.945	24.00	35	580	250'
16065	5	8	133/29	0.060	1.52	1.030	26.16	28	700	250'
16073	3	6	133/27	0.060	1.52	0.980	24.89	55	637	250'
16074	4	6	133/27	0.060	1.52	1.080	27.43	45	830	250'
16075	5	6	133/27	0.060	1.52	1.200	30.48	36	1015	250'
16083	3	4	133/25	0.060	1.52	1.140	28.96	70	926	250'
16084	4	4	133/25	0.060	1.52	1.260	32.00	60	1145	250'
16085	5	4	133/25	0.060	1.52	1.365	34.67	48	1419	250'
16093	3	2	133/23	0.060	1.52	1.330	33.78	95	1367	250'
16094	4	2	133/23	0.060	1.52	1.460	37.08	80	1699	250'
16095*	5	2	133/23	0.060	1.52	1.580	40.13	64	2066	250'

Cord furnished with UL and CSA labels.
* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

Product Construction:

Conductors:
- 18 through 2 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Carolprene®, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL (SIZE) (mm²) 90°C (UL) WATER RESISTANT SOOW CSA (-40°C) FT2 P-7K-123033 MSHA 600 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Portable tools and equipment
- Portable appliances
- Small motors and associated machinery

Features:
- Excellent resistance to oil and moisture
- Good tensile strength, elongation and aging characteristics
- High flexibility
- Excellent abrasion resistance
- Water-resistant*
- UL Listed and CSA Certified for indoor and outdoor use
- Ozone-, sunlight (UV)- and weather-resistant
- TRU-Mark® sequential footage marking

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

Packaging:
- 250' (76.2 m), 500' (152.4 m), 1000' (304.8 m)
- Other put-ups available on special order

* Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green
5	Black, White, Red, Green, Orange

Carolprene® Jacketed Type SJOOW

90ºC, 300 Volt, UL/CSA Portable Cord

NOW WITH TRU-Mark® Footage Marking System PRECISION

Product Construction:

Conductors:
- 18 through 10 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Carolprene®, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL (SIZE) (mm²) 90°C (UL) WATER RESISTANT SJOOW CSA (-40°C) FT2 P-7K-123033 MSHA 300 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Portable tools and equipment
- Portable appliances
- Small motors and associated machinery

Features:
- Excellent resistance to oil and moisture
- Good tensile strength, elongation and aging characteristics
- High flexibility
- Excellent abrasion resistance
- Water-resistant*
- UL Listed and CSA Certified for indoor and outdoor use
- Ozone-, sunlight (UV)- and weather-resistant
- TRU-Mark® sequential footage marking

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

Packaging:
- 250' (76.2 m), 500' (152.4 m), 1000' (304.8 m)
- Other put-ups available on special order

*Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green

TYPE SJOOW – 300 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
01310	2	18	16/30	0.030	0.76	0.285	7.24	10	46	1000'
01311	3	18	16/30	0.030	0.76	0.305	7.75	10	60	1000'
01344	4	18	16/30	0.030	0.76	0.330	8.38	7	72	250'
01312	2	16	26/30	0.030	0.76	0.310	7.87	13	56	1000'
01342	3	16	26/30	0.030	0.76	0.330	8.38	13	72	250'
01343	4	16	26/30	0.030	0.76	0.365	9.27	10	89	250'
01358	2	14	41/30	0.030	0.76	0.340	8.64	18	75	250'
01360	3	14	41/30	0.030	0.76	0.370	9.40	18	100	250'
01364	4	14	41/30	0.030	0.76	0.410	10.41	15	128	250'
01379	2	12	65/30	0.030	0.76	0.410	10.41	25	108	250'
01380	3	12	65/30	0.030	0.76	0.430	10.92	25	136	250'
01381	4	12	65/30	0.030	0.76	0.475	12.07	20	177	250'
01382*	2	10	104/30	0.045	1.14	0.560	14.22	30	190	250'
01383	3	10	104/30	0.045	1.14	0.580	14.73	30	236	250'
01384	4	10	104/30	0.045	1.14	0.655	16.64	25	296	250'

Cord furnished with UL and CSA labels.
* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

MSHA Mine Safety and Health Administration

Certified Canadian Standard Association

UL LISTED

CAROL BRAND

Carolprene® Jacketed Type SOOW

90ºC, 600 Volt, Non-UL Portable Cord

TYPE SOOW, NON-UL – 600 VOLT

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
01811*	2	8	65/26	0.050	1.27	0.660	16.76	40	278	250'
01812	3	8	65/26	0.050	1.27	0.695	17.65	40	343	250'
01827	4	8	65/26	0.050	1.27	0.760	19.30	35	442	250'
98267	5	8	65/26	0.050	1.27	0.840	21.34	28	542	250'
01825	3	6	101/26	0.050	1.27	0.790	20.07	55	482	250'
01824	4	6	101/26	0.050	1.27	0.865	21.97	45	599	250'
98270	5	6	101/26	0.050	1.27	0.945	24.00	36	750	250'
01823*	2	4	119/25	0.050	1.27	0.870	22.09	70	515	250'
01822	3	4	119/25	0.050	1.27	0.925	23.49	70	683	250'
01821	4	4	119/25	0.050	1.27	1.015	25.78	60	851	250'
98463	5	4	119/25	0.050	1.27	1.115	28.32	48	1039	250'
01819	3	2	133/.0211	0.055	1.40	1.085	27.56	95	1003	250'
01818	4	2	133/.0211	0.055	1.40	1.170	29.72	80	1248	250'
98187	5	2	133/.0211	0.055	1.40	1.390	35.31	64	1684	250'

* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

Product Construction:

Conductors:
- 8 through 2 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Carolprene®, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL (SIZE) TYPE SOOW 90°C P-7K-123033 MSHA 600 VOLT ROHS MADE IN USA

Applications:
- Portable tools and equipment
- Temporary and portable power
- Motors and associated machinery

Features:
- Excellent resistance to oil and moisture
- Good tensile strength, elongation and aging characteristics
- High flexibility
- Excellent abrasion resistance
- Ozone-, sunlight (UV)- and weather-resistant

Industry Approvals:
- MSHA Approved
- RoHS Compliant

Packaging:
- 250' (76.2 m), 500' (152.4 m), 1000' (304.8 m)
- Other put-ups available on special order

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green
5	Black, White, Red, Green, Orange

CAROL BRAND® MSHA Mine Safety and Health Administration RoHS Compliant Directive 2002/95/EC Made in U.S.A. General Cable

Super Vu-Tron® Type SO

90°C, 600 Volt

NOW WITH TRU-Mark® Footage Marking System PRECISION

Product Construction:

Conductors:
- 18 through 10 AWG stranded bare copper

Insulation:
- Premium-grade 90°C EPDM

Jacket:
- Super Vu-Tron®, black
- Temperature range: -40°C to +90°C

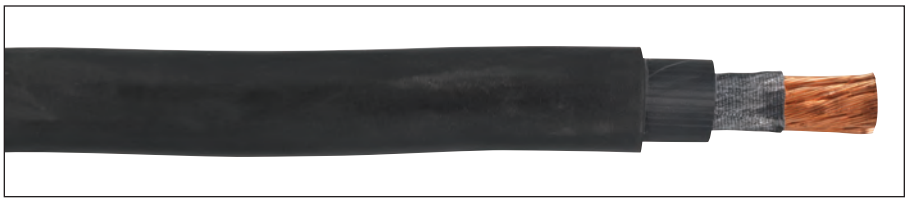
Jacket Marking:
- (SIZE) TYPE SO 600 VOLT CAROL SUPER VU-TRON® 90°C P-123-MSHA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Portable tools and equipment
- Portable appliances
- Small motors and associated machinery
- Flexible power leads

Features:
- Excellent resistance to oil and moisture
- Good tensile strength, elongation and aging characteristics
- High flexibility
- Excellent abrasion resistance
- Ozone-, sunlight (UV)- and weather-resistant
- TRU-Mark® sequential footage marking

Industry Approvals:
- MSHA Approved
- RoHS Compliant

Packaging:
- Lengths cut to order



TYPE SO, NON-UL – 600 VOLT

CATALOG NUMBER	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)
			INCHES	mm	INCHES	mm		
77493*	18	16/30	0.030	0.76	0.180	4.57	7	19
77483*	16	26/30	0.030	0.76	0.200	5.08	10	25
77473*	14	41/30	0.045	1.14	0.240	6.09	15	40
77463*	12	65/30	0.045	1.14	0.265	6.60	20	50
77453*	10	104/30	0.045	1.14	0.305	7.75	25	75

† Ampacities based on NEC Table 400.5(A)(1).
* Non-stock item; minimum quantity purchase required.
(S)Actual shipping weight may vary.

General Cable

Made in U.S.A.

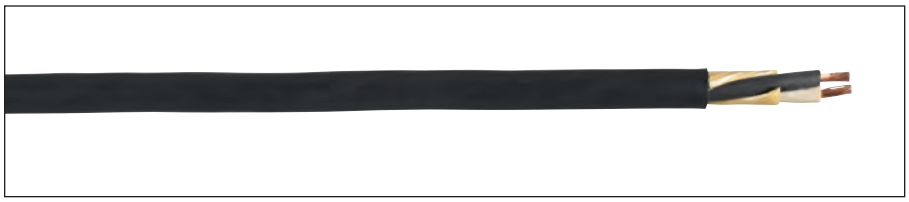
RoHS Compliant Directive 2002/95/EC

MSHA Mine Safety and Health Administration

CAROL BRAND

Type SJ

60°C, 300 Volt, UL/CSA Portable Cord



TYPE SJ – 300 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
01302*	2	18	16/30	0.030	0.76	0.285	7.24	10	50	1000'
01303*	3	18	16/30	0.030	0.76	0.305	7.75	10	63	1000'
01304*	4	18	16/30	0.030	0.76	0.330	8.38	7	76	250'
01305*	2	16	26/30	0.030	0.76	0.315	8.00	13	62	1000'
01306*	3	16	26/30	0.030	0.76	0.330	8.38	13	76	250'
01307*	4	16	26/30	0.030	0.76	0.365	9.27	10	97	250'
01361*	2	14	41/30	0.030	0.76	0.340	8.64	18	79	250'
01362*	3	14	41/30	0.030	0.76	0.370	9.40	18	106	250'
01366*	4	14	41/30	0.030	0.76	0.415	10.54	15	135	250'
01368*	2	12	65/30	0.030	0.76	0.410	10.41	25	117	250'
01369*	3	12	65/30	0.030	0.76	0.430	10.92	25	145	250'
01370*	4	12	65/30	0.030	0.76	0.470	11.94	20	182	250'
01376*	2	10	104/30	0.045	1.14	0.550	13.97	30	193	250'
01377*	3	10	104/30	0.045	1.14	0.580	14.73	30	243	250'
01378*	4	10	104/30	0.045	1.14	0.655	16.64	25	318	250'

* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

Product Construction:

Conductors:
- 18 through 10 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded EPDM
- Color code: See chart below

Jacket:
- Rubber, black
- Temperature range: -40°C to +60°C

Jacket Marking:
- CAROL (SIZE) (mm^2) TYPE SJ 60°C (UL) --- CSA TYPE SJ-FT2 300 VOLT ROHS MADE IN USA

Applications:
- Portable tools and equipment
- Portable appliances
- Small motors and associated machinery

Features:
- Good flexibility in low temperatures
- Suitable for use in conditions where the cord is not subject to acid, grease, oil or solvents

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- RoHS Compliant

Packaging:
- 250' (76.2 m)
- Other put-ups available on special order

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green

CAROL BRAND UL LISTED CSA Certified Canadian Standard Association RoHS Compliant Directive 2002/95/EC Made in U.S.A. General Cable

Carolprene® Type SVO

90°C, 300 Volt, UL/CSA Portable Cord

Product Construction:

Conductors:
- 18 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Carolprene®, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL (SIZE) (mm²) TYPE SVO 90°C (UL) --- CSA TYPE SVO FT2 300 VOLT ROHS MADE IN USA

Applications:
- Vacuum cleaners
- Light-duty equipment
- Office equipment

Features:
- Maintains flexibility in cold temperatures
- Resistant to oil and moisture
- Good tensile strength, elongation and aging characteristics
- Excellent flex life
- Ozone-, sunlight (UV)- and weather-resistant

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- RoHS Compliant

Packaging:
- 250' (76.2 m)
- Other put-ups available on special order

TYPE SVO – 300 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
13002	2	18	41/34	0.015	0.38	0.225	5.72	10	34	1000'
13003	3	18	41/34	0.015	0.38	0.235	5.97	10	40	1000'

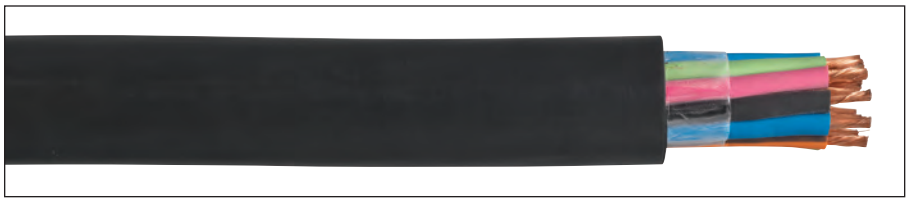
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S)Actual shipping weight may vary.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green

Super Vu-Tron® Multi-Conductor Type SOOW

90°C, 600 Volt, UL/CSA Portable Cord



TYPE S00W – 600 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)
				INCHES	mm	INCHES	mm		
09805	5	18	16/30	0.030	0.76	0.465	11.81	5.6	141
09806	6	18	16/30	0.030	0.76	0.495	12.57	5.6	152
09807	7	18	16/30	0.030	0.76	0.520	13.21	5.6	172
09808	8	18	16/30	0.030	0.76	0.530	13.46	4.9	177
09810	10	18	16/30	0.030	0.76	0.595	15.11	4.9	225
09812	12	18	16/30	0.030	0.76	0.600	15.24	3.5	240
09814	14	18	16/30	0.030	0.76	0.630	16.00	3.5	265
09816	16	18	16/30	0.030	0.76	0.700	17.78	3.5	310
09818*	18	18	16/30	0.030	0.76	0.760	19.30	3.5	345
09820	20	18	16/30	0.030	0.76	0.795	20.19	3.5	382
09822*	22	18	16/30	0.030	0.76	0.805	20.45	3.1	400
09824	24	18	16/30	0.030	0.76	0.850	21.59	3.1	451
09827*	27	18	16/30	0.030	0.76	0.865	21.97	3.1	475
09830*	30	18	16/30	0.030	0.76	0.915	23.24	3.1	533
09605	5	16	26/30	0.030	0.76	0.495	12.57	8.0	167
09606	6	16	26/30	0.030	0.76	0.520	13.21	8.0	182
09607	7	16	26/30	0.030	0.76	0.540	13.72	8.0	194
09608	8	16	26/30	0.030	0.76	0.575	14.61	7.0	218
09609	9	16	26/30	0.030	0.76	0.600	15.24	7.0	243
09610	10	16	26/30	0.030	0.76	0.620	15.75	5.0	255
09612	12	16	26/30	0.030	0.76	0.660	16.76	5.0	296
09614	14	16	26/30	0.030	0.76	0.730	18.54	5.0	352
09616	16	16	26/30	0.030	0.76	0.740	18.80	5.0	383
09618*	18	16	26/30	0.030	0.76	0.770	19.56	5.0	417
09620	20	16	26/30	0.030	0.76	0.810	20.57	5.0	457
09622*	22	16	26/30	0.030	0.76	0.900	22.86	4.5	510
09624	24	16	26/30	0.030	0.76	0.925	23.50	4.5	563
09626*	26	16	26/30	0.030	0.76	0.965	24.51	4.5	611
09630	30	16	26/30	0.030	0.76	1.010	25.65	4.5	767

† Values shown are for current-carrying conductors. A grounding conductor, or one which carries only the unbalance current from other conductors, is NOT counted in determining current carrying capacity. Ampacities based on NEC Table 400.5(A)(1).
* Non-stock item; minimum quantity purchase required.
(S)Actual shipping weight may vary.

COLOR CODE CHART

NO. OF COND.	COLOR	TRACER	NO. OF COND.	COLOR	TRACER	NO. OF COND.	COLOR	TRACER
1	Black	—	8	Red	Black	15	Blue	White
2	White	—	9	Green	Black	16	Black	Red
3	Red	—	10	Orange	Black	17	White	Red
4	Green	—	11	Blue	Black	18	Orange	Red
5	Orange	—	12	Black	White	19	Blue	Red
6	Blue	—	13	Red	White	20	Red	Green
7	White	Black	14	Green	White	21	Orange	Green

Note: Colors repeat after 21 conductors.

Product Construction:

Conductors:
- 18 and 16 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Super Vu-Tron® 90°C, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL SUPER VU-TRON® (SIZE) (mm^2) 90°C (UL) WATER RESISTANT SOOW CSA (-40°C) FT2 P-7K-123033 MSHA 600 VOLT ROHS MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Control circuits
- Tools
- Heavy industrial, processing and construction equipment

Features:
- Extra-flexible stranding
- Abrasion-resistant
- Resists oils and solvents
- Flame-resistant
- Ozone-resistant
- 90°C rated conductors and jacket
- Water-resistant*
- UL Listed and CSA Certified for indoor and outdoor use
- Ozone-, sunlight (UV)- and weather-resistant
- TRU-Mark® sequential footage marking

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

Packaging:
- 5- through 8-conductor available on 250' (76.2 m), 500' (152.4 m), and 1000' (304.8 m) reels
- 9+ cond. available on long-length reels
- Other put-ups available on special order

* Suitable for immersion in water if properly sealed and terminated.

CAROL BRAND · UL LISTED · CSA Certified Canadian Standard Association · MSHA Mine Safety and Health Administration · RoHS Compliant Directive 2002/95/EC · Made in U.S.A. · General Cable

Super Vu-Tron® Multi-Conductor Type SOOW

90°C, 600 Volt, UL/CSA Portable Cord

Product Construction:

Conductors:
- 14 through 10 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Super Vu-Tron® 90°C, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL SUPER VU-TRON® (SIZE) (mm^2) 90°C (UL) WATER RESISTANT SOOW CSA (-40°C) FT2 P-7K-123033 MSHA 600 VOLT ROHS MADE IN USA

Applications:
- Control circuits
- Tools
- Heavy industrial, processing and construction equipment

Features:
- Extra-flexible stranding
- Abrasion-resistant
- Resists oils and solvents
- Flame-resistant
- Ozone-resistant
- 90°C rated conductors and jacket
- Water-resistant*
- UL Listed and CSA Certified for indoor and outdoor use
- Ozone-, sunlight (UV)- and weather-resistant

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

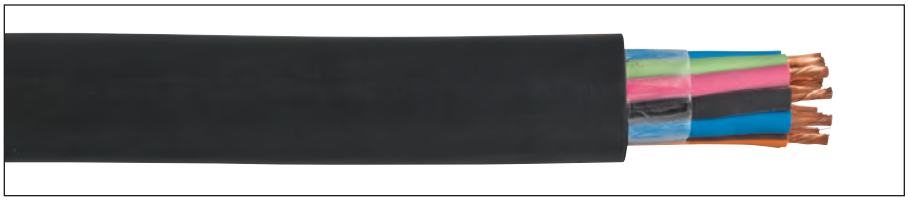
Packaging:
- 5- through 8-conductor available on 250' (76.2 m), 500' (152.4 m), and 1000' (304.8 m) reels
- 9+ cond. available on long-length reels
- Other put-ups available on special order

*Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF COND.	COLOR	TRACER	NO. OF COND.	COLOR	TRACER
1	Black	–	12	Black	White
2	White	–	13	Red	White
3	Red	–	14	Green	White
4	Green	–	15	Blue	White
5	Orange	–	16	Black	Red
6	Blue	–	17	White	Red
7	White	Black	18	Orange	Red
8	Red	Black	19	Blue	Red
9	Green	Black	20	Red	Green
10	Orange	Black	21	Orange	Green
11	Blue	Black			

Note: Colors repeat after 21 conductors. Refer to page 18 for color diagram.



TYPE S00W – 600 VOLT – UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)
				INCHES	mm	INCHES	mm		
09405	5	14	41/30	0.045	1.14	0.645	16.26	12.0	269
09406	6	14	41/30	0.045	1.14	0.710	18.03	12.0	317
09407	7	14	41/30	0.045	1.14	0.755	19.18	12.0	347
09408	8	14	41/30	0.045	1.14	0.810	20.57	10.5	430
09409*	9	14	41/30	0.045	1.14	0.860	21.84	10.5	417
09410	10	14	41/30	0.045	1.14	0.875	22.23	10.5	427
09412	12	14	41/30	0.045	1.14	0.900	22.86	7.5	493
09414	14	14	41/30	0.045	1.14	1.000	25.40	7.5	601
09416	16	14	41/30	0.045	1.14	1.030	26.16	7.5	678
09418*	18	14	41/30	0.045	1.14	1.100	27.94	7.5	720
09420	20	14	41/30	0.045	1.14	1.155	29.34	7.5	806
09424	24	14	41/30	0.045	1.14	1.260	32.00	6.7	1003
09428*	28	14	41/30	0.045	1.14	1.330	33.78	6.7	1080
09430*	30	14	41/30	0.045	1.14	1.335	33.97	6.0	1153
09205	5	12	65/30	0.045	1.14	0.715	18.16	16.0	333
09206	6	12	65/30	0.045	1.14	0.740	18.80	16.0	412
09207	7	12	65/30	0.045	1.14	0.790	20.07	16.0	465
09208	8	12	65/30	0.045	1.14	0.825	20.96	14.0	526
09209	9	12	65/30	0.045	1.14	0.900	22.86	14.0	517
09210	10	12	65/30	0.045	1.14	1.000	25.40	14.0	649
09212	12	12	65/30	0.045	1.14	1.010	25.65	10.0	669
09214	14	12	65/30	0.045	1.14	1.020	25.91	10.0	731
09216	16	12	65/30	0.045	1.14	1.135	28.83	10.0	933
09218*	18	12	65/30	0.045	1.14	1.175	29.85	10.0	920
09220	20	12	65/30	0.045	1.14	1.175	29.84	10.0	989
09224	24	12	65/30	0.045	1.14	1.360	34.54	9.0	1273
09226	26	12	65/30	0.045	1.14	1.380	35.05	9.0	1324
09227*	27	12	65/30	0.045	1.14	1.390	35.30	9.0	1325
09228*	28	12	65/30	0.045	1.14	1.455	36.95	9.0	1355
09230	30	12	65/30	0.045	1.14	1.455	36.96	9.0	1492
09005	5	10	104/30	0.045	1.14	0.770	19.56	20.0	472
09006	6	10	104/30	0.045	1.14	0.875	22.23	20.0	565
09007	7	10	104/30	0.045	1.14	0.900	22.86	20.0	552
09008*	8	10	104/30	0.045	1.14	0.935	23.75	17.5	682
09010	10	10	104/30	0.045	1.14	1.020	25.91	17.5	758
09012	12	10	104/30	0.045	1.14	1.070	27.18	12.5	871
09016*	16	10	104/30	0.045	1.14	1.230	31.24	12.5	1147
09020*	20	10	104/30	0.045	1.14	1.325	33.66	12.5	1445

† Values shown are for current-carrying conductors. A grounding conductor, or one which carries only the unbalance current from other conductors, is NOT counted in determining current carrying capacity. Ampacities based on NEC Table 400.5(A)(1).

* Non-stock item; minimum quantity purchase required.

(S)Actual shipping weight may vary.

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

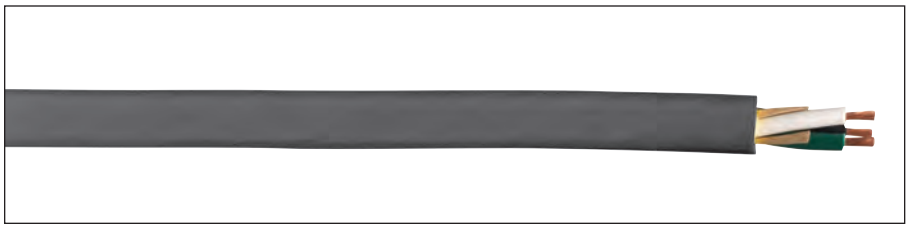
MSHA Mine Safety and Health Administration

Certified Canadian Standard Association

UL LISTED

CAROL BRAND

Plastic Cord 3



Thermoplastic cord products have evolved into a product line where specialized, technologically advanced products are required to meet today's commercial and industrial applications.

No longer are plastic cord products used only in applications where oil resistance is needed; today typical applications require cord to perform well in environments of extreme heat and cold and on job sites and factory floors where resistance to oil, chemicals and abrasion is mandatory.

General Cable's role, as the producer of the premiere Carol® Brand plastic cord products, is to ensure that new product development, product innovation and quality not only keep pace with industry requirements but also set the trends.

Our plastic cord products carry a full range of listings and certifications with Underwriters Laboratories, Inc. and the Canadian Standard Association. In addition, many products meet or exceed the requirements of OSHA, MSHA and other relevant industry standards.

Carol is simply the most accepted brand in the industry, having proven itself on the job time after time. Our plastic cord line is the most comprehensive in the industry, ensuring that the proper Carol product can always be specified.

Carol® Ultra Flex® Type SJEOOW/SEOOW

105°C, 300 and 600 Volt, UL/c(UL) Portable Cord

Product Construction:

Conductors:
- 18 through 2 AWG fully annealed stranded bare copper

Insulation:
- Thermoplastic Elastomer
- Color Code: See chart below

Jacket:
- Ultra Flex® Thermoplastic Elastomer, black, white or yellow
- Temperature range: -50°C to +105°C

Jacket Inkjet Marking:
- CAROL ULTRA FLEX® (NO. OF COND) (AWG) (mm^2) E11368-8 WATER RESISTANT (UL) (TYPE) c(UL) (TYPE) (-50C) 105°C (VOLTAGE) – FT2 MSHA – ROHS – MADE IN USA (DATE CODE) (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:

Indoor applications for:
- Portable power tools
- Industrial and consumer lighting fixtures
- Office equipment power supplies
- Construction site power
- Industrial and floor care equipment

Features:

- Lightweight
- Oil-resistant jacket
- Non-marking
- Very good flexibility
- Excellent molding characteristics
- Water-resistant*
- UL Listed and c(UL) Listed for indoor or outdoor use (18-10 AWG)
- TRU-Mark® sequential footage marking

Industry Approvals:

- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

Packaging:

- 250' (76.2 m), 1000' (304.8 m) reels
- Packaged with TRU-Mark® precision

Other AWG sizes, conductor counts and put-ups available on special order.

* Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR**
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green

** Green conductor for grounding only.

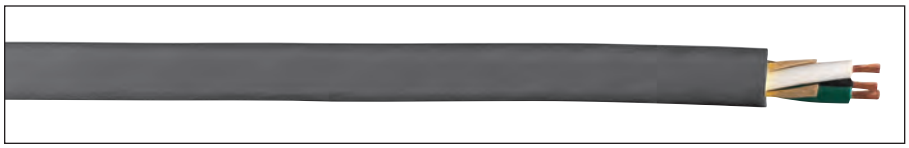
CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WT. LBS/M'(S)	STD. PKG.
				INCHES	mm	INCHES	mm			
UL TYPE SJEOOW, c(UL) TYPE SJEOOW-TPE — 300 VOLT										
89002	2	18	16/30	0.030	0.76	0.293	7.44	10	45	250'
89003	3	18	16/30	0.030	0.76	0.310	7.87	10	50	250'
89004	4	18	16/30	0.030	0.76	0.340	8.64	7	75	250'
89012	2	16	26/30	0.030	0.76	0.319	8.10	13	55	250'
89013	3	16	26/30	0.030	0.76	0.338	8.59	13	70	250'
89014	4	16	26/30	0.030	0.76	0.372	9.45	10	85	250'
89022	2	14	41/30	0.030	0.76	0.351	8.92	18	70	250'
89023	3	14	41/30	0.030	0.76	0.372	9.45	18	85	250'
89024	4	14	41/30	0.030	0.76	0.409	10.39	15	100	250'
89032	2	12	65/30	0.030	0.76	0.419	10.64	25	90	250'
89033	3	12	65/30	0.030	0.76	0.443	11.25	25	115	250'
89034	4	12	65/30	0.030	0.76	0.486	12.34	20	145	250'
UL TYPE SEOOW, c(UL) TYPE SEOOW-TPE — 600 VOLT										
89052	2	18	16/30	0.030	0.76	0.355	9.02	10	60	250'
89053	3	18	16/30	0.030	0.76	0.372	9.45	10	75	250'
89054	4	18	16/30	0.030	0.76	0.402	10.21	7	90	250'
89062	2	16	26/30	0.030	0.76	0.381	9.68	13	70	250'
89063	3	16	26/30	0.030	0.76	0.400	10.16	13	90	250'
89064	4	16	26/30	0.030	0.76	0.434	11.02	10	105	250'
89072	2	14	41/30	0.045	1.14	0.515	13.08	18	125	250'
89073	3	14	41/30	0.045	1.14	0.541	13.74	18	160	250'
89074	4	14	41/30	0.045	1.14	0.589	14.96	15	185	250'
89082	2	12	65/30	0.045	1.14	0.585	14.86	25	160	250'
89083	3	12	65/30	0.045	1.14	0.614	15.60	25	205	250'
89084	4	12	65/30	0.045	1.14	0.665	16.89	20	250	250'
89092	2	10	104/30	0.045	1.14	0.629	15.98	30	200	250'
89093	3	10	104/30	0.045	1.14	0.661	16.79	30	260	250'
89094	4	10	104/30	0.045	1.14	0.718	18.24	25	320	250'
NON-UL TYPE SEOOW - 600 VOLT										
89803	3	8	96/28	0.048	1.22	0.701	17.81	40	311	250'/1000'
89804	4	8	96/28	0.048	1.22	0.783	19.89	35	402	250'/1000'
89603	3	6	96/26	0.048	1.22	0.818	20.78	55	452	250'/1000'
89604	4	6	96/26	0.048	1.22	0.892	22.66	45	575	250'/1000'
89403	3	4	96/24	0.048	1.22	0.913	23.19	70	625	250'/1000'
89404	4	4	96/24	0.048	1.22	1.027	26.09	60	821	250'/1000'
89203	3	2	119/0.0223	0.050	1.27	1.158	29.41	95	985	250'/1000'
89204	4	2	119/0.0223	0.050	1.27	1.260	32.00	80	1241	250'/1000'

† Ampacities based on 90°C conductor and 30°C ambient temperature per Table 400.5(A)(1) of the National Electrical Code®.

(S) Actual shipping weight may vary.

Types SJTOW and STOW

90°C, 300 and 600 Volt, UL/CSA Portable Cord



TYPE SJTOW — 300 VOLT — UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WEIGHT LBS/M'(S)
				INCHES	mm	INCHES	mm		
86902*	2	18	16/30	0.030	0.76	0.290	7.37	10	42
86903*	3	18	16/30	0.030	0.76	0.305	7.75	10	54
86904*	4	18	16/30	0.030	0.76	0.335	8.51	7	65
86912*	2	16	26/30	0.030	0.76	0.315	8.00	13	57
86913	3	16	26/30	0.030	0.76	0.330	8.38	13	70
86914*	4	16	26/30	0.030	0.76	0.365	9.27	10	86
86922*	2	14	41/30	0.030	0.76	0.345	8.76	18	67
86923	3	14	41/30	0.030	0.76	0.365	9.27	18	92
86924	4	14	41/30	0.030	0.76	0.415	10.54	15	114
86932*	2	12	65/30	0.030	0.76	0.410	10.44	25	95
86933	3	12	65/30	0.030	0.76	0.430	10.92	25	132
86934*	4	12	65/30	0.030	0.76	0.485	12.32	20	167

TYPE STOW — 600 VOLT — UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WEIGHT LBS/M'(S)
				INCHES	mm	INCHES	mm		
86952*	2	18	16/30	0.030	0.76	0.350	8.89	10	60
86953	3	18	16/30	0.030	0.76	0.365	9.27	10	72
86954*	4	18	16/30	0.030	0.76	0.395	10.03	7	85
86962*	2	16	26/30	0.030	0.76	0.375	9.58	13	76
86963	3	16	26/30	0.030	0.76	0.395	10.08	13	90
86964	4	16	26/30	0.030	0.76	0.425	10.80	10	107
86972*	2	14	41/30	0.045	1.14	0.505	12.83	18	120
86973	3	14	41/30	0.045	1.14	0.535	13.59	18	156
86974	4	14	41/30	0.045	1.14	0.585	14.86	15	184
86982*	2	12	65/30	0.045	1.14	0.585	14.86	25	165
86983	3	12	65/30	0.045	1.14	0.615	15.62	25	208
86984*	4	12	65/30	0.045	1.14	0.665	16.89	20	254

* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S) Actual shipping weight may vary.

Product Construction:

Conductors:
- 18 through 12 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded PVC
- Color code: See chart below

Jacket:
- Polyvinylchloride (PVC), gray or yellow
- Temperature range: -40°C to +90°C
- Voltage rating:
  300 volts Type SJTOW
  600 volts Type STOW

Jacket Marking:
- CAROL SJTOW -
  CAROL (SIZE) (mm²) 90°C UL WATER RESISTANT SJTOW CSA (-40°C) FT2 ROHS MADE IN USA 300 V (TRU-MARK SEQUENTIAL FOOTAGE)
- CAROL STOW -
  CAROL (SIZE) (mm²) 90°C UL WATER RESISTANT STOW CSA (-40°C) FT2 ROHS MADE IN USA 600 V (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Portable tools
- Motors
- Floor maintenance equipment
- Hospital equipment
- Sound equipment
- Washing machines
- Portable lights
- Lamps and similar equipment

Features:
- Oil- and water-resistant* jacket
- Resists:
  – Oils
  – Water
  – Acids
  – Alkalies
- Ozone-, sunlight (UV)- and weather-resistant
- UL Listed and CSA Certified for indoor and outdoor use
- TRU-Mark® sequential footage marking

Industry Approvals:
- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- RoHS Compliant

Packaging:
- 250' (76.2 m), 500' (152.4 m), and 1000' (304.8 m)
- Other put-ups available on special order

* Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green
4	Black, White, Red, General

CAROL BRAND UL LISTED CSA RoHS Compliant Directive 2002/95/EC Made in U.S.A. General Cable

Type SVT

60°C, 300 Volt, UL/CSA Portable Cord

Product Construction:

Conductors:
- 18 AWG annealed stranded bare copper

Insulation:
- Premium-grade, color-coded PVC
- Color code: See chart below

Jacket:
- Polyvinylchloride (PVC)
- Colors available: black, white, gray
- Temperature range: -20°C to +60°C
- Ribbed jacket

Jacket Marking:
- (SIZE) (mm^2) 60°C SVT (UL) E# --- CSA LL# FT2 ROHS MADE IN USA 300 V

Applications:
- Vacuum cleaners
- Food mixers
- Office equipment

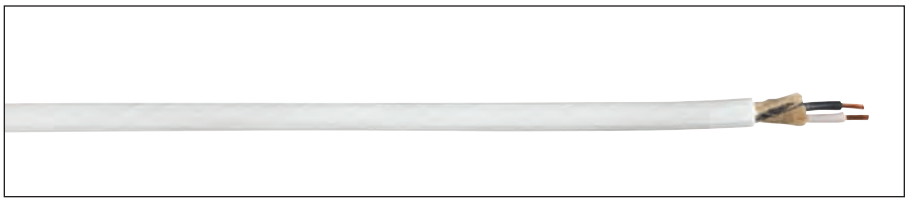
Features:
- Resists:
  - Acids
  - Alkalies
  - Ozone

Industry Approvals:
- UL Listed
- CSA Certified
- RoHS Compliant

Packaging:
- 250' (76.2 m)
- Other put-ups available on special order

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green



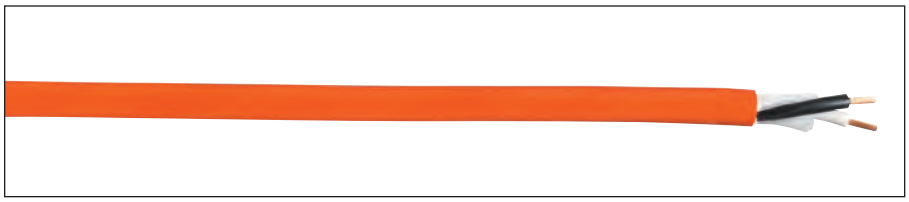
TYPE SVT — 300 VOLT — UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
86002	2	18	41/34	0.015	0.38	0.235	5.97	10	35	1000'
86003	3	18	41/34	0.015	0.38	0.240	6.10	10	40	1000'

† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S) Actual shipping weight may vary.

Type SJT

60°C, 300 Volt, UL/CSA Portable Cord



TYPE SJT — 300 VOLT — UL

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
86012*	2	18	16/30	0.030	0.76	0.285	7.24	10	45	1000'
86013	3	18	16/30	0.030	0.76	0.305	7.75	10	55	1000'
86022	2	16	26/30	0.030	0.76	0.315	8.00	13	50	1000'
86023	3	16	26/30	0.030	0.76	0.335	8.51	13	70	250'
86333	3	14	41/30	0.030	0.76	0.365	9.27	18	85	250'
86343	3	12	65/30	0.030	0.76	0.440	11.18	25	130	250'

* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S) Actual shipping weight may vary.

Product Construction:

Conductors:
- 18 through 12 AWG annealed stranded bare copper

Insulation:
- Premium-grade, color-coded PVC
- Color code: See chart below

Jacket:
- Polyvinylchloride (PVC)
  18 and 16 AWG - black only
  14 and 12 AWG - orange only
- Temperature range: -20°C to +60°C

Jacket Marking:
- (NO. COND) (SIZE) (mm^2) 60°C SJT E# (UL) --- CSA LL# FT2 ROHS MADE IN USA 300 V

Applications:
- Portable tools
- Motors
- Portable lights
- Lamps

Features:
- Resists:
  - Acids
  - Alkalies
  - Ozone

Industry Approvals:
- UL Listed
- CSA Certified
- RoHS Compliant

Packaging:
- 250' (76.2 m)
- Other put-ups available on special order

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green

Type SJT

105°C, 300 Volt, UL/CSA Portable Cord

Product Construction:

Conductors:
- 18 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded PVC
- Color code: See chart below

Jacket:
- Polyvinylchloride (PVC), white
- Temperature range: -20°C to +105°C

Jacket Marking:
- (SIZE) (mm^2) 105°C SJT E# (UL) --- CSA LL# FT2 ROHS MADE IN USA 300 V

Applications:
- For use in most hospital equipment

Features:
- Resists:
  - Acids
  - Alkalies
  - Ozone

Industry Approvals:
- UL Listed
- CSA Certified
- RoHS Compliant

Packaging:
- 250' (76.2 m)
- Other put-ups available on special order

TYPE SJT — 300 VOLT — UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
86112*	2	18	16/30	0.030	0.76	0.285	7.24	10	45	1000'
86113	3	18	16/30	0.030	0.76	0.310	7.87	10	55	1000'

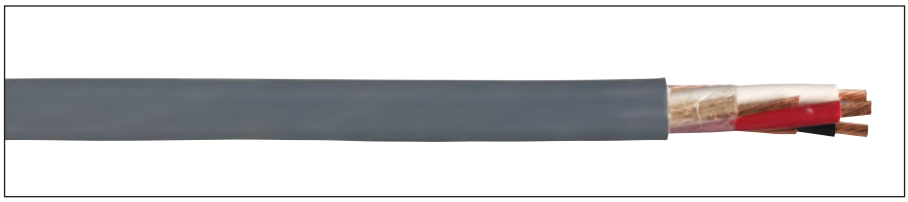
* Non-stock item; minimum quantity purchase required.
† Green conductor for grounding only. Ampacities based on NEC Table 400.5(A)(1).
(S) Actual shipping weight may vary.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green

Bus Drop Cable

60°C, 600 Volt, UL Listed



BUS DROP CABLE — 600 VOLT — UL

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS†	APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
03714	3	14	19	0.030	0.76	0.400	10.16	15	120	250'
03712	3	12	19	0.030	0.76	0.425	10.80	20	150	250'
03710	3	10	19	0.030	0.76	0.485	12.32	25	225	250'
03708	3	8	19	0.045	1.14	0.625	15.88	35	370	250'
03706	3	6	19	0.060	1.52	0.770	19.56	45	600	250'

† Ampacities based on NEC Table 400.5(A)(1).
(S) Actual shipping weight may vary.

Product Construction:

Conductors:
- 14 through 6 AWG annealed stranded bare copper per ASTM B8

Insulation:
- Premium-grade, color-coded Polyvinylchloride (PVC)
- Color code: black, white, red

Jacket:
- Polyvinylchloride (PVC) jacket, gray
- Temperature range: -20°C to +60°C

Jacket Marking:
- (SIZE) BUS DROP CABLE 600 V E# (UL)

Applications:
- As branches from busways per NEC
- Connection of stationary equipment to facilitate relocation of equipment

Features:
- Used in dry location
- One uninsulated ground conductor per interstice (3 ground conductors total)
- Resistant to oils, lubricants, water, acids, alkalies, ozone and abrasion

Industry Approvals:
- UL Listed
- RoHS Compliant

Packaging:
- 250' reel (76.2 m) as standard
- 500' (152.4 m) and 1000' (304.8 m) reels also available
- Other put-ups available on special order

CAROL BRAND UL LISTED RoHS Compliant Directive 2002/95/EC Made in U.S.A. General Cable

Thermostat Wire

105ºC, 150 Volt, UL Type CL2

Product Construction:

Conductors:
- 20 and 18 AWG annealed solid bare copper per ASTM B3

Insulation:
- Premium-grade, color-coded PVC
- Color code: See chart below

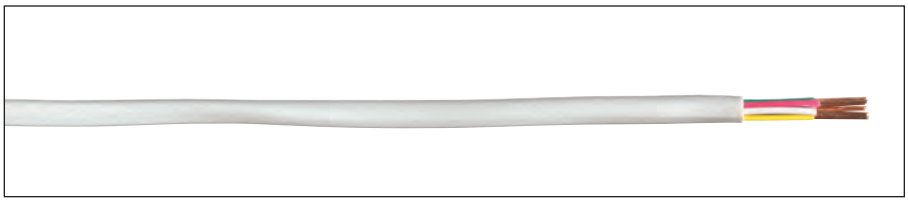
Jacket:
- Polyvinylchloride (PVC), white
- Temperature range: -20°C to +105°C

Jacket Marking:
- CAROL AWG TYPE CL2 E# (UL) 105°C SUNLIGHT RESISTANT - MADE IN USA

Applications:
- Thermostat control
- Heating and air conditioning installations
- Touch-plate systems
- Burglar alarms
- Intercom systems
- Door bells
- Annunciator and bell systems
- Remote control units
- Signal systems
- Other low-voltage installations

Industry Approvals:
- UL Listed Type CL2
- RoHS Compliant

Packaging:
- 4- through 10-conductor available on 250' (76.2 m) spools
- 2- and 3-conductor available on 500' (152.4 m) spools
- Other put-ups available on special order



20 AWG THERMOSTAT WIRE — 150 VOLT — UL TYPE CL2

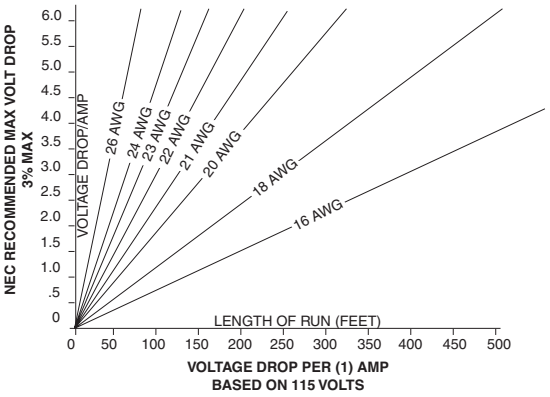
CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm		
05482	2	20	Solid	0.008	0.203	0.126	3.20	11	1000'
05483	3	20	Solid	0.008	0.203	0.133	3.38	16	1000'
05484	4	20	Solid	0.008	0.203	0.142	3.61	19	500'
05485	5	20	Solid	0.008	0.203	0.160	4.06	24	500'
05486	6	20	Solid	0.008	0.203	0.175	4.45	27	500'
05487	7	20	Solid	0.008	0.203	0.175	4.45	31	500'
05488	8	20	Solid	0.008	0.203	0.189	4.80	35	500'
05489*	9	20	Solid	0.008	0.203	0.204	5.18	40	500'
05481*	10	20	Solid	0.008	0.203	0.222	5.64	45	250'

18 AWG THERMOSTAT WIRE — 150 VOLT — UL TYPE CL2

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm		
05582	2	18	Solid	0.008	0.203	0.142	3.61	16	1000'
05583	3	18	Solid	0.008	0.203	0.150	3.81	22	1000'
05584	4	18	Solid	0.008	0.203	0.165	4.19	28	500'
05585	5	18	Solid	0.008	0.203	0.181	4.60	36	500'
05586	6	18	Solid	0.008	0.203	0.208	5.28	42	500'
05587	7	18	Solid	0.008	0.203	0.208	5.28	48	500'
05588	8	18	Solid	0.008	0.203	0.225	5.72	54	500'
05589*	9	18	Solid	0.008	0.203	0.243	6.17	61	500'
05581	10	18	Solid	0.008	0.203	0.264	6.71	69	250'

(S) Actual shipping weight may vary.

APPROXIMATE VOLTAGE DROP/AMP AT 68ºF



COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	White, Red
3	White, Red, Green
4	White, Red, Green, Blue
5	White, Red, Green, Blue, Yellow
6	White, Red, Green, Blue, Yellow, Brown
7	White, Red, Green, Blue, Yellow, Brown, Orange
8	White, Red, Green, Blue, Yellow, Brown, Orange, Black
9	White, Red, Green, Blue, Yellow, Brown, Orange, Black, Purple
10	White, Red, Green, Blue, Yellow, Brown, Orange, Black, Purple, Gray

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

UL LISTED

CAROL BRAND

Thermostat Wire

60°C, 30 Volt, CSA Type LVT

18 AWG THERMOSTAT WIRE — 30 VOLT — CSA TYPE LVT

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm		
05092	2	18	Solid	0.016	0.41	0.210	5.33	25	2000'
05093*	3	18	Solid	0.016	0.41	0.220	5.59	33	500'
05094	4	18	Solid	0.016	0.41	0.242	6.15	41	1000'
05095	5	18	Solid	0.016	0.41	0.262	6.65	50	1000'
05096*	6	18	Solid	0.016	0.41	0.280	7.11	60	1000'
05097*	7	18	Solid	0.016	0.41	0.285	7.24	65	1000'
05098	8	18	Solid	0.016	0.41	0.304	7.75	74	1000'
05099*	9	18	Solid	0.016	0.41	0.328	8.33	83	1000'
05091*	10	18	Solid	0.016	0.41	0.360	9.14	92	250'

* Non-stock item; minimum quantity purchase required.
(S) Actual shipping weight may vary.

Product Construction:

Conductors:
- 18 AWG annealed solid bare copper per ASTM B3

Insulation:
- Premium-grade, color-coded PVC
- Color code: See chart below

Jacket:
- Polyvinylchloride (PVC), brown
- Temperature range: -20°C to +60°C

Jacket Marking:
- CAROL (SIZE) CSA LL# TYPE LVT FT4

Applications:
- Thermostat control
- Heating and air conditioning installations
- Touch-plate systems
- Burglar alarms
- Intercom systems
- Door bells
- Annunciator and bell systems
- Remote control units
- Signal systems
- Other low-voltage installations

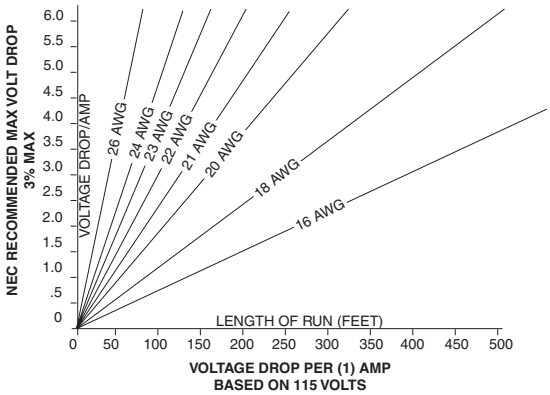
Industry Approvals:
- CSA Type LVT

Packaging:
- 4- through 10-conductor available on 250' (76.2 m) spools
- 2- and 3-conductor available on 500' (152.4 m) spools
- Other put-ups available on special order

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	White, Red
3	White, Red, Green
4	White, Red, Green, Blue
5	White, Red, Green, Blue, Yellow
6	White, Red, Green, Blue, Yellow, Brown
7	White, Red, Green, Blue, Yellow, Brown, Orange
8	White, Red, Green, Blue, Yellow, Brown, Orange, Black
9	White, Red, Green, Blue, Yellow, Brown, Orange, Black, Purple
10	White, Red, Green, Blue, Yellow, Brown, Orange, Black, Purple, Gray

APPROXIMATE VOLTAGE DROP/AMP AT 68°F



CAROL BRAND® Certified Canadian Standard Association Made in U.S.A.

General Cable

Thermostat Wire, Unjacketed

60ºC, Low-Voltage and Intercom Cable

Product Construction:

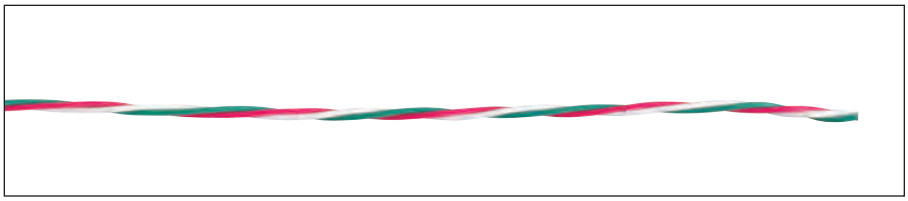
Conductors:
- 20 AWG annealed solid bare copper per ASTM B3

Insulation:
- Premium-grade, color-coded PVC
- Temperature range: -20ºC to +60ºC
- Color code: See chart below

Jacket:
- This product is unjacketed

Applications:
- Thermostat control
- Heating and air conditioning installations
- Touch-plate systems
- Burglar alarms
- Intercom systems
- Door bells
- Annunciator and bell systems
- Remote control units
- Signal systems
- Other low-voltage installations

Packaging:
- 4- through 8-conductor available on 250' (76.2 m) spools
- 2- and 3-conductor available on 500' (152.4 m) spools
- Other put-ups available on special order



20 AWG — TWISTED CONDUCTORS — NO JACKET

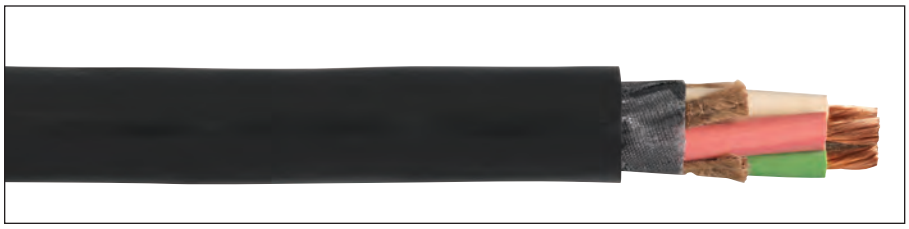
CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		APPROX. NET WEIGHT LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm		
05782	2	20	Solid	0.008	0.203	0.096	2.44	7.5	4000'
05783	3	20	Solid	0.008	0.203	0.104	2.64	11.0	2000'
05784*	4	20	Solid	0.008	0.203	0.116	2.95	15.0	2000'
05785*	5	20	Solid	0.008	0.203	0.130	3.30	18.5	1000'
05786*	6	20	Solid	0.008	0.203	0.144	3.66	22.0	1000'
05788*	8	20	Solid	0.008	0.203	0.159	4.04	30.0	1000'

* Non-stock item; minimum quantity purchase required.
(S) Actual shipping weight may vary.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
2	White, Red
3	White, Red, Green
4	White, Red, Green, Blue
5	White, Red, Green, Blue, Yellow
6	White, Red, Green, Blue, Yellow, Brown
8	White, Red, Green, Blue, Yellow, Brown, Orange, Black

Industrial Cord 4



No longer are industrial cord products used only in coal mines and industrial plants; today typical applications include providing temporary power to job sites, as well as flexible power leads for installation in conduit.

General Cable's role, as the producer of the premiere Carol® Brand industrial cord products, is to ensure that new product development, product innovation and quality not only keep pace with industry requirements but also set the trends.

Our industrial cord products carry a full range of listings and certifications with Underwriters Laboratories, Inc. and the Canadian Standard Association. In addition, many products meet or exceed the requirements of UL, CSA, OSHA, MSHA, ICEA and other relevant industry standards.

Carol is simply the most accepted brand in the industry, having proven itself on the job time after time. Our industrial cord line is the most comprehensive in the industry, ensuring that the proper Carol product can always be specified.

Super Vu-Tron® Single Conductor

90°C (UL), Type W, 2000 Volt and Type RHH/RHW 600 Volt Portable Power Cable

Product Construction:

Conductor:
- 8 AWG through 500 kcmil fully annealed stranded bare copper

Insulation:
- Premium-grade 90°C EPDM

Jacket:
- Super Vu-Tron® 90°C, black
- Temperature range: -40°C to +90°C
- Voltage rating:
  600 volts Type RHH/RHW
  2000 volts Type W
- An open polyester braid reinforcement is applied between the insulation and jacket for mechanical strength

Jacket Marking:
- 8-1 AWG: CAROL SUPER VU-TRON® TYPE W PORTABLE POWER CABLE (UL) DRY 90°C WET 75°C 2000 V SUNLIGHT RESISTANT P-7K-123049-MSHA (SIZE) TYPE RHH OR RHW (UL) 600 V MADE IN USA
- 1/0-500 kcmil: CAROL SUPER VU-TRON® TYPE W PORTABLE POWER CABLE (UL) DRY 90°C WET 75°C 2000 V SUNLIGHT RESISTANT P-7K-123049-MSHA (SIZE) TYPE RHH OR RHW (UL) 600 V FOR CT USE --- CSA TYPE W (-40°C) 2 KV FT5 MADE IN USA

Applications:
- Portable power systems
- Entertainment industry activities such as theatre, television, night clubs, motion pictures, mobile communication vans, spotlights and sound systems
- Other similar applications that would require permanent or temporary power
- Permanent wiring of 600 volt power supplies, hoists, cranes and other applications where flexible power leads must be installed in conduit or raceways

Features:
- Water-resistant*
- Sunlight-resistant
- Designed to withstand severe environmental conditions
- Withstands exposure to oil, acids, alkalies, heat, flame, moisture and chemicals
- Meets or exceeds flame test requirements of MSHA and UL

Industry Approvals:
- UL Type W
- UL Type RHH or RHW
- MSHA Approved
- RoHS Compliant

Packaging:
- Lengths cut to order

*Suitable for immersion in water if properly sealed and terminated.

TYPE W 2000 VOLT (UL) AND TYPE RHH/RHW 600 VOLT (UL)

CATALOG NUMBER	NO. OF COND.	AWG OR kcmil	COND. STRAND	NOMINAL COND. O.D.		NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS		APPROX. NET WT. LBS/ M[1(S)]
				INCHES	mm	INCHES	mm	INCHES	mm	(1)	(2)	
83008*	1	8	133	0.167	4.24	0.070	1.78	0.485	12.32	55	80	150
83006	1	6	259	0.210	5.33	0.070	1.78	0.565	14.35	75	105	214
83004	1	4	259	0.245	6.22	0.070	1.78	0.605	15.37	95	140	277
83002	1	2	259	0.334	8.48	0.070	1.78	0.680	17.27	130	190	387
83001	1	1	259	0.375	9.53	0.090	2.29	0.765	19.43	150	220	485
83010	1	1/0†	259	0.385	9.78	0.090	2.29	0.810	20.57	170	260	563
83020	1	2/0†	259	0.475	12.07	0.090	2.29	0.885	22.48	195	300	679
83030	1	3/0†	259	0.480	12.19	0.090	2.29	0.930	23.62	225	350	809
83040	1	4/0†	259	0.570	14.48	0.090	2.29	0.980	24.89	260	405	973
83250	1	250†	627	0.615	15.62	0.105	2.67	1.045	26.54	290	455	1155
83350	1	350†	855	0.725	18.42	0.105	2.67	1.145	29.08	350	570	1492
83500	1	500†	1235	0.880	22.35	0.105	2.67	1.310	33.27	430	700	2048

* Non-stock item; minimum quantity purchase required.

(1) Ampacities based on 90°C conductor and 30°C ambient temperature based on Table 310-16 in the National Electrical Code® for RHH/RHW with not more than three current-carrying conductors in raceway, cable or earth.

(2) Ampacities based on 90°C conductor and 30°C ambient temperature based on Table 310-17 and Table 400.5(A)(2) in the National Electrical Code® for single-conductor cables.

(S) Actual shipping weight may vary.

† Designated for CT use.

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

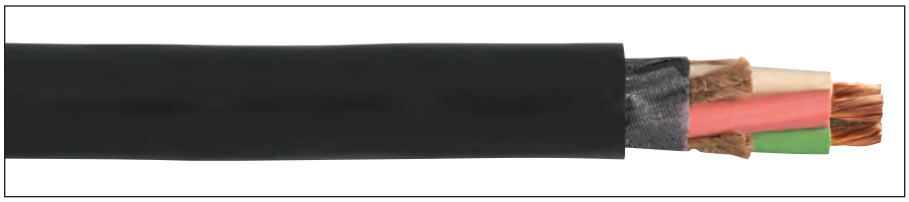
MSHA Mine Safety and Health Administration

UL LISTED

CAROL BRAND

Super Vu-Tron® Multi-Conductor Type W Round

90°C (UL), Type W, 2000 Volt Portable Power Cable



CATALOG NUMBER	NO. OF COND.	AWG OR kcmil	COND. STRAND	NOMINAL COND. O.D.		NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS(1)	APPROX. NET WT. LBS/M'(S)
				INCHES	mm	INCHES	mm	INCHES	mm		
2 CONDUCTOR – TYPE W – 2000 VOLT											
81312	2	8	133	0.160	4.06	0.060	1.52	0.770	19.56	74	325
81622	2	6	259	0.198	5.03	0.060	1.52	0.910	23.11	99	470
81642	2	4	259	0.245	6.22	0.060	1.52	1.020	25.91	130	620
81662	2	2	259	0.297	7.54	0.080	2.03	1.210	30.73	174	935
81372*	2	1	259	0.353	8.97	0.080	2.03	1.370	34.80	202	1305
81382*	2	1/0	259	0.385	9.78	0.080	2.03	1.435	36.45	234	1555
81392*	2	2/0	259	0.442	11.23	0.080	2.03	1.555	39.50	271	1860
81402*	2	3/0	259	0.480	12.19	0.080	2.03	1.670	42.42	313	2230
81412*	2	4/0	259	0.555	14.10	0.080	2.03	1.815	46.10	361	2655
3 CONDUCTOR – TYPE W – 2000 VOLT											
81313	3	8	133	0.160	4.06	0.060	1.52	0.925	23.50	74	470
81623	3	6	259	0.198	5.03	0.060	1.52	0.995	25.27	99	625
81643	3	4	259	0.245	6.22	0.060	1.52	1.095	27.81	130	810
81663	3	2	259	0.297	7.54	0.080	2.03	1.285	32.64	174	1190
81373*	3	1	259	0.353	8.97	0.080	2.03	1.445	36.70	202	1655
81383	3	1/0	259	0.385	9.78	0.080	2.03	1.555	39.50	234	1965
81393	3	2/0	259	0.442	11.23	0.080	2.03	1.670	42.42	271	2350
81403*	3	3/0	259	0.480	12.19	0.080	2.03	1.815	46.10	313	2890
81413*	3	4/0	259	0.555	14.10	0.080	2.03	1.930	49.02	361	3285
81423*	3	250	627	0.615	15.62	0.095	2.41	2.390	60.71	402	5070
81443*	3	350	855	0.725	18.42	0.095	2.41	2.680	68.07	495	6570
81473*	3	500	1235	0.880	22.35	0.095	2.41	3.030	76.96	613	8700
4 CONDUCTOR – TYPE W – 2000 VOLT											
81314	4	8	133	0.160	4.06	0.060	1.52	0.980	24.89	65	615
81624	4	6	259	0.198	5.03	0.060	1.52	1.070	27.18	87	800
81644	4	4	259	0.245	6.22	0.060	1.52	1.210	30.73	114	1040
81664	4	2	259	0.297	7.54	0.080	2.03	1.435	36.45	152	1580
81374	4	1	259	0.353	8.97	0.080	2.03	1.595	40.51	177	2045
81384	4	1/0	259	0.385	9.78	0.080	2.03	1.705	43.31	205	2430
81394	4	2/0	259	0.442	11.23	0.080	2.03	1.845	46.86	237	2950
81404	4	3/0	259	0.480	12.19	0.080	2.03	1.965	49.91	274	3430
81414	4	4/0	259	0.555	14.10	0.080	2.03	2.145	54.48	316	3885
5 CONDUCTOR – TYPE W – 2000 VOLT											
81315	5	8	133	0.160	4.06	0.060	1.52	1.030	26.16	52	650
81625	5	6	259	0.198	5.03	0.060	1.52	1.170	29.72	69	915
81645	5	4	259	0.245	6.22	0.060	1.52	1.360	34.54	91	1320
81665	5	2	259	0.297	7.54	0.080	2.03	1.595	40.51	121	1925
81375*	5	1	259	0.353	8.97	0.080	2.03	1.820	46.23	141	2675
81385	5	1/0	259	0.385	9.78	0.080	2.03	1.900	48.26	164	2885
81395*	5	2/0	259	0.442	11.23	0.080	2.03	2.060	52.32	189	3630
81405*	5	3/0	259	0.480	12.19	0.080	2.03	2.260	57.40	219	4900
81415*	5	4/0	259	0.555	14.10	0.080	2.03	2.460	62.48	252	5980

(1) Ampacities based on 90°C conductor and 30°C ambient temperature per Table 400.5(A)(2) of the National Electrical Code®.

* Non-stock item; minimum quantity purchase required.

** Green conductor for grounding only.

(S) Actual shipping weight may vary.

Product Construction:

Conductor:
- 8 AWG through 500 kcmil fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Super Vu-Tron® 90°C, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- SIZES SMALLER THAN 2-1/4" – CAROL SUPER VU-TRON® (SIZE) TYPE W PORTABLE POWER CABLE (UL) 2000 V DRY 90°C WET 75°C SUN RES P-7K-123049-MSHA---CSA TYPE W (-40°C) 2 KV FT5 MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)
- SIZES 2-1/4" AND LARGER – (SIZE) TYPE W CAROL SUPER VU-TRON® 90°C DRY AND WATER RESISTANT 75°C 2000 V SUN RES (UL) P-7K-123049 MSHA LR27161 MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Industrial and light- to medium-duty mining applications
- Heavy-duty service as power supply cable
- AC systems (grounded and ungrounded)
- Mobile and portable electrical equipment
- Motor and battery leads
- 2-conductor cables—use on DC or AC single-phase systems where grounding is not required
- 3-conductor cables—use on AC systems where no grounding is required or on DC systems with one conductor for grounding
- 4-conductor cables—use on two- or three-phase AC systems with one conductor used for grounding
- 5-conductor cables—use in applications where separating the system neutral from the frame ground is required

Features:
- Withstands severe environmental conditions
- Suitable for immersion in water*
- Indent-printed for easy identification
- Withstands exposure to oil, acids, alkalies, heat, moisture and most chemicals
- Rope lay stranding for maximum flex life
- Excellent impact resistance
- Cable core bound for superior flexibility and toughness
- Sunlight-resistant
- TRU-Mark® sequential footage marking

Industry Approvals:
- CSA
- MSHA Approved
- UL Type W
- RoHS Compliant

Packaging:
- Lengths cut to order

* Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR**
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green
5	Black, White, Red, Green, Orange

CAROL BRAND

UL LISTED

CSA Certified Canadian Standard Association

MSHA Mine Safety and Health Administration

RoHS Compliant Directive 2002/95/EC

Made in U.S.A.

General Cable

Super Vu-Tron® Type G and Type G-GC Round

90°C (UL), 2000 Volt Portable Power Cable

NOW WITH TRU-Mark® Footage Marking System PRECISION

Product Construction:

Conductor:

- 8 AWG through 500 kcmil fully annealed stranded bare copper

Insulation:

- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below
- Insulated grounds and ground checks

Jacket:

- Super Vu-Tron® 90°C, black
- Temperature range: -40°C to +90°C

Jacket Marking:

- TYPE G-GC (4/0 AND SMALLER) – CAROL SUPER VU-TRON® SIZE (mm²) TYPE G-GC PORTABLE POWER CABLE (UL) 2000 V DRY 90°C WET 75°C SUN RES P-7K-123049-MSHA --- CSA TYPE G-GC (-40°C) 2 KV FT5 MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)
- TYPE G-GC (LARGER THAN 4/0) - (SIZE) TYPE G-GC CAROL SUPER VU-TRON® 90°C DRY AND WATER RESISTANT 75°C 2000 V SUN RES (UL) P-7K-123049 MSHA LR27161 MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)
- TYPE G - CAROL SUPER VU-TRON® SIZE (mm²) TYPE G PORTABLE POWER CABLE (UL) 600/2000 V DRY 90°C WET 75°C SUN RES P-7K-123049 MHSA --- CSA TYPE G (-40°C) 2 KV FT5 MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:

- Industrial and light- to medium-duty mining applications
- Heavy-duty service as power supply cable
- Mobile and portable electrical equipment
- 3- and 4-conductor—use on three-phase AC systems where grounding is required

Features:

- Excellent impact and abrasion resistance
- Withstands exposure to oil, acids, alkalies, heat, moisture and most chemicals
- Suitable for immersion in water*
- Indent-printed for easy identification
- Rope lay stranding for maximum flex life
- Cable core bound for superior flexibility and toughness
- Non-wicking rubber fillers (G-GC)
- Canadian color code available upon request
- Sunlight-resistant
- TRU-Mark® sequential footage marking

Industry Approvals:

- UL Type G, G-GC
- CSA
- MSHA Approved
- RoHS Compliant

Packaging:

- Lengths cut to order

*Suitable for immersion in water if properly sealed and terminated.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
3	Black, White, Red
4	Black, White, Red, Orange

3 CONDUCTOR – TYPE G-GC – 2000 VOLT

CATALOG NUMBER	NO. OF COND.	AWG OR kcmil	COND. STRAND	NOMINAL COND. O.D.		YELLOW GROUND CHECK AWG SIZE	GREEN GROUND COND. AWG SIZE	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURR. AMPS[1]	APPROX. NET WT. LBS/M*[S]
				INCHES	mm			INCHES	mm	INCHES	mm		
82313	3	8	133	0.160	4.06	10	2#10	0.060	1.52	0.965	24.51	65	600
82623	3	6	259	0.198	5.03	10	2#10	0.060	1.52	1.020	25.91	87	770
82643	3	4	259	0.245	6.22	10	2#8	0.060	1.52	1.125	28.58	114	1005
82663	3	2	259	0.297	7.54	10	2#7	0.080	2.03	1.315	33.40	152	1480
82373	3	1	259	0.353	8.97	8	2#6	0.080	2.03	1.445	36.70	177	1815
82383	3	1/0	259	0.385	9.78	8	2#5	0.080	2.03	1.570	39.88	205	2205
82393	3	2/0	259	0.442	11.23	8	2#4	0.080	2.03	1.660	42.16	237	2545
82403	3	3/0	259	0.480	12.19	8	2#3	0.080	2.03	1.810	45.97	274	3230
82413	3	4/0	259	0.555	14.10	8	2#2	0.080	2.03	1.920	48.77	316	3675
82423[2]*	3	250	627	0.615	15.62	8	2#2	0.095	2.41	2.390	60.71	352	6060
82443[2]*	3	350	855	0.725	18.42	8	2#1/0	0.095	2.41	2.680	68.07	433	7400
82473[2]*	3	500	1235	0.880	22.35	8	2#2/0	0.095	2.41	3.030	76.96	536	10100

4 CONDUCTOR – TYPE G – 600/2000 VOLT

CATALOG NUMBER	NO. OF COND.	AWG OR kcmil	COND. STRAND	NOMINAL COND. O.D.		GREEN COND. AWG SIZE	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS[1]	APPROX. NET WT. LBS/M*[S]
				INCHES	mm		INCHES	mm	INCHES	mm		
82314	4	8	133	0.160	4.06	4#12	0.060	1.52	1.045	26.54	52	690
82624	4	6	259	0.198	5.03	4#12	0.060	1.52	1.125	28.58	70	880
82644	4	4	259	0.245	6.22	4#10	0.060	1.52	1.225	31.12	91	1160
82664	4	2	259	0.297	7.54	4#9	0.080	2.03	1.435	36.45	122	1720
82374*	4	1	259	0.353	8.97	4#8	0.080	2.03	1.595	40.51	142	2200
82384	4	1/0	259	0.385	9.78	4#7	0.080	2.03	1.730	43.94	164	2705
82394	4	2/0	259	0.442	11.23	4#6	0.080	2.03	1.855	47.12	190	3190
82404	4	3/0	259	0.480	12.19	4#5	0.080	2.03	2.040	51.82	219	4005
82414	4	4/0	259	0.555	14.10	4#4	0.080	2.03	2.145	54.48	253	4560

[1] Ampacities based on 90°C conductor and 30°C ambient temperature per Table 400.5(A)(2) of the National Electrical Code®.
[2] UL Listed and c(UL) Certified.
* Non-stock item; minimum quantity purchase required.
[S] Actual shipping weight may vary.

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

MSHA Mine Safety and Health Administration

Certified Canadian Standard Association

UL LISTED

CAROL BRAND

Super Vu-Tron® Canadian Type G-GC Round

90°C, 2000 Volt Portable Power Cable

3 CONDUCTOR – TYPE G-GC – 2000 VOLT

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL COND. O.D.		YELLOW GROUND CHECK AWG SIZE	GROUND COND. AWG SIZE	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURR. AMPS(1)	APPROX. NET WT. LBS/ M'(S)
				INCHES	mm			INCHES	mm	INCHES	mm		
83113	3	6	259	0.198	5.03	10	2#10	0.060	1.52	1.025	26.04	87	827
83123	3	4	259	0.245	6.22	10	2#8	0.060	1.52	1.140	28.96	114	1063
83133*	3	2	259	0.294	7.46	8	2#6	0.060	1.52	1.300	33.02	152	1590
83143	3	1	259	0.346	8.79	8	2#6	0.080	2.03	1.495	37.97	177	1980
83153	3	1/0	259	0.384	9.75	8	2#4	0.080	2.03	1.560	39.62	205	2467
83163*	3	2/0	259	0.441	11.20	8	2#4	0.080	2.03	1.670	42.42	237	2480
83183*	3	4/0	259	0.555	14.09	8	2#2	0.080	2.03	1.975	50.17	316	3744

(1) Ampacity rating based on CEC/CSA.
(S) Actual shipping weight may vary.

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR
3	Black, Red, Blue

Product Construction:

Conductor:
- 6 AWG through 4/0 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below
- Insulated yellow ground check

Jacket:
- Super Vu-Tron® 90°C, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL SUPER VU-TRON® SIZE (mm²) TYPE G-GC 2 KV 90°C (-40°C) FT5 CSA LR92874 P-7K-123049-MSHA MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Industrial and light- to medium-duty mining applications
- Heavy-duty service as power supply cable
- Mobile and portable electrical equipment
- 3- and 4-conductor—use on three-phase AC systems where grounding is required

Features:
- Excellent impact and abrasion resistance
- Withstands exposure to oil, acids, alkalies, heat, moisture and most chemicals
- Indent-printed for easy identification
- Rope lay stranding for maximum flex life
- Cable core bound for superior flexibility and toughness
- Non-wicking rubber fillers (GGC)
- Canadian color code
- Sunlight-resistant
- TRU-Mark® sequential footage marking

Industry Approvals:
- CSA Flexible Cord - C22.2-96
- MSHA Approved
- RoHS Compliant

Packaging:
- Lengths cut to order

CAROL BRAND · CSA Certified Canadian Standard Association · MSHA Mine Safety and Health Administration · RoHS Compliant Directive 2002/95/EC · Made in U.S.A. · General Cable

Carol® Double Jacket Drill Cord

90°C, 600 Volt, MSHA Approved Remote Control & Drill Cord

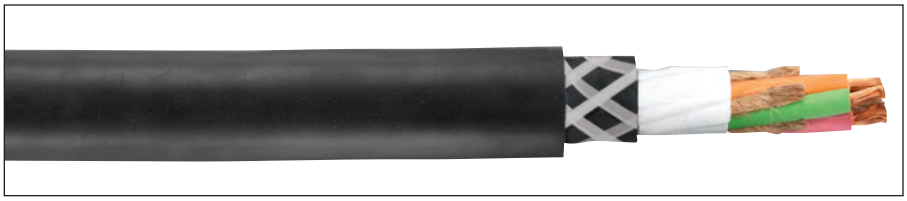
Product Construction:

Conductors:
- 14 through 10 AWG fully annealed stranded bare copper
- ASTM B3/B174

Insulation
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket
- 90°C, black, CPE or neoprene
- Temperature range: -40°C to +90°C
- An open polyester braid reinforcement is applied between layers for mechanical strength

Jacket Marking
- CPE jacket -
  CAROL (SIZE & NO. OF CONDS.) DOUBLE JACKET REMOTE CONTROL AND DRILL CORD 600 V 90°C P-07-KA110003-MSHA MADE IN USA
- Neoprene jacket -
  CAROL (SIZE & NO. OF CONDS.) NEOPRENE DOUBLE JACKET REMOTE CONTROL AND DRILL CORD 600 V 90°C P-07-KA110006-MSHA MADE IN USA



Applications:
- Industrial and light- to medium-duty mining applications
- Heavy-duty service as power supply cable
- AC systems (grounded and ungrounded)
- Heavy-duty and long service life applications
- Mobile and portable electrical equipment
- Motor and battery leads
- Wet or dry locations in underground mines in accordance with Schedule 26 of the U.S. Bureau of Mines
- 3-conductor cables – use on AC systems where no grounding is required or on DC systems with one conductor for grounding
- 4-conductor cables – use on two- or three-phase AC systems with one conductor used for grounding
- 5-conductor cables – use in applications where separating the system neutral from the frame ground is required

Features:
- Withstands severe environmental conditions
- Indent-printed for easy identification
- Withstands exposure to oil, acids, alkalies, heat, moisture and most chemicals
- Flexible stranding
- Excellent impact, crush and tear resistance
- Sunlight-resistant
- Reinforced jacket for increased durability
- TRU-Mark® sequential footage marking

Industry Approvals:
- RoHS Compliant
- Passes MSHA Flame Test
- Additional rating available upon request
- Other sizes and numbers of conductors available upon request

Applicable Standards:
- ICEA S-75-381

Packaging:
- Lengths cut to order

COLOR CODE CHART

NO. OF CONDUCTORS	COLOR**
2	Black, White
3	Black, White, Green
4	Black, White, Red, Green
5	Black, White, Red, Green, Orange
6	Black, White, Red, Green, Orange, Blue

** Green conductor for grounding only.

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL COND. O.D.		NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS(1)	APPROX. NET WT. LBS/M'(S)
				INCHES	mm	INCHES	mm	INCHES	mm		
CPE JACKET											
02861	2	14	41/30	0.072	1.96	0.045	1.14	0.640	16.26	18	210
02862	3	14	41/30	0.072	1.96	0.045	1.14	0.670	17.02	18	240
02868	4	14	41/30	0.072	1.96	0.045	1.14	0.715	18.16	15	285
02835	5	14	41/30	0.072	1.96	0.045	1.14	0.785	19.94	12	345
02845	5	12	65/30	0.096	2.44	0.045	1.14	0.840	21.34	16	405
02806	6	12	65/30	0.096	2.44	0.045	1.14	0.890	22.61	16	470
02855	5	10	104/30	0.117	2.97	0.045	1.14	0.895	22.73	20	495
NEOPRENE JACKET											
02961*	2	14	41/30	0.072	1.96	0.045	1.14	0.640	16.26	18	220
02962*	3	14	41/30	0.072	1.96	0.045	1.14	0.670	17.02	18	260
02968*	4	14	41/30	0.072	1.96	0.045	1.14	0.715	18.16	15	300
02935*	5	14	41/30	0.072	1.96	0.045	1.14	0.785	19.94	12	365
02945*	5	12	65/30	0.096	2.44	0.045	1.14	0.840	21.34	16	425
02906*	6	12	65/30	0.096	2.44	0.045	1.14	0.890	22.61	16	490
02955*	5	10	104/30	0.117	2.97	0.045	1.14	0.895	22.73	20	515

* Non-stock item; minimum quantity purchase required.

(1) Ampacities based on 90°C conductor and 30°C ambient temperature per NEC Table 400.5(A)(1) of the National Electrical Code®.

(S) Actual shipping weight may vary.

General Cable

Made in U.S.A.

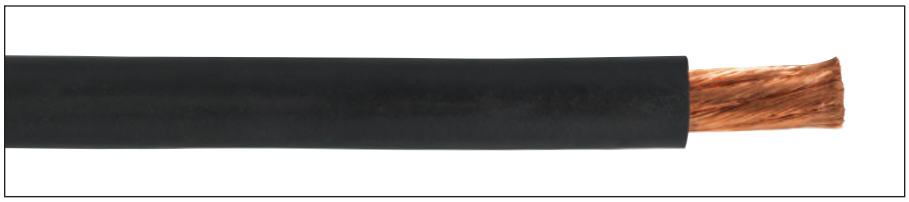
RoHS Compliant Directive 2002/95/EC

MSHA Mine Safety and Health Administration

CAROL BRAND

Carolprene® 105°C Welding Cable

105°C, 600 Volt, MSHA Approved



CAROLPRENE® 105°C WELDING CABLE – 600 VOLT – 30 AWG STRANDING

CATALOG NUMBER	AWG SIZE	NOMINAL STRAND	NOMINAL O.D.		APPROX. NET WT. LBS/M'(S)	STD. CTN.
			INCHES	mm		
01758*	6	259/30	0.430	10.92	152	1000'
01757*	4	416/30	0.475	12.07	215	1000'
01756*	2	655/30	0.540	13.72	296	1000'
01755*	1	827/30	0.580	14.73	360	1000'
01754*	1/0	1042/30	0.615	15.62	424	1000'
01753*	2/0	1316/30	0.655	16.64	513	1000'
01752*	3/0	1660/30	0.720	18.29	644	1000'
01751*	4/0	2062/30	0.780	19.81	824	1000'

* Non-stock item; minimum quantity required.
(S) Actual shipping weight may vary.

Product Construction:

Conductors:
- 6 AWG through 4/0 AWG fully annealed stranded bare copper

Jacket:
- Carolprene® 105°C, black
- Temperature range: -50°C to +105°C

Jacket Marking:
- CAROLPRENE (SIZE) AWG 105°C WELDING CABLE 600 VOLT P-07-KA1000015-MSHA MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Secondary voltage resistance welding leads in heavy duty or mining applications
- Power supply applications not exceeding 600 volts AC
- Sizes 1/0 and larger for permanent wiring in conduit or tray of 600 V power supplies, hoists, cranes or other applications where flexible power leads must be installed in conduit, raceways or trays

Features:
- Water-resistant
- Sunlight-resistant
- Designed to withstand severe environmental conditions
- Withstands exposure to oil, acids, alkalies, heat, flame, moisture and chemicals
- Meets or exceeds flame test requirements of MSHA
- TRU-Mark® marking system and indent printed MSHA number

Industry Approvals:
- MSHA Approved
- RoHS Compliant

Packaging:
- 250' (76.2 m), 1000' (304.8 m) reels
- Other put-ups available on special order

WELDING CABLE AMPACITIES SINGLE CONDUCTOR

Required Cable Sizes: For Welding Cable Application

	length in feet for total circuit for secondary voltages only – do not use this table for 600 Volt in-line applications						
AMPS	100'	150'	200'	250'	300'	350'	400'
100	4	4	2	2	1	1/0	1/0
150	4	2	1	1/0	2/0	3/0	3/0
200	2	1	1/0	2/0	3/0	4/0	4/0
250	1	1/0	2/0	3/0	4/0		
300	1/0	2/0	3/0	4/0			
350	1/0	3/0	4/0				
400	2/0	3/0					
450	2/0	4/0					
500	3/0	4/0					
550	3/0	4/0					
600	4/0						

REQUIRED CABLE SIZES SHOWN IN AWG NUMBERS

The total circuit length includes both welding and ground leads (based on 4-volt drop) 60% duty cycle.

These values for current-carrying capacity are based on a copper temperature of 60°C (140°F), an ambient temperature of 40°C (104°F) and yield load factors from approximately 32% for the No. 2 AWG cable to approximately 23% for the No. 3/0 AWG cable, and higher for the smaller sizes. The sizes of cables generally used range from No. 2 AWG to No. 3/0 AWG. In actual service, the load factor may be much higher than indicated without overheating the cable, as the ambient temperature will generally be substantially lower than 40°C.

Suggested Ampacities For 600 Volt In-Line Applications

AWG	AMPERES	AWG	AMPERES
4/0	405	1	220
3/0	350	2	190
2/0	300	4	140
1/0	260	6	105

Ampacities for portable cable in accordance with NEC Table 400.5(A)(2).
May not be suitable for all installations per National Electrical Code®.

CAROL BRAND

MSHA Mine Safety and Health Administration

RoHS Compliant Directive 2002/95/EC

Made in U.S.A.

General Cable

Carolprene® 90°C Welding Cable

600 Volt

RED NOW A STOCK ITEM

NOW WITH TRU-Mark® Footage Marking System PRECISION

Product Construction:

Conductor:
- 6 AWG through 500 kcmil fully annealed stranded bare copper Class K

Jacket:
- Premium-grade 90°C EPDM, black or red
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROLPRENE (SIZE) WELDING CABLE 600 VOLT MADE IN USA (TRU-MARK SEQUENTIAL FOOTAGE)

Applications:
- Secondary voltage resistance welding leads
- Power supply applications not exceeding 600 volts AC

Features:
- Good flexibility
- Abrasion-resistant
- Good color retention
- TRU-Mark® sequential footage marking

Packaging:
- 250' (76.2 m), 500' (152.4 m), and 1000' (304.8 m) reels
- MCM sizes cut to length
- Other put-ups available on special order

Industry Approvals:
- RoHS Compliant

Suggested Ampacities For 600 Volt In-Line Applications

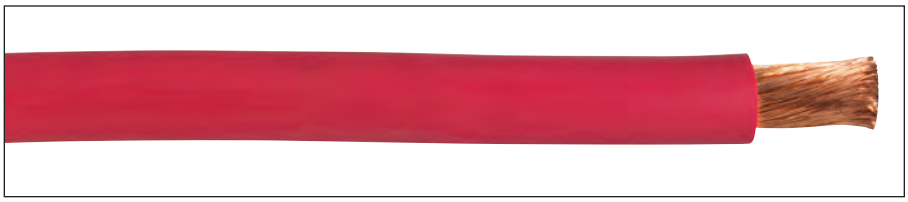
AWG OR kcmil	AMPERES	AWG	AMPERES
500 kcmil	695	1/0	190
350 kcmil	552	1	160
250 kcmil	445	2	140
4/0	310	4	100
3/0	265	6	75
2/0	223		

Ampacities for portable cable, continuous-duty (ambient temperature of 40°C).
May not be suitable for all installations per National Electrical Code®.

Ordering Part Number Example

01771.38.03

4/0 500' put-up in red
.03 for red jacket



CAROLPRENE® WELDING CABLE – 600 VOLT – CLASS K – 30 AWG STRANDING

CATALOG NUMBER	AWG OR kcmil	CONDUCTOR STRAND	NOMINAL O.D.		APPROX. NET WT. LBS/M[1](S)	STD. CTN.
			INCHES	mm		
01778	6	259/30	0.380	9.65	135	250'
01777	4	406/30	0.400	10.16	172	250'
01776	2	646/30	0.465	11.81	260	250'
01775	1	812/30	0.495	12.57	317	250'
01774	1/0	1025/30	0.560	14.22	400	250'
01773	2/0	1274/30	0.615	15.62	487	250'
01772	3/0	1613/30	0.670	17.02	605	250'
01771	4/0	2029/30	0.750	19.05	827	250'
99142*	250 kcmil	2496/30	0.830	21.08	976	250'
99432*	350 kcmil	3441/30	0.960	24.38	1338	250'
99202*	500 kcmil	5054/30	1.200	30.48	1995	250'

(S) Actual shipping weight may vary.
* Non-stock item; minimum quantity required.

WELDING CABLE AMPACITIES SINGLE CONDUCTOR

Required Cable Sizes: For Welding Cable Application

	length in feet for total circuit for secondary voltages only – do not use this table for 600 Volt in-line applications						
AMPS	100'	150'	200'	250'	300'	350'	400'
100	4	4	2	2	1	1/0	1/0
150	4	2	1	1/0	2/0	3/0	3/0
200	2	1	1/0	2/0	3/0	4/0	4/0
250	1	1/0	2/0	3/0	4/0		
300	1/0	2/0	3/0	4/0			
350	1/0	3/0	4/0				
400	2/0	3/0					
450	2/0	4/0					
500	3/0	4/0					
550	3/0	4/0					
600	4/0						

REQUIRED CABLE SIZES SHOWN IN AWG NUMBERS

The total circuit length includes both welding and ground leads (based on 4-volt drop) 60% duty cycle.

These values for current-carrying capacity are based on a copper temperature of 60°C (140°F), an ambient temperature of 40°C (104°F) and yield load factors from approximately 32% for the No. 2 AWG cable to approximately 23% for the No. 3/0 AWG cable, and higher for the smaller sizes. The sizes of cables generally used range from No. 2 AWG to No. 3/0 AWG. In actual service, the load factor may be much higher than indicated without overheating the cable, as the ambient temperature will generally be substantially lower than 40°C.

General Cable

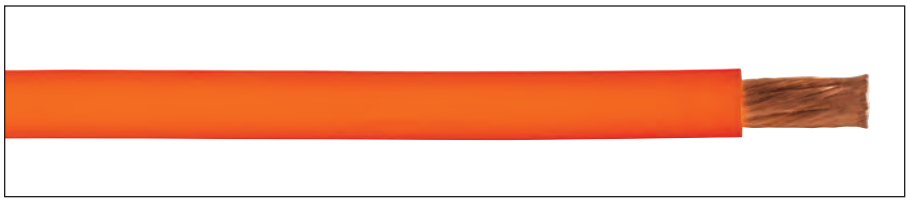
Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

CAROL BRAND

Super Vu-Tron® Welding Cable

90°C, 600 Volt, UL/CSA, RHH/RHW



SUPER VU-TRON® WELDING CABLE—UL/CSA—CLASS M—34 AWG STRANDING

CATALOG NUMBER	AWG SIZE	CONDUCTOR STRAND	NOMINAL O.D.		APPROX. NET WT. LBS/M'(S)	STD. CTN.
			INCHES	mm		
01768*	6	660/34	0.370	9.40	125	250'
01767*	4	1045/34	0.415	10.54	191	250'
01766	2	1634/34	0.475	12.07	259	250'
01765	1	2090/34	0.530	13.46	331	250'
01764†	1/0	2597/34	0.575	14.61	401	250'
01763†	2/0	3300/34	0.630	16.00	511	250'
01762†	3/0	4214/34	0.700	17.78	615	250'
01761†	4/0	5225/34	0.800	20.32	844	250'

* Not MSHA Approved.
(S) Actual shipping weight may vary.
† Type RHH/RHW - 600 V for CT use.

WELDING CABLE AMPACITIES SINGLE CONDUCTOR

Required Cable Sizes: For Welding Cable Application

	length in feet for total circuit for secondary voltages only – do not use this table for 600 Volt in-line applications						
AMPS	**100'**	**150'**	**200'**	**250'**	**300'**	**350'**	**400'**
100	4	4	2	2	1	1/0	1/0
150	4	2	1	1/0	2/0	3/0	3/0
200	2	1	1/0	2/0	3/0	4/0	4/0
250	1	1/0	2/0	3/0	4/0		
300	1/0	2/0	3/0	4/0			
350	1/0	3/0	4/0				
400	2/0	3/0					
450	2/0	4/0					
500	3/0	4/0					
550	3/0	4/0					
600	4/0						

REQUIRED CABLE SIZES SHOWN IN AWG NUMBERS

The total circuit length includes both welding and ground leads (based on 4-volt drop) 60% duty cycle.

These values for current-carrying capacity are based on a copper temperature of 60°C (140°F), an ambient temperature of 40°C (104°F) and yield load factors of from approximately 32% for the No. 2 AWG cable to approximately 23% for the No. 3/0 AWG cable, and higher for the smaller sizes. The sizes of cables generally used range from No. 2 AWG to No. 3/0 AWG. In actual service, the load factor may be much higher than indicated without overheating the cable as the ambient temperature will generally be substantially lower than 40°C.

Product Construction:

Conductor:
- 6 AWG through 4/0 AWG fully annealed stranded bare copper per ASTM B172 Class M

Jacket:
- Super Vu-Tron®, orange
- Temperature range: -50°C to +90°C

Jacket Marking:
- #6 - #1 AWG: CAROL SUPER VU-TRON® WELDING CABLE–EXTRA FLEXIBLE (UL) 600 VOLT (-50°C to +90°C) OIL RESISTANT P-123-141 MSHA (SIZE) --- CSA 90°C ARC WELDING CABLE FT1 MADE IN USA
- 1/0 - 4/0 AWG: CAROL SUPER VU-TRON® WELDING CABLE (SIZE) EXTRA FLEXIBLE (UL) 600 VOLT (-50°C to +90°C) OIL RESISTANT P-123-141 MSHA --- CSA 90°C ARC WELDING CABLE FT1 --- TYPE RHH OR RHW (UL) 600 V FOR CT USE MADE IN USA

Applications:
- Secondary voltage resistance welding leads
- Power supply applications not exceeding 600 volts AC
- Sizes 1/0 and larger for permanent wiring in conduit or tray of 600 V power supplies, hoists, cranes or other applications where flexible power leads must be installed in conduit, raceways or trays

Features:
- UL Listed
- CSA Certified
- Excellent flexibility to last longer in flex applications
- Abrasion-resistant
- Resists oils and solvents
- Rated -50°C for use in cold environments
- Weather-resistant
- Ozone-resistant
- Safety-colored for high visibility
- Assured longer service life, saving money in replacement costs, maintenance cost and downtime
- MSHA Approved for flame resistance
- Sunlight-resistant

Industry Approvals:
- UL Listed
- CSA Certified
- MSHA Approved
- Meets UL Vertical Flame Test per UL 854
- RoHS Compliant

Packaging:
- 250' (76.2 m), 500' (152.4 m), and 1000' (304.8 m) reels
- Other put-ups available on special order

Suggested Ampacities For 600 Volt In-Line Applications

AWG	AMPERES	AWG	AMPERES
4/0	405	1	220
3/0	350	2	190
2/0	300	4	140
1/0	260	6	105

Appendix J Ampacities for portable cable in accordance with NEC Table 400.5(A)(2).
May not be suitable for all installations per National Electrical Code®.

CAROL BRAND UL LISTED CSA Certified Canadian Standard Association MSHA Mine Safety and Health Administration RoHS Compliant Directive 2002/95/EC Made in U.S.A. General Cable

Super Vu-Tron® Entertainment Industry and Stage Lighting Cable

105ºC, 600 Volt, UL Type SC and CSA Type PPC

Product Construction:

Conductor:
- 8 AWG through 4/0 AWG fully annealed stranded bare copper per ASTM B172

Jacket:
- Super Vu-Tron® 105ºC, black
- Temperature range: -50ºC to +105ºC

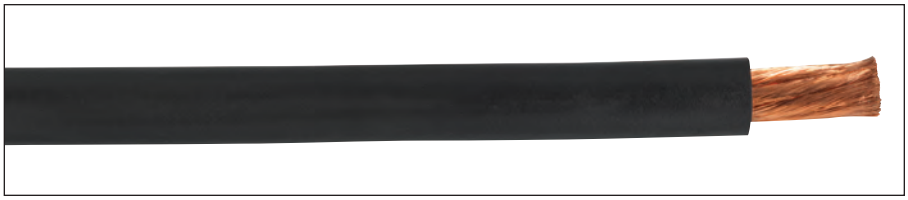
Jacket Marking:
- CAROL (SIZE) (UL) 600 VOLT TYPE SC (-50°C to +105°C) OIL RES 60°C MAX. AMPS NEC TABLE 400-5 (B) FOR 90°C OUTDOOR --- CSA TYPE PPC 105°C 600 VOLT FT5 ROHS MADE IN USA

Applications:
- Portable power systems
- Entertainment industry activities such as theater, television, night clubs, motion pictures, mobile communication vans, spotlights and sound systems
- Other similar applications that would require temporary power

Features:
- Water-resistant
- Sunlight-resistant
- Designed to withstand severe environmental conditions
- Withstands exposure to oil, acids, alkalies, heat, flame, moisture and chemicals
- Meets or exceeds flame test requirements of MSHA, CSA and UL
- Indent-printed

Industry Approvals:
- UL Listed
- CSA Certified
- RoHS Compliant

Packaging:
- Lengths cut to order



UL TYPE SC - CSA TYPE PPC - 600 VOLT

CATALOG NUMBER	AWG SIZE	NOMINAL STRAND	NOMINAL O.D.		APPROX. NET WT. LBS/M'(S)	CURRENT AMPS(1)
			INCHES	mm		
01109*	8	168/30	0.385	9.78	110	80
01108	6	259/30	0.420	10.67	152	105
01107	4	416/30	0.475	12.07	215	140
01106	2	655/30	0.520	13.21	296	190
01105	1	827/30	0.575	14.61	360	220
01104	1/0	1042/30	0.600	15.24	424	260
01103	2/0	1316/30	0.645	16.38	513	300
01102*	3/0	1660/30	0.715	18.16	644	350
01101	4/0	2062/30	0.765	19.43	824	405

(1) NEC Table 400.5(A)(2).
* Non-stock item; minimum quantity purchase required.
(S) Actual shipping weight may vary.

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

Certified Canadian Standard Association

UL LISTED

CAROL BRAND

Super Vu-Tron® Single Conductor Type W Extra Flex

90°C, 2000 Volt, UL Listed

TYPE W - 2000 VOLT - UL

CATALOG NUMBER	AWG OR kcmil	NOMINAL STRAND	NOMINAL COND. O.D.		NOMINAL INS. THICKNESS		NOMINAL O.D.		APPROX. NET WT. LBS/M'(S)	CURRENT AMPS(1)
			INCHES	mm	INCHES	mm	INCHES	mm		
80611*	8	168/30	0.165	4.19	0.060	1.52	0.440	11.18	149	80
80621*	6	259/30	0.198	5.03	0.060	1.52	0.530	13.46	205	105
80631*	4	416/30	0.233	5.92	0.060	1.52	0.585	14.86	264	140
80641	2	655/30	0.293	7.44	0.070	1.78	0.650	16.51	370	190
80651*	1	827/30	0.330	8.38	0.090	2.29	0.730	18.54	479	220
80661*	1/0	1042/30	0.369	9.37	0.090	2.29	0.750	19.05	535	260
80671*	2/0	1316/30	0.412	10.46	0.090	2.29	0.825	20.96	653	300
80681*	3/0	1660/30	0.490	12.45	0.090	2.29	0.855	21.72	755	350
80691	4/0	2062/30	0.530	13.46	0.090	2.29	0.980	24.89	1056	405
80701*	250 kcmil	2496/30	0.606	15.39	0.105	2.67	1.000	25.40	1150	455

(1) Ampacities based on 90°C conductor and 30°C ambient temperature, based on Table 310-17 and Table 400.5(A)(2) in the National Electrical Code for single conductor cables.

* Non-stock item; minimum quantity purchase required.

(S) Actual shipping weight may vary.

COLOR CODE CHART

COLOR	COLOR CODE
Black	01
Gray	10
Red	03
Orange	04
Yellow	05
Green	06
Blue	17

ORDERING INFORMATION

Three easy steps to ordering your Super Vu-Tron Type W Extra Flex Cable:

Catalog Number	Put-Up Code	Color Code
Choose Catalog Number from Catalog Table above	Choose Put-Up Code from Packaging Information (99 for cut-to-order – please specify length needed) (41 for 1000 ft reel put-up size)	Choose Color Code from the Color Code Chart

Examples:

80691.41.01	Type W Extra Flex, 4/0 size, 1,000 ft. reel put-up, black
80691.99.17	Type W Extra Flex, 4/0 size, long-length reel put-up, blue

Make It Yours: Custom print legends available for recurring stock and special orders - ask for details

Product Construction:

Conductor:
- 8 AWG through 250 kcmil fully annealed stranded bare copper per ASTM B172

Insulation:
- Premium-grade 90°C EPDM

Jacket:
- Super Vu-Tron® 90°C, black (standard)
  Other Available Colors:
  – Gray, red, orange, yellow, green, blue
  – See color code chart
- Temperature range: -40°C to +90°C
- An open polyester braid reinforcement is applied between the insulation and jacket for mechanical strength

Jacket Marking:
- CAROL SUPER VU-TRON® TYPE W PORTABLE POWER CABLE (SIZE) 2000 V 90°C DRY AND WATER RESISTANT 75°C SUN RES (UL) P-7K-123049-MSHA---CSA TYPE W (-40°C) FT5 (TRU-MARK SEQUENTIAL FOOTAGE)
- Custom print available by special order with minimum quantity purchase

Applications:
- Portable power systems
- Entertainment industry activities such as theater, television, nightclubs, motion pictures, mobile communication vans, spotlights and sound systems
- Other similar applications that would require temporary power

Features:
- Water-resistant
- Sunlight-resistant
- Designed to withstand severe environmental conditions
- Flexible and easier to work with in cold temperatures
- Withstands exposure to oil, acids, alkalies, heat, flame, moisture and chemicals
- No “memory” effect when coiling and uncoiling for use
- Meets or exceeds flame test requirements of MSHA and UL
- TRU-Mark® sequential footage marking

Industry Approvals:
- UL Listed
- MSHA Approved
- RoHS Compliant
- CSA Certified

Packaging:
- Lengths cut to order (99 put-up code)
- 1000' reel (41 put-up code)

CAROL BRAND UL LISTED CSA Certified Canadian Standard Association MSHA Mine Safety and Health Administration RoHS Compliant Directive 2002/95/EC Made in U.S.A. General Cable

Diesel Locomotive Cable 2000 Volts (EPR/XL-CPE)

UL RHH/RHW-2 2000 V and C(UL) RW90 1000 V
Flexible, Oil-, Sunlight- and Ozone-Resistant, Flame-Retardant, -40°C to 90°C

NOW WITH TRU-Mark® Footage Marking System PRECISION

Product Construction:

Conductor:
- 14 AWG (2.08 mm) thru 1111.1 kcmil (562 mm) Class I fully annealed flexible stranded tin coated copper per AAR 589

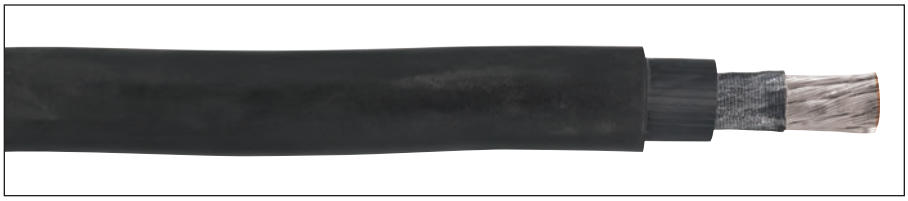
Insulation:
- Flame-retardant, lead-free cross-linked Ethylene Propylene (EP) with separator tape over the conductor to facilitate stripping

Jacket:
- Black, flame-retardant, sunlight-, ozone- and oil-resistant, lead-free Cross-linked Chlorinated Polyethylene (XL-CPE)

Print:
- GENERAL CABLE® (MFG LOCATION) DIESEL LOCOMOTIVE 2000 V P-07-KA120005-MSHA C(UL)US TYPE RHH OR RHW-2 VW-1 (SIZE) AWG/kcmil (mm²) EP FOR CT USE* SR (-40°C) FT4 OR RW90 EP 1000 V ROHS MONTH/YEAR OF MFG (TRU-MARK SEQUENTIAL FOOTAGE)

*Applicable for sizes 1/0 AWG and larger only

Options:
- Fully annealed, flexible bare copper stranding per AAR 589
- Other jacket colors available upon request



Applications:
- For use up to 2000 V as power cables in wind turbine generator applications per UL Subject 6140
- Diesel electric locomotives
- Mining and earth-moving equipment
- General purpose use as flexible power leads
- Flexible power leads in cable trays in sizes 1/0 AWG and larger
- Accepted for listing as flame-resistant by MSHA

Features:
- Rated 90°C wet or dry per UL 44/CSA C.22.2-38
- Flexible tinned copper stranding
- Excellent resistance to oils, gear lubricants, ozone, sunlight, heat and flame
- Designed to withstand continuous flexing
- TRU-Mark® sequential footage marking

Minimum Bend Radius:
- 8X O.D. for fixed installations or mobile applications

Torsion Requirements:
- +/-180° twists per meter for 5,000 cycles at -40°C with cable weight compensated to 18 meters

Compliances:
Industry Compliances:
- Type RHH/RHW-2 per UL 44, UL File # E90494
- c(UL)US Type RW90 per CSA C.22.2-38, UL File # E90494
- National Electrical Code (NEC)
- ICEA S-95-658/NEMA WC70
- "For CT Use" on 1/0 AWG and larger in accordance with NEC®
- Accepted for listing as flame-resistant by MSHA
- RoHS Compliant

Flame Test Compliances:
- UL 2556 VW-1
- IEEE 1202/CSA FT4 for sizes 1/0 AWG and larger

AC Withstand Voltage Testing requirements per UL 44:

14 - 10 AWG	6000 V
8 - 2 AWG	7500 V
1 - 4/0 AWG	9000 V
262.6 kcmil - 444 kcmil	10000 V
535.3 kcmil - 929.9 kcmil	11000 V
1111.1 kcmil	13500 V

CATALOG NUMBER	COND. SIZE AWG/ kcmil	COND. SIZE mm²	COND. STRAND	NOMINAL COND. O.D. INCHES	NOMINAL COND. O.D. mm	NOM. INS. THICKNESS INCHES	NOM. INS. THICKNESS mm	JACKET THICKNESS INCHES	JACKET THICKNESS mm	NOMINAL O.D. INCHES	NOMINAL O.D. mm	APPROX. NET WEIGHT LBS/1000 FT	APPROX. NET WEIGHT kg/km
5310.01014	14	2.08	19/.0147	0.070	1.8	0.045	1.1	0.015	0.4	0.20	5.1	30	45
5310.01012	12	3.31	19/.0185	0.088	2.2	0.045	1.1	0.015	0.4	0.22	5.6	39	58
5310.01010	10	5.26	27/24	0.117	3.0	0.045	1.1	0.015	0.4	0.25	6.4	56	83
5310.01008	8	8.36	37/24	0.144	3.7	0.055	1.4	0.030	0.8	0.33	8.3	87	129
5310.01006	6	13.3	61/24	0.190	4.8	0.060	1.5	0.030	0.8	0.38	9.7	131	195
5310.01004	4	21.1	105/24	0.262	6.7	0.060	1.5	0.030	0.8	0.46	11.7	202	301
5310.01002	2	33.6	158/24	0.315	8.0	0.060	1.5	0.030	0.8	0.51	13.0	285	424
5310.01001	1	42.4	224/24	0.375	9.5	0.080	2.0	0.045	1.1	0.64	16.3	417	621
5310.01110	1/0	53.5	280/24	0.435	11.0	0.080	2.0	0.045	1.1	0.70	17.8	494	735
5310.01210	2/0	67.4	329/24	0.465	11.8	0.080	2.0	0.045	1.1	0.73	18.5	587	874
5310.01310	3/0	85	456/24	0.535	13.6	0.080	2.0	0.045	1.1	0.80	20.3	718	1069
5310.01410	4/0	107	551/24	0.581	14.8	0.080	2.0	0.045	1.1	0.84	21.3	845	1258
5310.01262	262.6	133	650/24	0.617	15.7	0.090	2.3	0.065	1.7	0.94	23.9	1050	1563
5310.01313	313.3	158	777/24	0.671	17.0	0.090	2.3	0.065	1.7	1.00	25.3	1195	1778
5310.01373	373.7	189	925/24	0.735	18.7	0.090	2.3	0.065	1.7	1.06	26.9	1384	2060
5310.01444	444.4	225	1110/24	0.786	20.0	0.090	2.3	0.065	1.7	1.11	28.2	1634	2432
5310.01535	535.3	271	1332/24	0.877	22.3	0.090	2.3	0.065	1.7	1.20	30.5	1925	2865
5310.01646	646.4	327	1609/24	0.960	24.4	0.090	2.3	0.065	1.7	1.29	32.8	2307	3433
5310.01777	777.7	394	1924/24	1.054	26.8	0.090	2.3	0.065	1.7	1.38	35.1	2728	4060
5310.01929*	929.9	475	2318/24	1.230	31.2	0.090	2.3	0.065	1.7	1.56	39.6	3570	5313
5310.01111*	1111.1	562	2745/24	1.328	33.7	0.115	2.9	0.095	2.4	1.77	44.9	4232	6298

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

General Cable

Made in U.S.A.

RoHS Compliant Directive 2002/95/EC

MSHA Mine Safety and Health Administration

c UL LISTED UL LISTED

Specialty Cord 5

In today's world, the need for specialty cord products is constantly growing. General Cable offers a full line of Carol® Brand Cord products to meet a wide range of specialized applications.

Specialty Cord includes a wide range of hook-up wire, heater cord, lamp cord and fixture wire.

Like Carol® Brand Rubber, Plastic and Industrial Cord products, these cables carry the latest regulatory listings and certifications with Underwriters Laboratories, Inc. and the Canadian Standard Association where applicable.

Index **Page**

CarolGrene™ Ultra Flex® Jacketed Types EVJE, EVE, EVJT and EVT

105°C, 300 and 600 Volt, UL Electrical Vehicle Charging Cord

Product Construction:

Conductor:
- 18 through 6 AWG fully annealed stranded bare copper
- ASTM B3

Insulation:
- Premium-grade, color-coded 105°C Thermoplastic Elastomer for types EVJE & EVE
- PVC for types EVJT & EVT
- Color code: See chart below

Jacket:
- 105°C, black, Thermoplastic Elastomer for types EVJE & EVE
- 105°C, black, PVC for types EVJT & EVT
- Temperature range: -50°C to +105°C - TPE
  -40°C to +105°C - PVC

Jacket Marking:
- UL Type EVE - CAROLGRENE™ ULTRA FLEX® ELECTRIC VEHICLE CABLE -- (SIZE) E333326-8 (UL) EVE 105°C DRY 60°C WET 600 V FT2 - ROHS - MADE IN USA
- UL Type EVT - CAROLGRENE™ ELECTRIC VEHICLE CABLE -- (SIZE) E333326-8 (UL) EVT 105°C DRY 60°C WET 600 V FT2 - ROHS - MADE IN USA

Applications:
- Level 1 - 120 volt charging units
- Level 2 - 240 volt charging units
- Compatible with SAE J1772 EV plug standard
- UL 2594 and NEC 625 residential and commercial charging stations
- Ideal for charging electric vehicles (EV), neighborhood electric vehicles (NEV), battery electric vehicles (BEV), low-speed vehicles (LSV), personal electric vehicles (PEV), plug-in hybrid vehicles (PHV), and plug-in hybrid electric vehicles (PHEV)

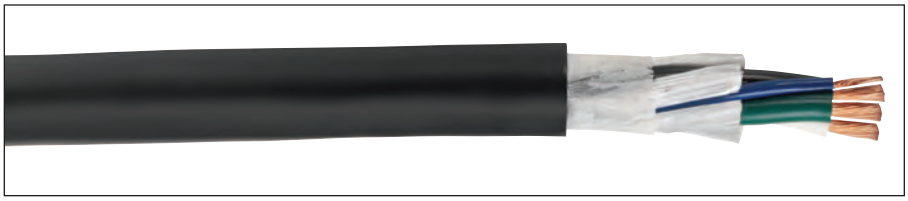
Features:
- Superior flexibility (EVE & EVJE)
- Lightweight
- Water-resistant
- Oil-resistant jacket
- Excellent molding characteristics
- Suitable for immersion in water
- UL Listed for outdoor use

Industry Approvals:
- UL 62 for Type EVE/EVJE/EVT/EVJT
- RoHS Compliant

Other sizes, conductor counts, and put-ups available on special order.

COLOR CODE CHART

CONDUCTORS	COLORS
POWER	Black, White, Green
SIGNAL	Blue



CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL COND. O.D.		NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS[1] [2]	APPROX. NET WT. LBS/M'[S]
				INCHES	mm	INCHES	mm	INCHES	mm		
TYPE EVJE, EVJT											
EVJE143	3	14	41/30	0.072	1.83	0.030	0.76	0.390	9.91	18	87
	1	18	16/30	0.048	1.22	0.030	0.76				
EVJE123	3	12	65/30	0.096	2.44	0.030	0.76	0.454	11.53	25	125
	1	18	16/30	0.048	1.22	0.030	0.76				
EVJT143*	3	14	41/30	0.072	1.83	0.030	0.76	0.390	9.91	18	89
	1	18	16/30	0.048	1.22	0.030	0.76				
EVJT123*	3	12	65/30	0.096	2.44	0.030	0.76	0.454	11.53	25	127
	1	18	16/30	0.048	1.22	0.030	0.76				
TYPE EVE, EVT - 600 VOLT - UL											
EVE1403	3	14	41/30	0.072	1.83	0.045	1.14	0.560	14.22	18	130
	1	18	16/30	0.048	1.22	0.030	0.76				
EVE1203	3	12	65/30	0.096	2.44	0.045	1.14	0.588	14.94	25	175
	1	18	16/30	0.048	1.22	0.030	0.76				
EVE1003	3	10	104/30	0.117	2.97	0.045	1.14	0.675	17.15	30	255
	1	18	16/30	0.048	1.22	0.030	0.76				
EVE0803	3	8	168/30	0.165	4.19	0.060	1.52	0.895	22.73	74	425
	1	18	16/30	0.048	1.22	0.030	0.76				
EVT1403*	3	14	41/30	0.072	1.83	0.045	1.14	0.560	14.22	18	140
	1	18	16/30	0.048	1.22	0.030	0.76				
EVT1203*	3	12	65/30	0.096	2.44	0.045	1.14	0.588	14.94	25	190
	1	18	16/30	0.048	1.22	0.030	0.76				
EVT1003*	3	10	104/30	0.117	2.97	0.045	1.14	0.675	17.15	30	275
	1	18	16/30	0.048	1.22	0.030	0.76				
EVT0803*	3	8	168/30	0.165	4.19	0.060	1.52	0.895	22.73	74	460
	1	18	16/30	0.048	1.22	0.030	0.76				

[1] Ampacities based on 90°C conductor and 30°C ambient temperature per Table 400.5(A)(1) and Table 400.5(A)(2) of the National Electrical Code®.
[2] Green conductor for grounding only.
* Non-stock item; minimum quantity purchase required.
[S] Actual shipping weight may vary.

CAROLGRENE™ UltraFlex®

General Cable

Made in U.S.A. RoHS Compliant Directive 2002/95/EC UL LISTED CAROL BRAND

CarolGrene™ Ultra Flex® Types EVJ and EV

90°C, 300 and 600 Volt, UL Electrical Vehicle Charging Cord

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL COND. O.D.		NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS(1) (2)	APPROX. NET WT. LBS/M'(S)
				INCHES	mm	INCHES	mm	INCHES	mm		
TYPE EVJ - 300 VOLT - UL											
EVJ143	3	14	41/30	0.072	1.83	0.030	0.76	0.390	9.91	18	87
	1	18	16/30	0.048	1.22	0.030	0.76				
EVJ123	3	12	65/30	0.096	2.44	0.030	0.76	0.455	11.56	25	125
	1	18	16/30	0.048	1.22	0.030	0.76				
TYPE EV - 600 VOLT - UL											
EV1403	3	14	41/30	0.072	1.83	0.045	1.14	0.545	13.84	18	130
	1	18	16/30	0.048	1.22	0.030	0.76				
EV1203	3	12	65/30	0.096	2.44	0.045	1.14	0.580	14.73	25	175
	1	18	16/30	0.048	1.22	0.030	0.76				
EV1003	3	10	104/30	0.117	2.97	0.045	1.14	0.630	16.00	30	255
	1	18	16/30	0.048	1.22	0.030	0.76				
EV0803	3	8	133/29	0.160	4.06	0.060	1.52	0.900	22.86	74	425
	1	18	16/30	0.048	1.22	0.030	0.76				
EV0608*	2	6	133/27	0.203	5.16	0.060	1.52	0.985	25.02	99	570
	1	8	133/29	0.160	4.06	0.060	1.52				
	1	18	16/30	0.048	1.22	0.030	0.76				

(1) Ampacities based on 90°C conductor and 30°C ambient temperature per Table 400.5(A)(1) and Table 400.5(A)(2) of the National Electrical Code®.
(2) Green conductor for grounding only.
* Non-stock item; minimum quantity purchase required.
(S) Actual shipping weight may vary.

Product Construction

Conductor:
- 18 through 2 AWG fully annealed stranded bare copper
- ASTM B3

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below

Jacket:
- Carolprene®, black

Jacket Marking:
- UL Type EV - CAROLGRENE™ ELECTRIC VEHICLE (SIZE) (mm²) EV E333326 (UL) 90°C DRY 60°C WET 600 V FT2 ROHS MADE IN USA

Applications:
- Level 1 - 120 volt charging units
- Level 2 - 240 volt charging units
- Compatible with SAE J1772 EV plug standard
- UL 2594 and NEC 625 residential and commercial charging stations.
- Ideal for charging electric vehicles (EV), neighborhood electric vehicles (NEV), battery electric vehicles (BEV), low-speed vehicles (LSV), personal electric vehicles (PEV), plug-in hybrid vehicles (PHV), and plug-in hybrid electric vehicles (PHEV)

Features:
- Superior flexibility in cold temperatures
- Lightweight
- Water-resistant
- Oil-resistant jacket
- 105°C rating also available
- Suitable for immersion in water
- UL Listed for outdoor use

Industry Approvals:
- UL 62 for Type EV and EVJ
- RoHS Compliant

Other sizes, conductor counts, and put-ups available on special order.

COLOR CODE CHART

CONDUCTORS	COLORS
POWER	Black, White, Green
SIGNAL	Blue

CAROLGRENE™ UltraFlex®

CAROL BRAND UL LISTED RoHS Compliant Directive 2002/95/EC Made in U.S.A.

General Cable

Heater Cord Type HPN

90ºC, 300 Volt, UL/CSA Portable Cord

Product Construction:

Conductor:
- 18 through 16 AWG fully annealed stranded bare copper

Insulation/Jacket:
- Carolprene®, black
- Temperature range: -20°C to +90°C

Jacket Marking:
- CAROL 2/C (SIZE) (mm^2) TYPE HPN (UL) E-11368 HEATER CORD 90°C CSA FT2 LL-9993 - CPE 300 VOLT MADE IN USA

Applications:
- Portable heaters
- Toasters
- Irons
- Soldering irons
- Paint removers
- Other heat-related applications for industrial, commercial and home use

Features:
- Heat-resistant
- Oil-resistant

Industry Approvals:
- UL Listed
- CSA Certified

Packaging:
- 250' (76.2 m) spools
- Other put-ups available on special order

TYPE HPN - 300 VOLT - UL/CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		CURRENT AMPS*	APPROX. NET WT. LBS/M'(S)	STD. CTN.
				INCHES	mm	INCHES	mm			
25202	2	18	41/34	0.045	0.76	0.145 X 0.285	3.68 X 7.24	10	31	1000'
25212	2	16	65/34	0.045	1.14	0.155 X 0.300	3.94 X 7.62	15	38	1000'

(S) Actual shipping weight may vary.

* Ampacities based on NEC Table 400.5(A)(1).

Hook-Up Wire UL Types MTW, TFF, AWM and CSA TEW

90ºC, 600 Volt, MTW, TFF, 105ºC, 1000 Volt, AWM/TEW

UL TYPE MTW, AWM, TFF, CSA TYPE TEW - 600 VOLT

CATALOG NUMBER	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		STOCK COLORS	APPROX. NET WT. LBS/M[1](S)
			INCHES	mm	INCHES	mm		
76502	18	16/30	0.031	0.79	0.110	2.79	1-12	10
76512	16	26/30	0.031	0.79	0.123	3.12	1-12	14
76812	14	19/.0147	0.031	0.79	0.136	3.45	1-12	20
76822	12	19/.0185	0.031	0.79	0.155	3.94	1-7	28
76832	10	19/.0234	0.031	0.79	0.176	4.47	1-5	42
76843	8	19/.0295	0.045	1.14	0.242	6.15	1-5	72

(S) Actual shipping weight may vary.

Product Construction:

Conductor:
- 18 through 8 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded PVC
- Temperature range:
  MTW: -40ºC to +90ºC
  TEW/AWM: -20ºC to +105ºC
- Color code: See chart below

Jacket Marking:
- 18 and 16 AWG:
  CAROL (SIZE) 600 V E# MTW (UL) OR TFF ---
  AWM VW-1 --- CSA TEW 105°C FT1
- 14 through 8 AWG:
  CAROL (SIZE) 600 V E# MTW (UL) ---
  AWM VW-1 --- CSA TEW 105°C FT1

Applications:
- Motor and transformer lead
- External wiring of machinery

Features:
- Outstanding oil, flame and moisture resistance
- Extra-flexible

Industry Approvals:
- UL Type MTW/AWM
- CSA TEW
- Passes VW-1 Vertical Flame Test
- OSHA Acceptable
- AWM Style 1015 – 18-8 AWG
- AWM Style 1335 – 18-10 AWG
- AWM Style 1336 – 8 AWG
- AWM Style 1032
- RoHS Compliant

Packaging:
- 18 and 16 AWG:
  500' (152.4 m) spools
  2500' (762 m) spools
- 14 through 10 AWG:
  500' (152.4 m) spools
  2500' (762 m) reels
- 8 AWG: 500' (152.4 m) reels
- Other put-ups available on special order

COLOR CODE CHART

STOCK COLORS	ORDERING SUFFIX	STOCK COLORS	ORDERING SUFFIX
Black	01	**Orange**	04
White	02	**Brown**	08
Red	03	**Purple**	19
Blue	07	**Gray**	10
Green	06	**Pink**	13
Yellow	05		

UL LISTED
Certified Canadian Standard Association
Recognized Component Underwriters Laboratories Inc.
Passes UL VW-1 Flame Test Underwriters Laboratories, Inc.

CAROL BRAND
RoHS Compliant Directive 2002/95/EC
Made in U.S.A.
General Cable

Heavy Wall UL Types MTW, AWM and NEC Type THW

90°C, 600 Volt

Product Construction:

Conductor:
- 6 and 4 AWG fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded PVC, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- CAROL A (AWG SIZE) 600 V E# MTW OR THW (UL) --- AWM

Applications:
- Motor and transformer lead
- External wiring of machinery

Features:
- Outstanding oil, flame and moisture resistance
- Extra-flexible

Industry Approvals:
- UL Type AWM
- UL and NMTBA Type MTW
- NEC Type THW
- Passes UL VW-1 Vertical Flame Test
- RoHS Compliant

Packaging:
- 500' (152.4 m) reels
- Other put-ups available on special order

AWM, MTW, THW - 600 VOLT - UL

CATALOG NUMBER	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		APPROX. NET WT. LBS/M'(S)
			INCHES	mm	INCHES	mm	
76954	6	19/.0372	0.064	1.63	0.315	8.00	110
76994	4	19/.0469	0.065	1.65	0.365	9.27	150

(S) Actual shipping weight may vary.

Lamp Cord Type SPT

60°C, 300 Volt, UL/CSA

TYPE SPT-1

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOM. INSULATION THICKNESS		NOMINAL O.D.		CURRENT AMPS(1)	APPROX. NET WEIGHT LBS/M(S)	JACKET COLOR CHART
				INCHES	mm	INCHES	mm			
02301	2	18	41/34	0.030	0.76	0.107 X 0.210	2.72 X 5.330	10	22	A
02304	2	18	41/34	0.030	0.76	0.107 X 0.210	2.72 X 5.330	10	22	D
02305	2	18	41/34	0.030	0.76	0.107 X 0.210	2.72 X 5.330	10	22	C
02306	2	18	41/34	0.030	0.76	0.107 X 0.210	2.72 X 5.330	10	22	B

TYPE SPT-2

CATALOG NUMBER	NO. OF COND.	AWG SIZE	COND. STRAND	NOM. INSULATION THICKNESS		NOMINAL O.D.		CURRENT AMPS(1)	APPROX. NET WEIGHT LBS/M(S)	JACKET COLOR CHART
				INCHES	mm	INCHES	mm			
02303	2	16	65/34	0.045	1.14	0.155 X 0.295	3.94 X 7.490	13	37	A

(1) Ampacities based on NEC Table 400.5(A)(1).
(S) Actual shipping weight may vary.

Product Construction:

Conductor:
- 18 and 16 AWG fully annealed bare or tinned copper

Insulation:
- Premium-grade, color-coded PVC
- Temperature range: -20°C to +60°C
- Color code: See chart below

Jacket Marking:
- E# (UL) (NO. COND) (SIZE) (mm²) SPT-1 (or STP-2) 60°C FT2 300 VOLT CSA LL69381 RoHS

Applications:
- Small appliances
- Lamps
- Radios
- Jukeboxes

Industry Approvals:
- UL Listed
- CSA Certified
- RoHS Compliant

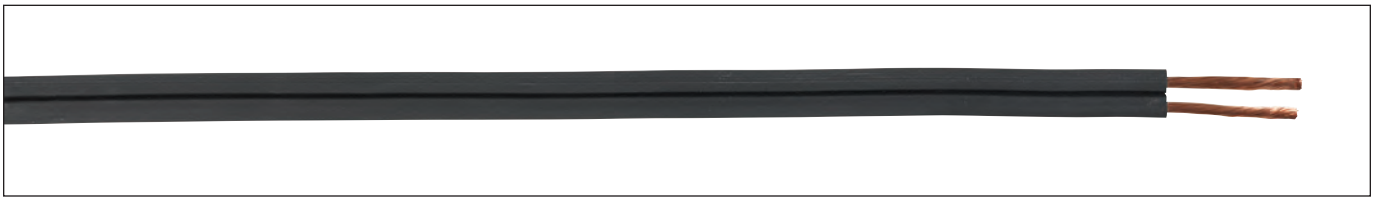
Packaging:
- 250' (76.2 m) spools
- Other put-ups available on special order

JACKET COLOR CODE CHART

A	Black or White or Brown
B	Clear Silver (tinned copper)
C	Clear Gold
D	Clear

Low-Voltage Landscape Lighting Wire

60ºC, 150 Volt, UL; 60ºC, 30 Volt, CSA



LOW-VOLTAGE LANDSCAPE LIGHTING WIRE - 150 VOLT - UL; 30 VOLT - CSA

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FEET)	COND. STRAND	NOM. INS. THICKNESS		NOMINAL O.D.		POWER RATING[1]			PKG. PER CTN.	APPROX. WEIGHT PER CTN. (LBS)[S]
					INCHES	mm	INCHES	mm	VOLTS	AMPS	WATTS		
02309.66.01	2	16	50	26/30	0.045	1.14	0.155 X 0.296	3.94 X 7.52	150	13	1950	12	27
02309.67.01	2	16	100	26/30	0.045	1.14	0.155 X 0.296	3.94 X 7.52	150	13	1950	12	44
02309.18.01	2	16	500	26/30	0.045	1.14	0.155 X 0.296	3.94 X 7.52	150	13	1950	1	19
02310.66.01	2	14	50	41/30	0.045	1.14	0.170 X 0.354	4.32 X 8.99	150	18	2700	8	25
02310.67.01	2	14	100	41/30	0.045	1.14	0.170 X 0.354	4.32 X 8.99	150	18	2700	8	45
02310.18.01	2	14	500	41/30	0.045	1.14	0.170 X 0.354	4.32 X 8.99	150	18	2700	1	37
02311.18.01	2	12	500	65/30	0.045	1.14	0.190 X 0.385	4.83 X 9.78	150	25	3750	1	58
02311.66.01	2	12	50	65/30	0.045	1.14	0.190 X 0.385	4.83 X 9.78	150	25	3750	8	30
02311.67.01	2	12	100	65/30	0.045	1.14	0.190 X 0.385	4.83 X 9.78	150	25	3750	8	59
02312.38.01	2	10	500	19/.0234	0.045	1.14	0.400 X 0.200	10.16 X 5.08	150	30	4500	1	52
02313.38.01	2	8	500	19/.0295	0.060	1.52	0.270 X 0.550	6.86 X 13.97	150	55	8250	1	165

[1] Amps and watts are offered ONLY as a guide to the end user.
[S] Actual shipping weight may vary.

Product Construction:

Conductor:
- 8 through 16 AWG fully annealed stranded bare copper per ASTM B3

Insulation:
- Premium-grade PVC, black
- Duplex parallel design for easy tear-down during installation
- Polarity ridge on one leg for positive circuit identification
- Temperature range: -20ºC to +60ºC

Jacket Marking:
- CAROL (SIZE) UNDERGROUND LOW ENERGY CIRCUIT CABLE SUNLIGHT RESISTANT FOR LOW VOLTAGE OUTDOOR LIGHTING E# (UL) -- CSA LL# LVLL 30 V FT1

Applications:
- Low-voltage landscape lighting
- Low-voltage security lighting

Industry Approvals:
- UL Listed underground low-energy circuit cable
- UL Listed for outdoor applications
- UL Listed for direct burial applications
- CSA Approved
- RoHS Compliant

Packaging:
- Both 50' and 100' lengths are packaged in a sleeve
- 500' (513.4 m) spools
- Other put-ups available on special order

General Cable

Made in U.S.A. RoHS Compliant Directive 2002/95/EC Certified Canadian Standard Association UL LISTED CAROL BRAND

Low-Voltage Sprinkler Wire

60°C, 30 Volt, UL

LOW-VOLTAGE SPRINKLER WIRE - 30 VOLT - UL

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FEET)	PACKAGE TYPE	POWER RATING[1]			PKG. PER CTN.	APPROX. WEIGHT PER CTN. (LBS)[S]
					VOLTS	AMPS	WATTS		
23824.60.01	4	18	100	Cuff	30	5.6	168	6	22
23804.18.01	4	18	500	Spool	30	5.6	168	1	18
23815.60.01	5	18	50	Cuff	30	5.6	168	6	13
23825.60.01	5	18	100	Cuff	30	5.6	168	6	27
23805.18.01	5	18	500	Spool	30	5.6	168	1	22
23817.60.01	7	18	50	Cuff	30	4.9	147	6	18
23827.60.01	7	18	100	Cuff	30	4.9	147	6	36
23807.18.01	7	18	500	Spool	30	4.9	147	1	31
23810.18.01	10	18	500	Reel	30	3.5	165	1	44

[1] Amps and watts are offered ONLY as a guide to the end user.
[S] Actual shipping weight may vary.

Product Construction:

Conductor:
- 18 AWG fully annealed solid bare copper per ASTM B3

Insulation:
- Premium-grade, color-coded PVC
- Premium-grade PE jacket, black
- Nylon rip cord to facilitate jacket removal
- Temperature range: -20°C to +60°C
- Color code: See chart below

Jacket Marking:
- CAROL (SIZE) 30 V SPRINKLER SYSTEMS WIRE - DIRECT BURIAL E54567 (UL)

Applications:
- Low-voltage golf course satellite sprinkler control
- Residential sprinkler solenoid control

Industry Approvals:
- UL Listed under a UL Miscellaneous Wire file
- UL Listed for outdoors applications
- UL Listed for direct burial applications
- RoHS Compliant

Packaging:
- See tabular data above
- Other put-ups available on special order

COLOR CODE CHART

1	Black	**4**	Green	**7**	Blue	**10**	Purple
2	White	**5**	Orange	**8**	Brown		
3	Red	**6**	Yellow	**9**	Gray		

CAROL BRAND · UL LISTED · RoHS Compliant Directive 2002/95/EC · Made in U.S.A. · General Cable

Outdoor Extension Cords 6

General Cable, under the Carol® Brand name, offers a complete line of high-quality Outdoor Extension Cords designed to provide the best electrical performance for your application.

Carol's FrogHide® Ultra Flex® extension cords are the most flexible, durable rubber outdoor cords on the market with a name you won't forget. FrogHide cords are molecularly bonded to the caps and connectors, with heavy-duty strain reliefs built in for lasting strength, even in rough applications. Plus, they are resistant to water, oil, ozone and chemicals. FrogHide cords feature an exclusive personal identification system, so you can claim them as your own. They are easy to spot on the job, thanks to the bold, bright green color. FrogHide extension cords come with a limited lifetime warranty.

Lifetime Plus® Super Flex® extension cords have a connector end that lights up to indicate the power is on. Twice as flexible as other extension cords, the high- visibility yellow cord resists moisture and will not crack in arctic cold or melt in desert heat. The super-tough jacket provides extra resistance to cracking and abrasion. Lifetime Plus extension cords remain flexible to -50˚C.

The Carol line of All Weather extension cords and High Visibility All Weather extension cords are designed for excellent performance, even in freezing temperatures. These blue outdoor cords remain flexible to -50˚C.

Safety Orange® general-purpose outdoor extension cords and Powr-Centers® are basic necessities for every household tool box. The familiar orange jacket provides excellent visibility for improved safety on the job.

FrogHide® Ultra Flex® Extension Cords

3-Conductor Grounded • Type SJOW • -40°C to 90°C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
06425.63.06	3	14	25	Green	125	15	1875	10	3.0	30	079407064250
06450.63.06	3	14	50	Green	125	15	1875	6	6.0	36	079407064502
06400.63.06	3	14	100	Green	125	13	1625	4	11.4	46	079407064007
06225.61.06	3	12	25	Green	125	15	1875	6	4.3	26	079407062256
06250.61.06	3	12	50	Green	125	15	1875	4	7.9	32	079407062508
06200.61.06	3	12	100	Green	125	15	1875	2	15.9	32	079407062003

Product Description:

Carol® Brand FrogHide® Ultra Flex® extension cords are the most flexible, durable rubber outdoor cords on the market with a name you won't forget. FrogHide cords are molecularly bonded to the caps and connectors with heavy-duty strain reliefs built-in for lasting strength, even in rough applications. Plus, they are resistant to water, oil, ozone and chemicals. FrogHide cords feature an exclusive personal identification system, so you can claim them as your own. They are easy to spot on the job, thanks to the bold, bright green color. FrogHide extension cords come with a limited lifetime warranty.

Product Warranty:

Carol® Brand FrogHide® Ultra Flex®
Limited Lifetime Warranty

This product is covered by a limited lifetime warranty against manufacturing defects. If you are not satisfied with this cord, return it with the original packaging to General Cable, 4 Tesseneer Drive, Highland Heights, KY 41076 for evaluation. This warranty does not cover damage to the cord from long-term use, abuse or from failure to follow electrical codes, laws and regulations relating to building or construction, including Article 305 of the National Electrical Code®. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Product Construction:

Conductor:
- 14 AWG or 12 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded 90°C EPDM

Jacket:
- CPE; green
- Temperature range: -40°C to 90°C
- Voltage rating: 300 volts

NEMA Configuration:
- 5-15P/5-15R

Applications:
- Chain saws
- Wet/dry vacs
- Orbital sanders
- Other outdoor equipment

Features:
- New technology molecularly bonds cap and connector
- Ultra-flexible
- Heavy-duty strain relief
- Personal identification system
- Resistant to water, oil, ozone and chemicals
- Limited lifetime warranty
- 3-conductor grounded

Industry Approvals:
- UL Listed
- OSHA Acceptable

CAROL BRAND UL LISTED OSHA Acceptable Occupational Safety and Health Administration

General Cable

Lifetime Plus® Super Flex® Lighted Extension Cords

3-Conductor Grounded • Type SJTW • -50ºC to 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
03387.63.05	3	16	25	Yellow	125	13	1625	12	1.7	20	079407033874
03390.63.05	3	14	25	Yellow	125	15	1875	12	2.5	30	079407033904
03391.63.05	3	14	50	Yellow	125	15	1875	6	4.7	28	079407033911
03392.63.05	3	14	100	Yellow	125	13	1625	4	9.2	37	079407033928
03397.61.05	3	12	25	Yellow	125	15	1875	6	3.7	22	079407033973
03398.61.05	3	12	50	Yellow	125	15	1875	4	7.0	28	079407033980
03399.61.05	3	12	100	Yellow	125	15	1875	2	13.1	26	079407033997

Product Description:

Lifetime Plus® Super Flex® extension cords have a connector end that lights up to indicate the power is on. Twice as flexible as other extension cords, the high-visibility yellow cord resists moisture and will not crack in arctic cold or melt in desert heat. The super-tough jacket provides extra resistance to cracking and abrasion. The Lifetime Plus extension cords have a limited lifetime warranty and remain flexible to -50˚C.

Product Construction:

Conductor:
- 16 AWG, 14 AWG or 12 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; yellow
- Temperature range: -50˚C to 60˚C
- Voltage rating: 300 volts

NEMA Configuration:
- 5-15P/5-15R

Applications:
- Chain saws
- Wet/dry vacs
- Orbital sanders
- Other outdoor equipment

Features:
- Lights up with power
- Super-flexible
- Weather- and water-resistant
- Limited lifetime warranty
- 3-conductor grounded

Industry Approvals:
- UL Listed
- OSHA Acceptable

Safety Orange® Extension Cords

3-Conductor Grounded • Type SJTW • -40ºC to 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
03318.63.04	3	16	10	Orange	125	13	1625	24	0.8	19	079407033188
03327.63.04	3	16	25	Orange	125	13	1625	24	1.8	43	079407033270
03354.63.04	3	16	50	Orange	125	13	1625	12	3.4	40	079407033546
03302.63.04	3	16	100	Orange	125	10	1250	4	6.6	26	079407033027
03328.63.04	3	14	25	Orange	125	15	1875	6	2.4	14	079407033287
03356.63.04	3	14	50	Orange	125	15	1875	4	4.6	18	079407033560
03304.63.04	3	14	100	Orange	125	13	1625	2	9.0	18	079407033041
06826.63.04	3	12	25	Orange	125	15	1875	4	3.4	14	079407068265
06853.63.04	3	12	50	Orange	125	15	1875	2	6.6	13	079407068531
06801.63.04	3	12	100	Orange	125	15	1875	2	13.0	26	079407068012

Product Construction:

Conductor:
- 16 AWG through 12 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; orange
- Temperature range: -40˚C to 60˚C
- Voltage rating: 300 volts

NEMA Configuration:
- 5-15P/5-15R

Applications:
- General use indoor/outdoor cord
- Vacuum cleaners
- Floor polishers
- Sanders
- Other power equipment

Features:
- Indoor/outdoor use
- 3-conductor grounded

Industry Approvals:
- UL Listed
- OSHA Acceptable

CAROL BRAND® UL® LISTED OSHA Acceptable Occupational Safety and Health Administration

General Cable

Outdoor Powr-Center® Extension Cords

3-Conductor Grounded • Type STW, SJEOOW and SJTW • -40°C to 60°C • 300 and 600 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
STW-600 V											
00594.63.04	3	12	2	Orange	125	15	1875	6	1.0	6	079407005949
00596.61.04	3	12	50	Orange	125	15	1875	2	11.1	22	079407005963
00597.61.04	3	12	100	Orange	125	15	1875	2	21.7	43	079407005970
SJTW-300 V											
00690.63.04	3	14	10	Orange	125	15	1875	12	1.2	15	079407006908
00691.63.04	3	14	25	Orange	125	15	1875	6	2.6	16	079407006915
00692.63.04	3	14	50	Orange	125	15	1875	4	4.7	19	079407006922
00694.63.04	3	12	10	Orange	125	15	1875	12	1.8	22	079407006946
00696.63.04	3	12	50	Orange	125	15	1875	2	7.0	14	079407006960
00697.63.04	3	12	100	Orange	125	15	1875	2	13.4	27	079407006977
SJEOOW-300 V											
00790.63.07	3	14	10	Blue	125	15	1875	12	1.3	16	079407007905
00791.63.07	3	14	25	Blue	125	15	1875	6	2.7	16	079407007912
00792.63.07	3	14	50	Blue	125	15	1875	4	4.8	19	079407007929
00793.63.07	3	14	100	Blue	125	13	1625	2	9.0	18	079407007936
00787.63.05	3	12	50	Yellow	125	15	1875	2	6.5	13	079407007875
00788.63.05	3	12	100	Yellow	125	15	1875	2	13.0	26	079407007882

Product Construction:

Conductor:
- 14 AWG or 12 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; orange, TPE; blue or yellow
- Temperature range: -40°C to 60°C
- Voltage rating: 300 and 600 volts

NEMA Configuration:
- 5-15P/5-15R

Applications:
- General use indoor/outdoor cord
- Chain saws
- Wet/dry vacs
- Orbital sanders
- Other power equipment

Features:
- Indoor/outdoor use
- 3 grounded outlets

Industry Approvals:
- UL Listed
- OSHA Acceptable

General Cable

OSHA Acceptable Occupational Safety and Health Administration

UL LISTED

CAROL BRAND

All Weather Extension Cords

3-Conductor Grounded • Type SJEOOW • -50˚C to 105˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
03654.63.07	3	16	25	Blue	125	13	1625	4	1.8	7	079407036547
03655.63.07	3	16	50	Blue	125	13	1625	4	3.2	13	079407036554
03660.63.07	3	14	25	Blue	125	15	1875	4	2.2	9	079407036608
03661.63.07	3	14	50	Blue	125	15	1875	4	4.3	17	079407036615
03662.63.07	3	14	100	Blue	125	13	1625	2	8.0	16	079407036622
03667.63.07	3	12	50	Blue	125	15	1875	2	6.5	13	079407036677
03668.63.07	3	12	100	Blue	125	15	1875	2	12.5	25	079407036684

Product Description:

The Carol® line of All Weather Extension Cords are designed for excellent performance, even in freezing temperatures. The blue outdoor cords remain flexible and resist cracking to -50˚C.

Product Construction:

Conductor:
- 16 AWG through 12 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- TPE; blue
- Temperature range: -50˚C to 105˚C
- Voltage rating: 300 volts

NEMA Configuration:
- 5-15P/5-15R

Applications:

- Snow blowers
- Engine heaters
- Battery chargers
- Other outdoor equipment

Features:

- Flexible from -50˚C to 105˚C
- For harsh weather conditions
- 3-conductor grounded

Industry Approvals:

- UL Listed
- OSHA Acceptable

High Visibility All Weather Extension Cords

3-Conductor Grounded • Type SJEOOW • -50˚C to 105˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
03685.61.05	3	10	50	Yellow	125	15	1875	2	12.5	25	079407036851
03686.61.05	3	10	100	Yellow	125	15	1875	2	24.5	49	079407036868

Product Construction:

Conductor:
- 10 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded premium PVC

Jacket:
- TPE; yellow
- Temperature range: -50˚C to 105˚C
- Voltage rating: 300 volts

NEMA Configuration:
- 5-15P/5-15R

Applications:

- Heavy construction equipment
- Air compressors
- Circular saws
- Generators

Industry Approvals:

- UL Listed
- OSHA Acceptable

CAROL BRAND

UL LISTED

OSHA Acceptable Occupational Safety and Health Administration

General Cable

Application-Specific Extension Cords 7

General Cable offers a complete line of Power Supply Replacement Cords for use with power tools and household appliances. The three-conductor cords have either right angle or straight caps with a variety of plug configurations. The free ends are conveniently slit for ease of connection.

Carol® Brand Range Cords and Dryer Cords are available in three-wire and four-wire constructions, with an assortment of plug configurations. They are designed to accommodate virtually any household oven/range or clothes dryer.

Carol offers a wide assortment of Major Appliance Extension Cords with a variety of plug and cap configurations for use with air conditioners, refrigerators, freezers, microwave ovens, dehumidifiers and other large household appliances.

Pro Flex® Rubber Extension Cords

3-Conductor Grounded • Type SJ • 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS					
06610.63.01	3	16	10	Black	125	13	1625	5-15P/5-15R	24	0.7	17	079407066100
06625.63.01	3	16	25	Black	125	13	1625	5-15P/5-15R	24	1.7	40	079407066254
06911.63.01	3	14	25	Black	125	15	1875	5-15P/5-15R	6	2.3	14	079407069118

Product Construction:

Conductor:
- 16 AWG through 14 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded EPDM

Jacket:
- CPE; black
- Temperature: 60˚C
- Voltage rating: 300 volts

Applications:
- Floor polishers
- Sanders

Features:
- General use indoor cord
- 3-conductor grounded

Industry Approvals:
- UL Listed
- OSHA Acceptable for indoor use

Coiled Power Tool Extension Cords and Power Supply Cords

2 and 3 Conductor • Type SJT • 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS					
06014.60.04	3	16	10	Orange	125	13	1625	5-15P/5-15R	10	1.1	11	079407060146
02551.70.01	3	16	12	Black	125	15	1875	5-15P	10	1.1	11	079407025510

Product Construction:

Conductor:
- 16 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; orange or black
- Voltage rating: 300 volts

Applications:
- Workshop and tool bench use

Features:
- Coiled cord expands from 3’ to 10’ or 12’
- Right-angle plug helps prevent the cord from being pulled from the socket

Features (cont’d.):
- 06014.60.04 and 02551.70.01 are 3-conductor grounded

Industry Approvals:
- UL Listed
- OSHA Acceptable

Power Supply Replacement Cords with Switch

3-Conductor Grounded • Type SJ • 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	SWITCH SPEED	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS						
02332.70.01	3	16	10	Black	125	10	1250	5-15P	1 Speed (On/Off)	25	0.9	22	079407023325
02333.70.01	4	16	10	Black	125	10	1250	5-15P	2 Speed (On/High/Low)	25	0.9	22	079407023332

Product Construction:

Conductor:
- 16 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded EPDM

Jacket:
- CPE; black

Applications:
- For replacement use
- For fan replacements

Features:
- Switch
- Straight plug
- Conductor stripped 5/8”
- Jacket removed 2”

Industry Approvals:
- UL Listed
- CSA

CAROL BRAND® UL LISTED

General Cable

Power Supply Replacement Cords

3-Conductor Grounded • Type SJ, SJOW and SJOOW • 60˚C • 300 Volts

CATALOG NUMBER	CORD TYPE	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PLUG CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
						VOLTS	AMPS	WATTS						
02685.70.01	SJOOW	3	18	8	Black	125	10	1250	5-15P	Straight	25	0.6	14	079407026852
02686.70.01	SJOW	3	16	8	Black	125	13	1625	5-15P	Straight	35	0.7	24	079407026869
04932.70.01	SJ	3	16	12	Black	125	13	1625	5-15P	Straight	50	0.8	40	079407049325
04929.70.01	SJ	3	16	9	Black	125	13	1625	5-15P	Straight	50	0.6	30	079407049295
04926.70.01	SJ	3	16	6	Black	125	13	1625	5-15P	Straight	50	0.6	28	079407049264

Product Construction:

Conductor:
- 18 AWG or 16 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded EPDM

Jacket:
- CPE; black

Applications:
- For replacement use

Features:
- For replacement use
- Straight plug

Industry Approvals:
- UL Listed
- CSA

Power Supply Replacement Cords

2 and 3 Conductor • Type SJT and ST • 60˚C • 300 Volts and 600 Volts

CATALOG NUMBER	CORD TYPE	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PLUG CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
						VOLTS	AMPS	WATTS						
300 Volt														
02523.73.01	SJT	3	18	3	Black	125	10	1250	5-15P	Straight	50	0.2	12	079407025237
01364.70.01	SJT	3	18	8'2"	Black	125	10	1250	5-15P	Straight	50	0.5	25	079407213641
02052.70.01	SJT	3	18	12	Black	125	10	1250	5-15P	Straight	50	0.7	36	079407020522
02524.73.01	SJT	3	16	3	Black	125	13	1625	5-15P	Straight	50	0.3	14	079407025244
02547.70.01	SJT	3	16	6	Black	125	13	1625	5-15P	Straight	25	0.5	13	079407018444
01513.70.01	SJT	3	16	8'2"	Black	125	13	1625	5-15P	Straight	45	0.7	32	079407315130
04949.60.10	SJT	3	16	9	Gray	125	13	1625	5-15P	Straight	50	0.7	35	079407049493
01614.70.01	SJT	3	16	12	Black	125	13	1625	5-15P	Straight	50	0.9	44	079407016143
01278.70.01	SJT	2	16	8	Black	125	13	1625	1-15P	Straight	30	0.5	14	079407012787
01950.70.01	SJT	3	14	8	Black	125	15	1875	5-15P	Straight	50	0.8	41	079407019502
600 Volt														
01951.70.01	ST	3	12	8	Black	125	15	1875	5-15P	Straight	25	1.8	45	079407719518

With Switch	CORD TYPE	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PLUG CONFIG.	SWITCH SPEED	PKG. PER CTN.	WT./UNIT LBS	WT./CTN. LBS	UPC CODE
						VOLTS	AMPS	WATTS							
01732.70.01	SJT	3	18	8	Black	125	10	1250	5-15P	Straight	1 Speed (On/Off)	25	0.7	18	079407017324
02053.70.01	SJT	3	18	12	Black	125	10	1250	5-15P	Straight	1 Speed (On/Off)	15	0.8	12	079407020539

With Strain Relief	CORD TYPE	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PLUG CONFIG.	STRAIN RELIEF	PKG. PER CTN.	WT./UNIT LBS	WT./CTN. LBS	UPC CODE
						VOLTS	AMPS	WATTS							
02548.70.01	SJT	3	16	6	Black	125	13	1625	5-15P	Straight	7" From Free End	25	0.5	13	079407025480

With Receptacle Only	CORD TYPE	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	RECEPTACLE CONFIG.	PKG. PER CTN.	WT./UNIT LBS	WT./CTN. LBS	UPC CODE
						VOLTS	AMPS	WATTS						
04530.73.01	SJT	3	16	3	Black	125	13	1625	5-15R	Straight	50	0.2	9	079407045303

Product Construction:

Conductor:
- 18 AWG through 12 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; black or gray

Applications:
- For replacement use

Features:
- Straight plug
- Conductor stripped 5/8”
- Jacket removed 1 1/2”

Industry Approvals:
- UL Listed
- CSA

General Cable

Certified Canadian Standard Association

UL LISTED

CAROL BRAND

Range Cords

Type SRDT • 50 Amps • 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS					
05604.63.10	3	2#6 & 1#8	4	Gray	250	50	12500	10-50P	12	1.8	22	079407056040
05606.63.10	3	2#6 & 1#8	6	Gray	250	50	12500	10-50P	12	2.6	31	079407056064
00604.63.01	4	2#6 & 2#8	4	Black	250	50	12500	14-50P	12	2.2	27	079407006045
00606.63.01	4	2#6 & 2#8	6	Black	250	50	12500	14-50P	6	3.2	19	079407006069

Product Construction:

Conductor:
- 8 AWG through 6 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade PVC; black or gray

Applications:
- Ranges in homes built prior to 1997 (3-conductor)
- Ranges in homes built after 1997 (4-conductor)

Features:
- Right-angle cap
- Eyelet ends for safer hookups
- Strain-relief clamp protects cord from damage caused by pulling or stretching

Industry Approvals:
- UL Listed

Dryer Cords

Type SRDT • 30 Amps • 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS					
05654.63.10	3	3#10	4	Gray	250	30	7500	10-30P	12	1.2	14	079407056545
05656.63.10	3	3#10	6	Gray	250	30	7500	10-30P	12	1.5	18	079407056569
01004.63.01	4	4#10	4	Black	250	30	7500	14-30P	12	1.5	18	079407010042
01006.63.01	4	4#10	6	Black	250	30	7500	14-30P	6	2.1	12	079407010066

Product Construction:

Conductor:
- 10 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; black or gray

Applications:
- Dryers in homes built prior to 1997 (3-conductor)
- Dryers in homes built after 1997 (4-conductor)

Features:
- Right-angle cap
- Eyelet ends for safer hookups

Features (cont'd):
- Strain-relief clamp protects cord from damage caused by pulling or stretching

Industry Approvals:
- UL Listed
- Meets revised 1997 NEC requirements

Air Conditioner Replacement Cords

3-Conductor Grounded • Type SPT-3 • 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PLUG CONFIG.	NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS						
04194.60.17	3	14	3	Beige	125	15	1875	Straight	5-15P	24	0.3	8	079407041947
04195.60.17	3	14	6	Beige	125	15	1875	Straight	5-15P	24	0.6	15	079407041657
04199.60.17	3	12	6	Beige	250	20	5000	Right Angle	6-20P	24	0.9	22	079407041992

Product Construction:

Conductor:
- 12 AWG and 14 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; beige

Applications:
- For replacement use with air conditioners

Features:
- Conductor stripped 5/8"
- Free end slit 1 1/2"

Industry Approvals:
- UL Listed

CAROL BRAND UL LISTED

General Cable

Major Appliance Cords

3-Conductor Grounded • Type SPT-3 • 15 and 20 Amps • 60˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS					
00436.63.17	3	14	6	Beige	125	15	1875	5-15P/5-15R	24	0.6	15	079407004362
00439.63.17	3	14	9	Beige	125	15	1875	5-15P/5-15R	24	0.9	21	079407004393
00442.63.17	3	14	12	Beige	125	15	1875	5-15P/5-15R	12	1.2	14	079407004423
00762.63.17	3	12	9	Beige	250	20	5000	6-20P/6-20R	24	1.4	34	079407007622
00772.63.17	3	12	9	Beige	125	20	2500	5-20P/5-20R	24	1.4	34	079407007721

Product Construction:

Conductor:
- 12 and 14 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade PVC; beige

Applications:
- Air conditioners
- Refrigerators
- Freezers
- Microwaves
- Dehumidifiers

Features:
- Molded right-angle plug

Industry Approvals:
- UL Listed

Power Supply Replacement Cords

3-Conductor Grounded • Type SPT-1 and SPT-3 • 60˚C • 300 Volts

CATALOG NUMBER	CORD TYPE	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PLUG CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
						VOLTS	AMPS	WATTS						
02050.70.10	SPT-1	3	18	8	Gray	125	10	1250	5-15P	Straight	50	0.4	21	079407020508
02522.73.01	SPT-3	3	16	6	Black	125	13	1625	5-15P	Straight	25	0.6	14	079407025220
04106.73.10	SPT-3	3	16	6	Gray	125	13	1625	5-15P	Right Angle	50	0.4	22	079407041060
04103.73.10	SPT-3	3	16	3	Gray	125	13	1625	5-15P	Right Angle	100	0.3	26	079407041039
04806.73.10	SPT-3	3	16	6	Gray	125	13	1625	5-15P	Straight	50	0.4	19	079407048069
04803.73.10	SPT-3	3	16	3	Gray	125	13	1625	5-15P	Straight	100	0.3	27	079407048038

Product Construction:

Conductor:
- 18 AWG and 16 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; black, gray or beige

Applications:
- For replacement use

Features:
- Conductor stripped 5/8”
- Free end slit 1 1/2”

Industry Approvals:
- UL Listed

General Cable

UL LISTED CAROL BRAND

Plug-it® Extension Cord Accessories 8

The Plug-it® Fluorescent Light turns your extension cord into a light. The portable light has no permanent cord attached, providing easy storage when not in use. Ideal for contractors and do-it-yourselfers alike, the impact-resistant Plug-it® Fluorescent Light has a 13-watt bulb that runs cool to the touch when in operation. A cord-locking screw secures extension cords and resists disconnection when in use.

Also available in the Plug-it® series are adapters, Powr-Reels™ and the GFCI.

- The Plug-it® Powr-Center® Adapter features three outlets in a “T” configuration, adapting a single extension cord for more uses.
- The Plug-it® Ground Fault Circuit Interrupter (GFCI) and Surge Protector Plug connects to any standard extension cord. This handy pocket-size adapter detects power leaks and cuts off electricity in less than a second to prevent electric shock. It is designed for use anywhere ground fault protection is desired, including job sites, workshops, garages, kitchens, bathrooms or outdoor outlets, and features convenient test and reset buttons.

Plug-it® Fluorescent Utility Light

Cordless • Cool-Running • Impact-Resistant

CATALOG NUMBER	MAXIMUM BULB SIZE (WATTS)	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
07505.73.05	13	8	1.3	10	079407075058

Product Description:

The impact-resistant Plug-it® Fluorescent Light has a 13-watt bulb that runs cool to the touch when in operation. A cord-locking screw secures the extension cord and resists disconnection when in use.

Product Construction:

Body:
- PVC; yellow

Lens:
- Clear butyrate

Bulb:
- PLS 13-watt fluorescent

Applications:

- Temporary lighting
- For general use only
- Not for use in hazardous locations

Features:

- Turns an extension cord into a light
- Connects to 3-conductor grounded extension cord
- Cool-running 13-watt fluorescent bulb
- Rubberized hood
- Impact-resistant body and lens
- Swivel hook
- Locking screw system assures secure cord connections

Industry Approvals:

- UL Listed

Plug-it® Powr-Center® Adapter

"T" Configuration—Adapt extension cords for different uses

Product Construction:

Body:
- PVC; beige

Applications:

- Adapts a single extension cord for multiple uses

Features:

- 3 convenient outlets

CATALOG NUMBER	VOLTS	AMPS	WATTS	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE	COLOR
04781.96.17	125	15	1875	5	0.6	3	079407047819	Beige

Industry Approvals:

- UL Listed

Powr-Reel™ with 3 Outlets

3-Conductor Grounded • Type SJO • 90˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
44623.61.05	3	16	25	Yellow	125	10	1250	4	2.7	11	079407446230

Product Construction:

Conductor:
- 16 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded 90˚C EPDM

Jacket:
- CPE; yellow
- Voltage rating: 300 volts

Applications:
- Shop tools

Features:
- Tangle-Proof® instant cord storage
- Sturdy metal reel case
- Rubber cord
- 3 grounded outlets
- Cord locks in place; pull on cord to engage retractable reel

Industry Approvals:
- UL Listed
- OSHA Acceptable

Plug-it® Ground Fault Circuit Interrupter (GFCI) and Surge Protector Plug

CATALOG NUMBER	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
	VOLTS	AMPS	WATTS				
D7524.13.05	125	15	1875	6	0.3	2	079407075249

Product Description:
The Plug-it® Ground Fault Circuit Interrupter and Surge Protector Plug detects power leaks and cuts off electricity in less than one second to prevent electric shock.

Product Construction:

Body:
- PVC; yellow

Applications:
- Use anywhere GFCI protection is desired: job sites, kitchens, bathrooms, garages and workshops

Features:
- Detects power leaks and cuts electricity off in less than a second to prevent electric shock
- Test and reset buttons
- Use with any standard extension cord
- Use indoor or outdoor
- Protects electrical circuitry from voltage fluctuations
- Maximum clamping voltage - 790 volts
- MOV - 80 joules

Industry Approvals:
- UL Listed
- OSHA Acceptable

Specialty Extension Cords and Lighting 9

Carol® Brand Specialty Extension Cord Products are uniquely designed for specific uses by contractors, do-it-yourselfers and homeowners alike.

The Shock Safe® 3-outlet Powr-Center® has a built-in ground fault circuit interrupter (GFCI) for detecting power leaks. Featuring weather-resistant test and reset buttons, the GFCI cuts off electricity to prevent electric shock.

Carol offers 3-outlet Powr-Centers® for use when multiple outlets are needed indoors. The three-conductor cords are designed specifically for household, office or workshop use.

Carol offers three-conductor standard Utility Lights with plastic or metal guards. Our Brooder Lamp and Clamp Lights are also available to meet your lighting needs.

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Shock Safe® Ground Fault Circuit Interrupter (GFCI) Powr-Center®

3 Conductor • Type SJTW • -40°C to 60°C • 300 Volts

POWR-CENTER® WITH 3 OUTLETS

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
04000.63.05	3	12	2	Yellow	125	15	1875	6	1.3	8	079407040001

Product Description:

The Shock Safe® 3-outlet Powr-Center® has a built-in GFCI for detecting power leaks. Featuring weather-resistant test and reset buttons, the GFCI cuts off electricity to prevent electric shock.

Product Construction:

Conductor:
- 12 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; yellow
- Temperature range: -40°C to 60°C
- Voltage rating: 300 volts

Applications:

- Power tools
- Appliances

Features:

- Integral GFCI detects power leaks and cuts off electricity to prevent electric shock
- Test and reset buttons
- 3-conductor grounded

Industry Approvals:

- UL Listed
- OSHA Acceptable

Household Powr-Centers®

3-Conductor Grounded • Type SPT-3 and SJT • 60°C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
TYPE SPT-3											
00655.63.04	3	14	3	Orange	125	15	1875	10	0.6	6	079407006557
TYPE SJT											
00565.63.17	3	16	9	Beige	125	13	1625	12	0.7	8	079407005659

Product Construction:

Conductor:
- 16 AWG or 14 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; orange or beige
- Voltage rating: 300 volts

Applications:

- Clocks
- Lamps
- Holiday lighting
- Other household appliances

Features:

- 3 grounded outlets

Industry Approvals:

- UL Listed

CAROL BRAND UL LISTED

General Cable

Plastic Guard Utility Light

3-Conductor Grounded • Type SJT • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS				
04497.60.05	3	16	50	Yellow	125	13	1650	6	3.5	21	079407044979

Product Construction:

Conductor:
- 16 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; yellow
- Voltage rating: 300 volts

Applications:
- Temporary lighting
- For general use only
- Not for use in hazardous locations

Features:
- Side outlet
- On/off switch
- 75-watt bulb maximum
- Swivel hook
- Polypropylene guard

Industry Approvals:
- UL Listed
- OSHA Acceptable for general use

Metal Guard Utility Light

3-Conductor Grounded • Type SJT • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING			NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	AMPS	WATTS					
04455.60.05	3	16	25	Yellow	125	13	1650	15-15P	12	1.8	22	079407044559
04457.60.05	3	16	50	Yellow	125	13	1650	15-15P	6	3.5	21	079407044573

Product Construction:

Conductor:
- 16 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; yellow
- Voltage rating: 300 volts

Applications:
- Temporary lighting
- For general use only
- Not for use in hazardous locations

Features:
- Side outlet
- Metal hook
- On/off switch
- 75-watt bulb maximum
- 3-conductor grounded

Industry Approvals:
- UL Listed
- OSHA Acceptable for general use

General Cable

UL LISTED CAROL BRAND

Brooder and Heat Lamp

2-Conductor Polarized • Type SJTW • 105˚C • 300 Volts • Non-UL

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING		NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	WATTS					
04127.60.01	2	18	8	Black	125	250	1-15P	12	1.0	12	079407041275

Product Construction:

Conductor:
- 18 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade, color-coded PVC

Jacket:
- PVC; black
- Voltage rating: 300 volts

Applications:
- Temporary lighting
- Egg hatching

Features:
- 10 1/2" bell shade
- Porcelain socket
- Hanging clamp
- Swivel clamp with protective vinyl sleeve
- Protective bulb guard
- 250-watt bulb maximum

Clamp Light

2-Conductor Polarized • Type SPT-2 • 105˚C • 300 Volts

CATALOG NUMBER	NO. OF COND.	AWG SIZE	LENGTH OF CORD (FT)	COLOR OF JACKET	POWER RATING		NEMA CONFIG.	PKG. PER CTN.	WT./ UNIT LBS	WT./ CTN. LBS	UPC CODE
					VOLTS	WATTS					
04170.60.02	2	18	6	White	125	150	1-15P	12	0.8	10	079407041701

Product Construction:

Conductor:
- 18 AWG stranded bare copper per ASTM B174

Insulation:
- Premium-grade PVC; white
- Voltage rating: 300 volts

Applications:
- Temporary lighting

Features:
- 8 1/2" bell shade
- Clamp with protective vinyl sleeve
- Adjustable ball joint
- Switch socket

Industry Approvals:
- UL Listed

General Information 10

As a helpful aid to our customers, this general information section provides useful wire and cable definitions that can assist the designer or application specialist in determining the best cord product specification.

Understanding and using proper wire and cable terminology gains additional importance, given the global application and use of cord and cordset products.

Quick-reference unit conversion and temperature conversion charts included in this section provide you with an understanding of the worldwide applications of our cord products.

Glossary

AAR: Association of American Railroads.

AC: Alternating Current (a.c.). Current in which the charge-flow periodically reverses and is represented by: $I = I_{\circ} \cos (2 f + \phi)$ where, I is the current, $I_{\circ}$ is the amplitude, f the frequency, ϕ the phase angle.

ALS: A type of cable consisting of insulated conductors enclosed in a continuous, closely fitting aluminum tube.

ANSI: Abbreviation for American National Standards Institute.

ASME: Abbreviation for American Society of Mechanical Engineers.

ASTA: United Kingdom approval agency.

ASTM: Abbreviation for the American Society for Testing and Materials, a non-profit industry-wide organization which publishes standards, methods of test, recommended practices, definitions and other related material.

AWM: UL designation for appliance wiring material.

Abrasion Resistance: Ability of a wire, cable or material to resist surface wear.

Accelerated Aging: A test that attempts to duplicate long-time environmental aging in comparatively short time spans.

Accelerator: A chemical additive which hastens a chemical reaction under specific conditions.

Adhesive-Bonded: Cables bonded by adding an adhesive coating to the surface of the cable components, then joining and curing the adhesive to form a cable. See *Bonded Cables.*

Admittance: The measure of the ease with which an alternative current flows in a circuit. The reciprocal of impedance.

Aerial Cable: A cable suspended in the air on poles or other overhead structure.

Aging: The change in properties of a material with time under specific conditions.

Air Core Cable: A cable in which the interstices in the cable core are not filled with a moisture barrier.

Alligator Clip: A mechanical device shaped like alligator jaws used as a temporary connection on the end of interconnections wire.

Alloy: A metal formed by combining two or more different metals to obtain desirable properties.

Aluminum-Steel Conductor: A composite conductor made up of a combination of aluminum and steel wires.

Ambient Temperature: The temperature of a medium (gas or liquid) surrounding an object.

American Wire Gauge (AWG): The standard system used for designating wire diameter. The lower the AWG number, the larger the diameter. Also called the Brown and Sharpe (B&S) Wire Gauge.

Ampacity: See *Current Carrying Capacity.*

Ampere's Law: The magnetic intensity at any point near a current carrying conductor can be computed on the assumption that each infinitesimal length of the conductor produces at the point of an infinitesimal magnetic density. The resulting magnetic intensity at the point is the vector sum of the contributions of all the elements of the conductor.

Ampere: The unit of current. One ampere is the current flowing through one ohm of resistance at one volt potential.

Analog: Transmission data densities by continuously variable quantities.

Anneal: Relief of mechanical stress through heat and gradual cooling. Annealing copper renders it less brittle.

Annular Conductor: A number of wires stranded in three reversed concentric layers around a core.

Anti-Oxidant: A substance which prevents or slows down oxidation of material exposed to air.

Appliance Wire and Cable: A classification covering insulated wire and cable for internal wiring of appliances and equipment.

Arc Resistance: The time required for an arc to establish a conductive path in a material.

Armored Cable: A cable provided with a wrapping of metal for mechanical protection.

Attenuation: Power loss in an electrical system. In cables, generally expressed in db per unit length, usually 100 ft.

Audio Frequency: The range of frequencies audible to the human ear. Usually 20-20,000 Hz.

B & S Gauge: The same as American Wire Gauge (AWG).

BCF: Abbreviation for billion conductor feet. A quantity derived by multiplying the number of conductors in a cable by the amount of cable. Usually used to indicate plant capacity or an annual requirement.

Band Marking: A continuous circumferential band applied to a conductor at regular intervals for identification.

Band Width: The frequency range of electrical signals transmitted.

Banded Cable: Two or more cables banded together by stainless steel strapping.

Barrel-Packed: Method of coiling into a fiber drum for shipment.

Belt: Number of layers of insulation on a conductor, or number of layers of jacket on a cable.

Belted-Type Cable: Multiple conductor cable having a layer of insulation over the assembled insulated conductors.

Bend Radius: The radius of the bend (usually designated as a multiple of product diameter) at which a wire product can safely be bent without significantly affecting its ability to function.

Bifilar: A winding made non-inductive by winding together (as one wire) two wires carrying current in opposite directions.

Bimetallic Wire: A wire formed of two different metals joined together (not alloyed). It can include wire with a steel core clad wire, or plated or coated wire.

Binder: A spirally served tape or thread used for holding assembled cable components in place awaiting subsequent manufacturing operations.

Binding Post: A device for clamping or holding electrical conductors in a rigid position.

Bond Strength: Amount of adhesion between bonded surfaces, e.g., in cemented ribbon cable.

Glossary

Bondable Wire: An insulated wire treated to facilitate adherence to materials such as potting compounds. Also, magnet wires used in making coils when bonding the turns together is desired.

Bonded Cable: Cable consisting of pre-insulated conductors or multiconductor components laid-in parallel and bonded into a flat cable. See *Adhesive-Bonded.*

Bonded Construction: An insulation construction in which the glass braid and nylon jacket are bonded together.

Booster: A device inserted into a line (or cable) to increase the voltage.

Boot: (1) Protective covering over a cable wire, or connector in addition to the normal jacketing or insulation. (2) A form placed around wire termination of a multiple-contact connector to contain the liquid potting compound before it hardens.

Braid: A fibrous or metallic group of filaments interwoven in cylindrical form to form a covering over one or more wires.

Braid Angle: The smaller of the two angles formed by the shielding strand and in the axis of the cable being shielded.

Braid Carrier: A spool or bobbin on a braid which holds one group of strands or filaments consisting of a specific number of ends. The carrier revolves during braiding operations.

Braid Ends: The number of strands used to make up one carrier. The strands are wound side by side on the carrier bobbin and lie parallel in the finished braid.

Braiding Machine: Machine used to apply braids to wire and cable and to produce braided sleeving and braids for tying or lacing purposes. Braiding machines are identified by the number of carriers.

Breakdown (Puncture): A disruptive discharge through the insulation.

Breakdown Voltage: The voltage at which the insulation between two conductors breaks down.

Breakout: The point at which a conductor or group of conductors breaks out from a multiconductor cable to complete circuits at various points along the main cable.

British Standard Wire Gauge: A modification of the Birmingham Wire Gauge and the legal standard of Great Britain for all wires. Also known as Standard Wire Gauge (SWG), New British Standard (NBS), English Legal Standard and Imperial Wire Guide.

Building Wire: Wire used for light and power, 600 volts or less, usually not exposed to outdoor environment.

Bunched Stranding: A group of strands twisted together in a random manner and the same direction without regard to geometric arrangement of specific strands.

Buncher: A machine that twists wires together in random arrangement.

Bundle: (fiber optic) A number of fibers grouped together, usually carrying a common signal.

Buried Cable: A cable installed directly in the earth without use of underground conduit. Also called Direct Burial Cable.

Bus: Wire used to connect two terminals inside of an electrical unit.

Bushing: A mechanical device used as a lining for an opening to prevent abrasion to wire and cable.

Butt: Joining of two conductors end-to-end, with no overlap and with the axes in line.

Butt Splice: A splice wherein two wires from opposite ends butt against each other, or against a stop, in the center of a splice.

Butt Wrap: Tape wrapped around an object or conductor in an edge-to-edge condition.

Byte: Typically a group of eight binary digits.

C-SJ: Same as SJ except extra-flexible conductor.

C-SJO: Same as SJO except extra-flexible conductor.

CATV: Acronym for Community Antenna Television.

CCTV: Acronym for Closed-Circuit Television.

CEBEC: Belgium Approval Agency; Comite Electrotechnique Belge Service de la Marque.

CE Code, CEC: Canadian Electrical Code.

CEE: Consortium for Energy Efficiency.

CENELEC: European Standards Agency; European Committee for Electrotechnical Norms.

CSA: Abbreviation for Canadian Standards Association, a non-profit independent organization which operates a listing service for electrical and electronic materials and equipment. The Canadian counterpart of the Underwriters Laboratories.

CV: Abbreviation for continuous vulcanization.

Cable: A stranded conductor with or without insulation and other coverings (single-conductor cable) or a combination of conductors (multiple-conductor cable). In fiber optics, a jacketed fiber or jacketed bundle in a form which can be terminated.

Cable Assembly: Typically, the cable and associated connectors; ready to install.

Cable Clamp: A device used to give mechanical support to the wire bundle or cable at the rear of a plug or receptacle.

Cable Clamp Adapter: A mechanical adapter that attaches to the rear of a plug or receptacle to allow the attachment of a cable clamp.

Cable Core: The portion of an insulated cable lying under a protective covering.

Cable Core Binder: A wrapping of tapes or cords around the conductors of a multiple-conductor cable used to hold them together.

Cable Filler: The material used in multiple-conductor cables to occupy the interslices formed by the assembly of the insulated conductors, thus forming a cable core.

Cable Sheath: The protective covering applied to cables.

Cable Vulcanizer: Compression molding machine used to repair cable jacketing that has had a part removed for splicing, for adding connectors or other devices or for replacing damaged sections.

Cabling: Twisting together two or more insulated conductors by machine to form a cable. In fiber optics, a method by which a group or bundle of fibers is mechanically assembled.

Cabling Factor: Used in the formula for calculating the diameter of an unshielded, unjacketed cable. D=Kd, where D is the cable diameter, K is the factor and d is the diameter of one insulated conductor.

Capacitance: The ratio of the electrostatic charge on a conductor to the potential difference between the conductors required to maintain that charge.

Glossary

Capacitance, Direct: The capacitance measured from one conductor to another conductor through a single insulating layer.

Capacitance, Mutual: The capacitance between two conductors (typically of a pair) with all other conductors, including shield, short circuited to ground.

Carrier: The woven element of a braid consisting of one or more ends (strands) which creates the interlaced effect. Also, a spindle, spool, tube or bobbin (on a braiding machine) containing yarn or wire, employed as a braid.

CBO: Rubber-insulated Brewery Cord.

Certificate of Compliance (C of C): A written statement; normally generated by a Quality Control Department, which states that the product being shipped meets customer's specifications.

Certified Test Report (CTR): A report reflecting actual test data on the cable shipped. Tests are normally conducted by the Quality Control Department, and show that the product being shipped meets the required test specifications.

Characteristic Impedance: The impedance that when connected to the output terminals of a transmission line, of any length, makes the line appear indefinitely long.

Chlorinated Polyethylene (CPE): Rubbery polymer used for insulation and jacketing of wire and cable. Manufactured by Dow Chemical under the trade name Tyrin.

Chlorosulfonated Polyethylene (CSPE): A rubbery polymer used for insulations and jackets. Manufactured by E.I. DuPont under the trade name of Hypalon.

Cigarette Wrap: Tape insulation wrapped longitudinally instead of spirally over a conductor.

Circuit: A complete path over which electrons can flow from the negative terminals of a voltage source through parts and wires to the positive terminals of the same voltage source.

Circuit Sizes: A popular term for building wire sizes 14 through 10 AWG.

Circular Mil: The area of a circle one mil (.001") in diameter; 7.854x10 7 sq. in. Used in expressing wire cross sectional area.

Cladding: Method of applying a layer of metal over another metal whereby the junction of the two metals is continuously welded. In fiber optics, a sheathing intimately in contact with the core of a higher refractive index material which serves to provide optical insulation and protection to the reflection interface.

Closed End Splice: An insulated splice in which two or more wires overlap and enter the splice from the same end of the barrel.

Coaxial Cable: A cable consisting of two cylindrical conductors with a common axis, separated by a dielectric.

Coaxial Connector: A connector that has a coaxial construction and is used with coaxial cable.

Coil Effect: The inductive effect exhibited by a spiral-wrapped shield, especially above audio frequencies.

Cold Flow: Permanent deformation of the insulation due to mechanical force of pressure (not due to heat softening).

Color Code: A color system for wire or circuit identification by use of solid colors, tracers braids, surface printing, etc.

Common Axis Cabling: In multiple cable constructions, a twisting of all conductors about a "common axis" to result in smaller-diameter constructions. Tends to result in greater susceptance to electromagnetic and electrostatic interference.

Compact Conductor: Stranded conductor rolled to deform the round wires to fill the normal interstices between the wires in a strand.

Composite (Clad) Wire: A wire having a core of one metal with a fused outer shell of different metals.

Composite Conductor: Two or more strands of different metals assembled and operated in parallel.

Compound: An insulating or jacketing material made by mixing two or more ingredients.

Compression Cable: A pipe type cable in which the pressure medium is separated from the insulation by a membrane or sheath.

Concentric: A central core surrounded by one or more layers of helically wound strands in a fixed round geometric arrangement.

Concentric Strand: A strand that consists of a central wire or core surrounded by one or more layers of spirally laid wires.

Concentric-Lay Cable: A concentric-lay conductor, or a multiple-conductor cable composed of a central core surrounded by one or more layers of helically laid insulated conductors.

Concentricity: The measurement of the location of the center of the conductor with respect to the geometric center of the circular insulation.

Conductance: The ability of a conductor to carry an electric charge. The ratio of the current flow to the potential difference causing the flow. The reciprocal of resistance.

Conductivity: The capacity of a material to carry electrical current—usually expressed as a percentage of copper conductivity (copper being one hundred percent).

Conductor: A wire (or combination of wires not insulated from one another) suitable for carrying electric current.

Conduit: A tube or trough in which insulated wires and cables are run.

Connector: A device used to provide rapid connect/disconnect service for electrical cable and wire terminations.

Contact: The part of a connector which actually carries the electrical current and is touched together or separated to control the flow.

Contact Inspection Hole: A hole in the cylindrical rear portion of contact used to check the depth to which a wire has been inserted.

Contact Size: The largest size wire which can be used with the specific contact. Also, the diameter of the engagement end of the pin.

Continuity Check: A test to determine whether electrical current flows continuously throughout the length of a single wire or individual wires in a cable.

Continuous Vulcanization: Simultaneous extrusion and vulcanization of rubber-like wire coating materials.

Glossary

Contrahelical: Cable spiraling in an opposite direction than the preceding layer within a wire or cable.

Control Cable: A multiconductor cable made for operation in control of signal circuits.

Controlled Impedance Cable: Package of two or more insulated conductors where impedance measurements between respective conductors are kept essentially constant throughout the entire length.

Copolymer: A compound resulting from the polymerization of two different monomers.

Copper-Clad: Steel with a coating of copper welded to it before drawing as opposed to copper-plated. Synonymous with Copperweld.

Copperweld: The trade name of Flexo Wire Division (Copperweld Steel Corp.) for their copper-clad steel conductors.

Cord: A small, flexible insulated cable.

Cord Set: Portable cords fitted with a wiring device at one or both ends.

Core: In cables, a component or assembly of components over which other materials are applied, such as additional components, shield, sheath or armor. In fiber optics, the transparent glass or plastic section with a high refractive index through which the light travels by internal reflections.

Corona: A discharge due to ionization of air around a conductor due to a potential gradient exceeding a certain critical value.

Corona Resistance: The time that the insulation will withstand a specified level of field-intensified ionization that does not result in the immediate complete breakdown of the insulation.

Corrosion: The destruction of the surface of a metal by chemical reaction.

Coverage: The calculated percentage which defines the completeness with which a metal braid covers the underlying surface. The higher percentage of coverage, the greater the protection against external interference.

Covering: Textile braid or jacket of rubber, plastics or other materials applied over wire and cables to provide mechanical protection and identification.

Crazing: The minute cracks on the surface of plastic materials.

Creep: The dimensional change with time of a material under load.

Creepage: The conduction of electricity across the surface of a dielectric.

Creepage Path: The path across the surface of a dielectric between two conductors.

Creepage Surface: An insulating surface which provides physical separation as a form of insulation between two electrical conductors of different potential.

Crimp: Act of compressing a connector barrel around a cable in order to make an electrical connection.

Crimp Termination: Connection in which a metal sleeve is secured to a conductor by mechanically crimping the sleeve with pliers, presses, or automated crimping machines.

Cross-linked: Inter-molecular bonds between long-chain thermoplastic polymers by chemical or electron bombardment means. The properties of the resulting thermosetting material are usually improved.

Crosstalk: Undesired electrical currents in conductors caused by electromagnetic or electrostatic coupling from other conductors or from external sources. Also, leakage of optical power from one optical conductor to another.

Cure: To change the physical properties of a material by chemical reaction.

Curing Cycle: The time, temperature and pressure required for curing.

Curl: The degree to which a wire tends to form a circle after removal from a spool. An indication of the ability of the wire to be wrapped around posts in long runs.

Current: The rate of transfer of electricity. Practical unit is the ampere which represents the transfer of one coulomb per second. In a simple circuit, current (I) produced by a cell or electromotive force (E) when there is an external resistance (R) and internal resistance (r) is:

$$I = \frac{E}{R + r}$$

Current-Carrying Capacity: The maximum current an insulated conductor can safely carry without exceeding its insulation and jacket temperature limitations.

Cut-Through Resistance: The ability of a material to withstand mechanical pressure usually a sharp edge or small radius, without separation.

Cycle: The complete sequence including reversal of the flow of an alternating electric current.

D.C.: Abbreviation for Direct Current.

DEMKO: Approval agency of Denmark.

DRT: Plastic range and dryer cord (CSA).

Decibel (db): A unit to express differences of power level. Used to express power gain in amplifiers or power loss in passive circuits or cables.

Delay Line: A cable made to provide very low velocity of propagation with long electrical delay for transmitted signals.

Depth of Crimp: Thickness of the crimped portion of a connector measured between two opposite points on the crimped surface.

Derating Factor: A factor used to reduce the current-carrying capacity of a wire when used in environments other than that for which the value was established.

Dielectric: An insulating medium which intervenes between two conductors and permits electrostatic attraction and repulsion to take place across it.

Dielectric Breakdown: The voltage required to cause an electrical failure or breakthrough of the insulation.

Dielectric Constant (K): The ratio of the capacitance of a condenser with dielectric between the electrodes to the capacitance when air is between the electrodes. Also called Permittivity and Specific Inductive Capacity.

Dielectric Loss: Power dissipated in an insulating medium as the result of the friction caused by molecular motion when an AC electric field is applied.

Dielectric Strength: The voltage which an insulation can withstand before breakdown occurs. Usually expressed as a voltage gradient (such as volts per mil).

Dielectric Test: A test in which a voltage higher than the rated voltage is applied for a specified time to determine the adequacy of the insulation under normal conditions.

Glossary

Digital: Transmission data representative by discrete characters.

Dip Coating: An insulating coating applied to the conductor by passing the conductor through an applicator containing liquid insulating medium.

Direct Burial Cable: A cable installed directly in the earth.

Direct Capacitance: The capacitance measured directly from conductor to conductor through a single insulating layer.

Direct Current: An electric current which flows in only one direction.

Direct Current Resistance (DCR): The resistance offered by any circuit to the flow of direct current.

Direction of Lay: The lateral direction in which the strands of a conductor run over the top of the cable conductor as they recede from an observer looking along the axis of the conductor or cable. Also applies to twisted cable.

Discrete Wiring: Wire or wires having distinct identity and purpose.

Disruptive Discharge: A sudden, large increase in current through an insulation medium due to the complete failure of the medium under the electrostatic stress.

Disturbed Conductor: A conductor that receives energy generated by the field of another conductor or an external source, such as a transformer.

Drain Wire: In a cable, the uninsulated wire laid over the component or components and used as a ground connection.

Draw Feed Stock: Rod or wire that is subsequently drawn to a smaller size.

Drawing: In wire manufacture, pulling the metal through a die or series of dies to reduce diameter to a specified size.

Dual Coaxial Cable: Two individually insulated conductors laid parallel or twisted and placed within an overall shield and sheath.

Duct: An underground or overhead tube for carrying electrical conductors.

Duplex: Two-way data transmission on a four-wire transmission line.

Duplex Cable: A cable composed of two insulated single-conductor cables twisted together.

Duplex Parallel: Typically used in the thermo-couple industry to denote two parallel conductors of dissimilar metals insulated in parallel without twist and jacketed. Commonly applied to thermo-couple grades and extension wires.

Durometer: A measure of hardness.

E: Symbol for voltage. Usually used to represent direct voltage or the effective (root-mean-square) value of an alternating voltage.

EFTS: Abbreviation for Electronic Funds Transfer System.

EIA: Abbreviation for Electronic Industries Association.

EMI: Abbreviation for electromagnetic interference.

EPDM: Ethylene-propylene-diene monomer rubber.

EPR: Ethylene-propylene rubber.

ESTA: Australian approval agency, Electricity Trust of South Australia.

ETPC: Abbreviation for electrolytic tough pitch copper. It has a minimum conductivity of 99.9%.

Eccetricity: Like concentricity, a measure of the center of a conductor's location with respect to the circular cross-section of the insulation. Expressed as a percentage of displacement of one circle within the other.

Eddy Current: Circulating currents induced in conducting materials by varying magnetic fields.

Elastomer: A rubber or rubber-like material which will stretch repeatedly to 200 percent or more and return rapidly and with force to its approximate original shape.

Electro-Tinned: Electrolytic process of tinning wire using pure tin.

Electrode: A conductor through which a current enters or leaves a nonmetallic conductor.

Electromagnetic Coupling: Energy transfer by means of a varying magnetic field.

Electromagnetic Field: A rapidly moving electric field and its associated moving magnetic field.

Electromagnetic Induction: The production of a voltage in a coil due to a change in the number of magnetic lines of force (flux linkages) passing through the coil.

Electromotive Force (e.m.f.): Pressure or voltage. The force which causes current to flow in a circuit.

Electronic Wire and Cable: A length of conductive or semiconductive material used in an electronic application.

Elongation: The fractional increase in the length of a material stressed in tension.

Embossing: A marker identification by means of thermal indentation leaving raised lettering on the sheath material of cable.

Emergency Overload: Load which occurs when larger-than-normal currents are carried through a cable or wire over a certain period of time.

Enameled Wire: A conductor with a baked-on enamel film insulation. In addition to magnet wire, enameled insulation is used on thermocouple-type wires and other wires.

Ends: In braiding, the number of essentially parallel wires of threads on a carrier.

Energize: To apply rated voltage to a circuit or device in order to activate it.

Equilay: More than one layer of helically laid wires with the direction of lay reversed for successive layers, but with the length of lay the same for each layer.

Etched Wire: A process applied to fluoroplastic wire in which the wire is passed through a sodium bath to create a rough surface to allow epoxy resin to bond the fluoroplastic.

External Interference: The effects of electrical waves or fields which cause sounds other than the desired signal; static.

External Wiring: Electronic wiring which interconnects subsystems within the system.

Extruded Cable: Cable with conductors which are uniformly insulated and formed by applying a homogeneous insulation material in a continuous extrusion process.

Extrusion: Method of continuously forcing plastic, rubber or elastomer material through an orifice to apply insulation or jacketing over a conductor or cable core.

FAA: Federal Aeronautics Administration.

Glossary

FEP: Fluorinated ethylene propylene.

FI: Approval agency of Finland; Electrical Inspectorate.

FR-1: A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test.

Farad: A unit of electrical capacity.

Fatigue Resistance: Resistance to metal crystallization which leads to conductors or wires breaking from flexing.

Feed-Through Insulators: Insulators that carry a metal conductor through the chassis while preventing the 'hot' lead from shorting to the ground chassis.

Feedthrough: (1) A conductor that connects patterns on opposite sides of a PCB. Also called Interfacial Connection. (2) A connector or terminal block, usually having double- ended terminals which permit simple distribution and bussing of electrical circuits.

Ferrule: A short tube used to make solderless connections to shielded or coaxial cable.

Fiber: A thread or threadlike structure. Also, a single discrete element used to transmit optical (light wave) information.

Fiber Optics: A lightwave or optical communications system in which electrical information is converted to light energy transmitted to another location through optical fibers and is there converted back into electrical information.

Fiber Tubing: A loose, crush-resistant cylinder applied over individual fibers to provide mechanical protection.

Field: An area of influence around a magnet or electric charge.

Field Coil: A suitable insulated winding to be mounted on a field pole to magnetize it.

Figure 8 Cable: An aerial cable configuration in which the conductors and the steel strand which supports the cable are integrally jacketed. A cross-section of the finished cable approximates the figure "eight."

Filament: Fiber characterized by extreme length.

Filled Cable: A telephone cable construction in which the cable core is filled with a material that will prevent moisture from entering or passing through the cable.

Filler: (1) A material used in multiconductor cables to occupy large interstices formed by the assembled conductors. (2) An inert substance added to a compound to improve properties or decrease cost.

Film: A thin, plastic sheet.

Fine Stranded Wire: Stranded wire with component strands of 36 AWG or smaller.

Flame Resistance: The ability of a material not to propagate flame once the heat source is removable.

Flammability: The measure of the material's ability to support combustion.

Flashover: A disruptive discharge around or over the surface of a solid or liquid insulator.

Flat Braid: A woven braid of tinned copper strands rolled flat at time of manufacture to a specified width.

Flat Cable: A cable with two smooth or corrugated, but essentially flat, surfaces.

Flat Conductor: A wire having a rectangular cross-section as opposed to a round or square conductor.

Flat Conductor Cable: A cable with a plurality of flat conductors.

Flex Life: The measurement of the ability of a conductor or cable to withstand repeated bending.

Flexibility: The ease with which a cable may be bent.

Flexible: That quality of a cable or cable component which allows for bending under the influence of outside force, as opposed to limpness which is bending due to the cable's own weight.

Floating: Referring to a circuit which has no connection to ground.

Flux: (1) The lines of force which make up an electrostatic field. (2) The rate of flow of energy across or through a surface. (3) A substance used to promote or facilitate fusion.

Foamed Plastics: Insulations having a cellular structure.

Foil: A thin, continuous sheet of metal.

Free Connector: A connector for attachment to the free end of a wire or cable.

Funnel Entry: Flared or widened entrance to a terminal or connector wire barrel.

Fuse Wire: Wire made from an alloy that melts at a relatively low temperature.

Fused Coating: A metallic coating which has been melted and solidified, forming a metallurgical bond to the base material.

Fused Conductors: Individual strands of heavy tinned copper wire stranded together and then bonded together by induction heating.

Fused Spiral Tape: A PTFE insulated hookup wire. The spiral-wrapped conductor is passed through a sintering oven where overlaps are fused together.

GTO: Gast tube sign and oil-burner ignition cable. 5,000V-15,000V.

Galvanometer: An instrument for detecting or measuring small electrical current.

Gas-Filled Cable: A self-contained pressure cable in which the pressure medium is an inert gas having access to the insulation.

Gauge: A term used to denote the physical size of a wire.

Gimmick: A short length of wire soldered onto a circuit component and used as a small adjustable capacitor.

Ground: A conductive connection between an electrical circuit and the earth or other large conducting body to serve as an earth, thus making a complete electrical circuit.

Ground Conductor: A conductor in a transmission cable or line that is grounded.

Ground Insulation: The insulation used between a winding and the magnetic core or other structural parts, usually at ground potential.

Ground Loop: The generation of undesirable current flow within a ground conductor, owing to the circulation currents which originate from a second source of voltage.

Ground Plane: Expanded copper mesh which is laminated into some flat cable constructions as a shield.

Ground Potential: Zero potential with respect to the ground or earth.

HPN: Two-conductor, neoprene-insulated heater cord. Parallel construction. For use in damp locations.

Glossary

HSJ: Same as type HS but with #18, #16 and #14 conductors and differing thickness of jacket.

Hard-Drawn Copper Wire: Copper wire that has not been annealed after drawing.

Harness: An arrangement of wires and cables, usually with many breakouts, which have been tied together or pulled into a rubber or plastic sheath, used to interconnect an electric circuit.

Hash Mark Stripe: A non-continuous helical stripe applied to a conductor for identification.

Heat Distortion: Distortion of flow of a material or configuration due to the application of heat.

Heat Seal: Method of sealing a tape-wrap jacket by means of thermal fusion.

Heater Cord: Flexible stranded copper conductor, cotton-wrapped with rubber insulation and asbestos roving.

Helical Stripe: A continuous, colored, spiral stripe applied to a conductor for circuit identification.

Helix: Spiral winding.

Henry: The unit of inductance.

Hertz (Hz): A term replacing cycles-per-second as an indication of frequency.

Heterogeneous Insulation: A cable insulating system composed of two or more layers of different insulating materials.

Hi-Pot: A test designed to determine the highest voltage that can be applied to a conductor without breaking through the insulation.

High-Temperature Wire and Cable: Electrical wire and cables having thermal operating characteristics of 150°C and higher.

High Voltage: Generally, a wire or cable with an operating voltage of over 600 volts.

Holding Strength: Ability of a connector to remain assembled to a cable when under tension.

Homogeneous Insulation: A complete cable insulation structure whose components cannot be identified as layers of different materials.

Hook-Up Wire: A wire used for low-current, low-voltage (under 1000 volts) applications within enclosed electronic equipment.

Hot Stamping: Method of alpha numerical coding. Identification markings are made by pressing heated type and marking foil into softened insulation surfaces.

Hot Tin Dip: A process of passing bare wire through a bath of molten tin to provide a coating.

HS: 600 V-rated rubber-insulated heater cord.

HSJ: 300 V-rated rubber-insulated heater cord.

Hybrid Cable: Multi-conductor cable containing two or more types of components.

Hygroscopic: Capable of absorbing moisture from the air.

Hypalon: DuPont's trade name for their chlorosulfonated polyethylene, an ozone-resistant synthetic rubber.

ICEA: Abbreviation for Insulated Cable Engineers Association.

IEC: European Standardization agency, International Electrotechnical Commission.

IEEE: Abbreviation for Institute of Electrical and Electronics Engineers.

Ignition Cable: Cable designed for Automotive Ignition Systems.

ISA: Instrument Society of America.

Impedance: The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particular frequency. It is a combination of resistance R and reactance X, measured in ohms.

Impedance Matching: Connecting cables and devices together which have the same impedance value in ohms.

Impulse: A surge of unidirectional polarity.

Impulse Strength: The voltage breakdown of insulation under voltage surges on the order of microseconds in duration.

Impulse Test: An insulation test in which the voltage applied is an impulse voltage of specified wave shape.

Inductance: The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. It is measured in henrys.

Inductive Coupling: Crosstalk resulting from the action of the electromagnetic field of one conductor on the other.

Insertion Tool: A small, hand-held tool used to insert contacts into a connector.

Insulated Wire: A conductor of electricity covered with a non-conducting material.

Insulating Joint: A device which mechanically couples and electrically insulates the sheath and armor of contiguous lengths of cable.

Insulation: A material having high resistance to the flow of electric current. Often called a dielectric in radio frequency cable.

Insulation Adhesion: The degree of tightness of the insulation over the base conductor measured in terms of force required to remove a specified length of insulation from the wire.

Insulation Crimp: The area of a terminal, splice or contact that has been formed around the insulation of the wire.

Insulation Grip: Extended cylinders at the rear of crimp-type contacts designed to accept the bared wire and a small length of its insulation.

Insulation Piercing: A method of crimping whereby lances cut the insulation of the wires and enter into the strands to make electrical contact.

Insulation Resistance: The ratio of the applied voltage to the total current between two electrodes in contact with a specific insulation, usually expressed in megohms-M feet.

Insulation System: All of the insulation materials used to insulate a particular electrical or electronic product.

Integral Belt: A layer of insulation or semi-conductive material applied by extrusion over two or more insulated, twisted or parallel conductors to form a round, smooth diameter.

Glossary

Interconnecting Cable: The wiring between modules, between units or the larger portions of a system.

Interconnecting Wire: The physical wiring between components (outside a module), between modules, between units or between larger portions of a system or systems.

Interconnection: Mechanically joining devices together to complete an electrical circuit.

Interface: The two surfaces on the contact side of both halves of a multiple-contact connector which face each other when the connector is assembled.

Internal Wiring: Electronic wiring which interconnects components, usually within a sealed subsystem.

Interstices: Voids or valleys between individual strands in a conductor or between insulated conductors in a multiconductor cable.

Ionization Voltage (Corona Level): The minimum value of falling rms voltage which sustains electrical discharge within the vacuous or gas-filled spaces in the cable construction or insulation.

Irradiation: In insulations, the exposure of the material to high-energy emissions for the purpose of favorably altering the molecular structure.

JAN Specification: Joint Army-Navy specification (replaced by current Military Specifications).

Jack: A plug-in type terminal widely used in electronic apparatus for temporary connections.

Jacket: A rubber or synthetic covering applied over primary insulation, braids, shields, cable components or over the cable itself. In fiber optics, a covering, frequently plastic, over a fiber bundle of fibers, or cable which protects against the environment.

Jumper: A short length of conductor used to make a temporary connection between terminals, around a break in a circuit or around an instrument.

Junction: A point in a circuit where two or more wires are connected.

kcmil: One thousand circular mils (MCM)

KEMA KEUR: Approval agency of the Netherlands.

KV: Kilovolt (1000 volts).

KVA: Kilovolt ampere.

KW: Kilowatt.

Kilo: A numerical prefix denoting 1000 (10^3).

Kynar: Pennwalt trade name for polyvinylidene fluoride. Typically used as insulation for wire wrap wire.

Lacing and Harnessing: A method of grouping wires by securing them in bundles of designated patterns.

Lacquer: A liquid resin or compound applied to textile braid to prevent fraying, moisture absorption, etc.

Laminated Tape: A tape consisting of two or more layers of different materials bonded together.

Lay: The length measured along the axis of a wire or cable required for a single strand (in stranded wire) or conductor (in cable) to make one complete turn about the axis of the conductor or cable.

Layer: Consecutive turns of a coil lying in a single plane.

Leaching and Non-Leaching: In a leaching wire, the plasticizer will migrate when exposed to heat. A non-leaching wire will retain its plasticizer under extreme temperature conditions and remain flexible after baking.

Lead: A wire, with or without terminals, that connects two points in a circuit.

Lead-Cured: A cable that is cured or vulcanized in a metallic lead mold.

Lead Dress: The placement or routing of wire and component leads in an electrical circuit.

Lead-in: The conductor or conductors that connect the antenna proper to electronic equipment.

Leakage Current: The undesirable flow of current through or over the surface of an insulation.

Life Cycle: A test to determine the length of time before failure in a controlled, usually accelerated, environment.

Limits of Error: The maximum deviation (in degrees of percent) of a thermocouple or thermocouple extension wire from standard emf-temperature to be measured.

Limpness: The ability of a cable to lay flat or conform to a surface.

Line Balance: The degree to which the conductors of a cable are alike in their electrical characteristics with respect to each other, to other conductors and to ground.

Line Drop: A voltage loss occurring between any two points in a transmission line due to the resonance reactance or leakage of the line.

Line Loss: The total of the various energy losses occurring in a transmission line.

Line Voltage: Voltage existing in a cable or circuit.

Local Area Network (LAN): A baseband or broadband interactive bi-directional communication systems for information exchange on a common transmission line.

Longitudinal Shield: A tape shield, flat or corrugated, applied longitudinally with the axis of the core being shielded.

Longitudinal Wrap: Tape applied longitudinally with the axis of the core being covered.

Loop Resistance: The total resistance of two conductors measured round trip from one end. Commonly used term in the thermocouple industry.

Looping-in: Wiring method which avoids tee joints by carrying the conductor or cable to and from the point to be supplied.

Loss: Energy dissipated without accomplishing useful work.

Loss Factor: The product of the dissipation and dielectric constant of an insulating material.

Lossy Line: A cable having large attenuation per unit of length.

Low-Loss Dielectric: An insulating material that has a relatively low dielectric loss, such as polyethylene or Teflon.

Low-Noise Cable: Cable configuration specially constructed to eliminate spurious electrical disturbances caused by capacitance changes or self-generated noise induced by either physical abuse or adjacent circuitry.

Low Tension: Low voltage, as applied to ignition cable.

Lug: Termination, usually crimped or soldered to the conductor, with provision for screwing on to the terminal.

Glossary

MATV: Acronym for Master Antenna Television System—a combination of components providing multiple television receiver operations from one antenna or group of antennas normally on a single building.

MCM: One thousand circular mils.

MHz: Megahertz.

MTW: Thermoplastic insulated machine tool wire.

Magnet Wire: Insulated wire intended for use in windings on motor, transformer and other coils for electromagnetic devices.

Magnetic Field: The region within which a body or current experiences magnetic force.

Magnetic Flux: The rate of flow of magnetic energy across or through a surface (real or imaginary).

Magnetic Noise: Caused by change in current level, e.g., ac powerline (creates magnetic field around the cable); this magnetic field causes the magnetic noise.

Marker Tape: A tape laid parallel to the conductors under the sheath in a cable, imprinted with the manufacturer's name and the specification to which the cable is made.

Meg or Mega: A numerical prefix denoting 1,000,000 (10^6).

Megarad: A unit for measuring radiation dosage.

Messenger: Supporting member, usually a high-strength steel wire, used to suspend aerial cable. The messenger may be an integral part of the cable, or exterior to it (lashed messenger).

Mft: A popular abbreviation for 1000 ft.

Mho: The unit of conductivity. The reciprocal of an ohm.

Micro: A numerical prefix denoting one-millionth (10^{-6}).

Microfarad: One-millionth of a farad, commonly abbreviated μF.

Micromicrofarad: One-millionth of a microfarad (uuf, uufd, mmf, mmfd, $\mu\mu$F are common abbreviations.)

Microwave: A short (usually less than 30 cm) electrical wave.

Mil: A unit used in measuring diameter of a wire or thickness of insulation over a conductor. One-one thousandth of an inch (.001").

Mineral Insulated: Cable and thermocouple wire consisting of one or more conductors surrounded by magnesium oxide insulation and enclosed in a liquid- and gas-tight metallic sheathing.

Miniature Wire: Insulated conductors of approximately 20-34 AWG.

Mining Cable: A flame-retardant cable specially constructed to withstand severe physical abuse for underground use in mines or tunnels.

Mis-Match: A termination having a different impedance than that for which a circuit or cable is designed.

Mode: One of the components of a general configuration of a propagating wave font.

Modem: Device which places and receives data signals over a common carrier's communication facility.

Modulus of Elasticity: The ratio of stress to strain in an elastic material.

Moisture Absorption: The amount of moisture, in percentage, that a material will absorb under specified conditions.

Moisture Resistance: The ability of a material to resist absorbing moisture from the air or when immersed in water.

Molded Plug: A connector molded on either end of a cord or cable.

Monomer: The basic chemical unit used in building a polymer.

Motor Lead Wire: Wire which connects to the fragile magnet wire found in coils, transformers and stator or field windings.

Multiconductor: More than one conductor within a single cable complex.

Multiple-Conductor Cable: A combination of two or more conductors cabled together and insulated from one another and from sheath or armor where used.

Multiple-Conductor Concentric Cable: An insulated central conductor with one or more tubular stranded conductors laid over it concentrically and insulated from one another.

Multiplexing: Simultaneous transmission of two or more messages over the same cable pair.

Mutual Capacitance: Capacitance between two conductors when all other conductors, including ground, are connected together and then regarded as an ignored ground.

Mylar®: DuPont trademark for polyester film.

NEMA: National Electrical Manufacturers Association.

NEMKO: Approval agency of Norway.

NFPA: Abbreviation for National Fire Protection Association. Administrative Sponsor of the National Electrical Code® (ANSI Standards Committee CI).

National Electrical Code®: A set of regulations governing construction and installation of electrical wiring and apparatus in the United States, established by the American National Board of Fire Underwriters.

National Electrical Code® Article 725: The NEC Article which covers remote control signal and communication power limited circuits that are not an integral part of the device or appliance.

National Electrical Code® Article 760: The NEC Article which covers the fire and burglar alarms installation of wire and equipment operating at 600 Volts or less.

National Electrical Code® Article 800: The NEC Article which covers telephone, telegraph as well as outside wiring for fire and burglar alarms.

NEC Type CL2: A Class 2 power-limited type cable for general use applications within a building under NEC Article 725, this type design is "Listed" by UL. These cables meet a 70,000 BTU flame test.

NEC Type CL2P: A Class 2 power-limited cable which is suitable for use in plenums in accordance with NEC Article 725. The cable meets the requirements of UL 910 the Steiner Tunnel test which classifies fire and smoke characteristics. The cable is "Listed" by UL.

NEC Type CL2R: A Class 2 power-limited cable which is suitable for use in riser shafts in accordance with NEC Article 725. These cables meet the UL 1666 flame test and are "Listed" by UL.

Glossary

NEC Type CL2X: A Class 2 power-limited cable which is suitable for restricted applications (sic . . . less than 0.25" in diameter in residences, exposed lengths less than 10-ft.) or else in raceways under NEC Article 725. These cables meet a VW-1 flame test and are "Listed" by UL.

NEC Type CM: A general application communications cable, Listed by UL, for use within buildings under NEC Article 800. It meets the requirements of the 70,000 BTU flame test.

NEC Type FPL: A general application fire-protection cable for use within buildings in accordance with NEC Article 760. These cables are Listed by UL and meet the 70,000 BTU flame test.

Neoprene: A synthetic rubber with good resistance to oil, chemical and flame. Also called polychloroprene.

Non-Contaminating: Type of PVC jacket material whose plasticizer will not migrate into the dielectric of a coaxial cable and thus avoids contaminating and destroying the dielectric.

Nylon: Thermoplastic with good chemical and abrasion resistance.

OSHA: Abbreviation for Occupational Safety and Health Act. Specifically the Williams-Steiger law passed in 1970 covering all factors relating to safety in places of employment.

OVE: Approval agency in Austria; Oesterreichischer Verband fur Elektrotechnik (Austrian Electrotechnical Association).

Off Center: Conductor displaced within the cross-section of its insulation.

Offgassing: Percentage of a specified gas released during the combustion of insulation or jacketing material.

Ohm: A unit of electrical resistance.

Oil Aging: Cable aged in an accelerated manner by placement in an oil bath and heated to a pre-set temperature for a stated time.

Oil-Filled Cable: A self-contained pressure cable in which the pressure medium is low viscosity oil having access to the insulation.

Open Cell: Foamed or cellular material with cells which are generally interconnected.

Oscillatory Surge: A surge which includes both positive and negative polarity values.

Outgassing: The dissipation of gas from a dielectric evidencing decomposition.

Overall Diameter: Finished diameter over wire or cable.

Overcoat Conductor: A stranded conductor made from individual strands of tin-coated wire stranded together, and then given an overall tin coat.

Overlap: The amount the trailing edge laps over the leading edge of a spiral tape wrap.

Oxygen Index: Percentage of oxygen necessary to support combustion in a gas mixture.

Ozone: Reactive form of oxygen, typically found around electrical discharges and present in the atmosphere in small quantities.

PCB: Printed Circuit Board.

PIC: A general term for any type of plastic-insulated telephone cable.

PLSJ: All-rubber, parallel-jacketed, two-conductor, light-duty cord for pendent or portable use in damp locations. 300V.

PLT: Same as PLSJ, except thermoplastic insulation.

POSJ: All-rubber, parallel light-duty rip-cord for use on lamps and small appliances. 300V, 60°C.

POT: Thermoplastic, parallel, light-duty rip-cord. 300V, 60°C to 105°C.

PTFE: Abbreviation for Polytetrafluoroethylene.

Packing Fraction: (fiber optic) The ratio of active cross-sectional area of fiber core, or cores, to the total end surface of the fiber, or fiber bundle.

Pair: Two insulated wires of a single circuit associated together; also known as a "balance" transmission line.

Parallel Pair: A duplex construction of two insulated conductors laid parallel and then covered overall with a braid or jacket.

Parallel Stripe: A stripe applied longitudinally on a wire or cable parallel to the axis of the conductor.

Patch Cable: A cable with plugs or terminals on each end of the conductors to temporarily connect circuits of equipment together.

Patch Cord: Braid covered with plugs or terminals on each end to connect jacks or blocks in switchboards or programming systems.

Pay-Off: The process of feeding a cable or wire from a bobbin, reel or other package.

Percentage Conductivity: Conductivity of a material expressed as a percentage of that of copper.

Periodicity: The uniformly spaced variations in the insulation diameter of a transmission cable that result in reflections of a signal, when its wavelength or a multiple thereof is equal to the distance between two diameter variations.

Permittivity: See *Dielectric Constant.*

Pick: Distance between two adjacent crossover points of braid filaments. The measurement in picks per inch indicates the degree of coverage.

Pico: A numerical prefix denoting one-millionth of one-millionth (10^{-12}).

Picofarad: One-millionth of one-millionth of a farad. A micromicrofarad or picofarad (abbreviation pf). (See $\mu\mu F$).

Pigtail Wire: Fine-stranded, extra-flexible, rope- lay lead wire attached to a shield for terminating purposes.

Pitch Diameter: Diameter of a circle passing through the center of the conductors in any layer of a multiconductor cable.

Pitch: In flat cable, the nominal distance between the index edges of two adjacent conductors.

Plain Conductor: A conductor consisting of only one metal.

Plain Weave: A weave used on woven cables. Threads between the wires act as binders and give the cable lateral stiffness and linear flexibility. Also called Standard and Square Weave.

Planetary Cabler: A cabler capable of laying down any number of shielded overbraided or jacketed singles, pairs, called groups, or any combination of them in sequence.

Planetary Twister: A twisting machine whose payoff spools are mounted in rotating cradles that hold the axis of the spool in a fixed direction as the spools are revolved so the wire will not kink as it is twisted.

Plastic Deformation: Change in dimensions under load that is not recovered when the load is removed.

Plasticizer: A chemical agent added to plastics to make them softer and more pliable.

Glossary

Plenum: The air return path of a central air handling system, either ductwork or open space over a suspended ceiling.

Plenum Cable: Cable approved by a recognized agency such as UL for installation in plenums without the need for conduit.

Plug: The part of the two mating halves of a connector which is movable when not fastened to the other mating half.

Ply: The number of individual strands or filaments twisted together to form a single thread.

Point-to-Point Wiring: An interconnecting technique wherein the connections between components are made by wires routed between connecting points.

Polarization: The orientation of a flat cable or a rectangular connector.

Polychloroprene: Chemical name for neoprene.

Polyester: Polyethylene terephthalate extensively as a moisture resistant cable core wrap.

Polyethylene: A thermoplastic material having excellent electrical properties.

Polyhalocarbon: A general name for polymers containing halogen atoms. The halogens are fluorine, chlorine, bromine and iodine.

Polymer: A material of high molecular weight formed by the chemical union of monomers.

Polyolefin: Any of the polymers and copolymers of the ethylene family of hydrocarbons.

Polypropylene: A thermoplastic similar to polyethylene but stiffer and having higher softening point (temperature); excellent electrical properties.

Polyurethane: Class of polymers known for good abrasion and solvent resistance (may be applied in solid or cellular form).

Polyvinyl Chloride: A general-purpose thermoplastic widely used for wire and cable insulations and jackets.

Porosity: Multiple voids in an insulation cross-section.

Potting: The sealing of a cable termination or other component with a liquid which thermosets into an elastomer.

Power Cables: Cables of various sizes construction and insulation, single- or multi-conductor, designed to distribute primary power to various types of equipment.

Power Factor: The ratio of resistance to impedance. The ratio of the actual power of an alternating current to apparent power. Mathematically the cosine of the angle between the voltage applied and the current resulting.

Pre-Bond: Stranded wire which has been fused, topcoat-tinned, or overcoat-tinned.

Primary Insulation: The first layer of non-conductive material applied over a conductor whose prime function is to act as electrical insulation.

Primary: The transformer winding which receives the energy from a supply circuit.

Printed Wiring: A printed circuit intended to provide point-to-point electrical connections.

Programming: Ability to select various circuit patterns by interconnecting appropriate contacts on one side of a connector plug or panel.

Propagation Delay: Time delay between input and output of signal.

Propagation Time: Time required for a wave to travel between two points on a transmission line.

Proximity Effect: Nonuniform current distribution over the cross-section of a conductor caused by the variation of the current in a neighboring conductor.

Pulling Eye: A device used to pull cable into or from a duct.

Pulse: Energy which changes abruptly from an intensity to another. May be light energy or electrical energy.

Pulse Cable: A type of coaxial cable constructed to transmit repeated high- voltage pulses without degradation.

Quad: A series of four separately insulated conductors, generally twisted together in pairs. Also, a series-parallel combination of transistors with increased reliability because failure of one transistor will not disable the entire circuit.

Quadders: Three-bay machines which can twist four wires together and cable braided and shielded wires with varying lay lengths.

Rated Voltage: The maximum voltage at which an electrical component can be operated for extended periods without undue degradation or safety hazard.

R-F: Radio-frequency.

REA: Abbreviation for Rural Electrification Administration.

RG/U: General utility-grade military coaxial cable.

Random Winding: A winding in rotating equipment wherein the wires do not lie in an even pattern.

Reactance: The opposition offered to the flow of alternating current by inductance or capacitance of a compound or circuit.

Red Plaque: A powdery, brown-red growth found on silvercoated copper conductors and shield braids.

Redraw: The consecutive drawing of wire through a series of dies to reach a desired wire size.

Reducing Joint: A joint between two lengths of cable where the conductors are not the same size.

Reel: A revolvable flanged device made of wood metal, used for winding flexible metal wire or cable.

Reflection Loss: The part of a signal which is lost due to reflection of power at a line discontinuity.

Reinforced Sheath: The outermost covering of a cable that has cable sheath constructed in layers with the addition of a reinforcing material, usually a braided fiber, molded in place between layers.

Remanence: The magnetic induction that remains in a magnetic circuit after the removal of an applied magnetomotive force.

Resistance: A measure of the difficulty in moving electrical current through a medium when voltage is applied. It is measured in ohms.

Resistive Conductor: A conductor with high electric resistance.

Restriction on Hazardous Substances (RoHS): The European Commission's Directive 2002/95/EC, adopted January 27, 2003, also known as "RoHS," which restricts the use of certain hazardous substances in electrical and electronic equipment.

Retractile Cord: A cord having specially treated insulation or jacket so that it will retract.

Return Wire: A ground wire or the negative wire in a direct-current circuit.

Glossary

Ribbon Cable: A flat cable of individually insulated conductors lying parallel and held together by means of adhesive or woven textile yarn.

Ridge Marker: One or more ridges running laterally along the outer surface of a plastic-insulated wire for purposes of identification.

Rigid Bay: Cabling equipment that maintains component sequence, and can produce cables with distinct layers.

Rigid Coaxial Cable: Nonflexible coaxial cable, usually a metal tube-armored coaxial cable.

Ring Tongue: A solderless terminal that connects wire to a stud.

Ringing Out: Locating or identifying specific conductive paths by passing current through selected conductors.

Rip-Cord: Two or more insulated conductors in a parallel configuration which may be separated to leave the insulation of each conductor intact.

Rope Concentric: A group of standard conductors assembled in a concentric manner.

Rope Lay Conductor: A conductor composed of a central core surrounded by one or more layers of helically laid groups of wires.

Rope Unilay: A group of stranded conductors assembled in a unilay manner.

Round Wire Shields: Shields constructed from bare, tinned or silver-plated copper wire that include braided, spiral and reverse spiral.

Rubber (Wire Insulation): Term used to describe wire insulations made of thermosetting elastomers, occur naturally or may be made synthetically.

Rulan: DuPont's trade name for their flame-retardant polyethylene insulating material.

S: Heavy-duty, rubber-insulated portable cord. Stranded copper conductors with separator and individual rubber insulation. Two or more color-coded conductors cabled with filler wrapped with separator and rubber jacketed overall. 600V.

SAE: Society of Automotive Engineers.

SANZ: Standards Association of New Zealand.

SBR: Copolymer of styrene and butadiene. Most commonly used type of synthetic rubber.

Secondary Insulation: A nonconductive material that protects the conductor against abrasion and provides a second electrical barrier.

Segmental Conductor: A stranded conductor consisting of three or more stranded conducting elements, each element having approximately the shape of the sector of a circle, assembled to give a substantially circular cross-section.

Selenium Cure: Process used to cure neoprene and rubber-jacketed wires and cables.

Self-Extinguishing: Characteristic of a material whose flame is extinguished after the igniting flame source is removed.

Semi-Conducting Jacket: A jacket having a sufficiently low resistance so that its outer surface can be kept at substantially ground potential.

Semi-Rigid: A cable containing a flexible inner core and a relatively inflexible sheathing.

Semi-Solid: An insulation cross-section having a partially open space between the conductor and the insulation perimeter.

SEMKO: Approval agency for Sweden.

Separator: A layer of insulating material which is placed between a conductor and its dielectric, between a cable jacket and the components it covers or between various components of a multiple-conductor cable.

Serve: A filament or group of filaments such as fibers or wires, wound around a central core.

Serving: A wrapping applied over the core of a cable or over a wire.

Sheath: The outer covering or jacket of a multi-conductor cable.

Shield Coverage: Amount of outer cable covered by the shielding material.

Shield Effectiveness: The ability of a shield to screen out undesirable signals.

Shield: In cables, a metallic layer placed around a conductor or group of conductors to prevent electrostatic or electromagnetic interference between the enclosed wires or external fields.

Shielded Line: A transmission line whose elements confine propagated radio waves to an essentially finite space inside a tabular conducting surface called the sheath, thus preventing the line from radiating radio waves.

Shielded-Type Cable: A cable in which the surface of the insulation is at ground potential.

Shunt Wire: A conductor joining two parts of an electric circuit to divert part of the current.

Signal: A current used to convey information, either digital, analog, audio or video.

Silicone: A material made from silicon and oxygen. Can be in thermosetting elastomer or liquid form. The thermosetting elastomer form is noted for high heat resistance.

Silicone Treating: A silicone liquid treatment applied to insulated conductors to allow for easy jacket stripping.

Single-Faced Tape: Fabric tape finished on one side with a rubber or synthetic compound.

Sizing: Applying a material to a surface to fill pores.

SJ: Junior hard-service, rubber-insulated pendant or portable cord. Same construction as type S, but 300V. Jacket thickness different.

SJO: Same as SJ, but carolprene, oil-resistant compound outer jacket. Can also be made "water-resistant." 300V, 60°C.

SJT: Junior hard-service thermoplastic or rubber- insulated conductors with overall thermoplastic jacket. 300V, 60°C to 105°C.

SJTO: Same as SJT but oil-resistant thermoplastic outer jacket. 60°C.

SJOO: Same as SJO with oil-resistant insulation.

SJOOW: Same as SJOO with the added UL + CSA Approval for outdoor use and water resistance.

Skeleton Braid: Widely separated braid of fiber copper, or steel, used to hold core together, for reinforcing jacket or for shielding.

Skin Tape: Filled tape coated on one or both sides with a thin film of uncured rubber or synthetic compound to produce a coating suitable for vulcanization.

Skin Effect: The tendency of alternating current as its frequency increases, to travel only on the surface of a conductor.

Glossary

Sleeve: A braided, knifed or woven tube used over wires or components as insulation tubing. Also called sleeving.

Solid Conductor: A conductor consisting of a single wire.

SO: Hard-service cord, same construction as type S except oil-resistant Carolprene® jacket. 600V, 60° to 90°C

SOO: Same as SO with oil-resistant insulation.

SOOW: Same as SOO with the added UL + CSA Approval for outdoor use and water resistance.

SOW: Same as SO with the added UL and CSA approval for outdoor use and water resistance.

SP-1: All-rubber, parallel-jacketed two-conductor light-duty cord for pendant or portable use in damp locations. 300V.

SP-2: Same as SP-1, but heavier construction, with or without third conductor for grounding purposes. 300V.

SP-3: Same as SP-2 but heavier construction for refrigerators or room air conditioners. 300V.

SPT-1: Same as SP-1, except all-thermoplastic. 300V. With or without third conductor for grounding.

SPT-2: Same as SP-2 except all-thermoplastic. 300V. With or without third conductor for grounding.

SPT-3: Same as SP-3, except all-thermoplastic. 300V. With or without third conductor for grounding.

Span: In flat conductors, distance between the reference edge of the first and the last conductor. In round conductors, distance between centers of the first and last conductors.

Spark Test: A test designed to locate pin-holes in the insulation of a wire or cable by application of a voltage for a very short period of time while the wire is being drawn through the electrode field.

Specific Gravity: The ratio of the density (mass per unit volume) of a material to that of water.

Spiral Shield: A metallic shield of fine-stranded wires applied spirally rather than braided.

Spiral Stripe: A color-coding stripe applied helically to the surface of an insulated wire or cable.

Spiral Wrap: The helical wrap of a tape or thread over a core.

Splice: A connection of two or more conductors or cables to provide good mechanical strength as well as good conductivity.

SRD: Portable range or dryer cable. Three or four rubber-insulated conductors with rubber or neoprene jacket, flat or round construction. 300V, 60°C.

SRDT: Same as SRD, except all-thermoplastic with a maximum temperature of 90°C.

ST: Hard-service cord, jacketed, same as type S except all-plastic construction. 600 V, 60°C to 105°C.

Standing Wave Ratio: In a transmission line, waveguide or analogous system, a figure of merit used to express the efficiency of the system in transmitting power.

Stay Cord: A component of a cable used to anchor the cable ends at their points of termination and to keep any pull of the cable from being transferred to the electrical connections.

STO: Same as ST but with oil-resistant thermoplastic outer jacket. 600 V, 60°C.

Strand: One of the wires of any stranded conductor.

Strand Lay: The distance of advance of one strand of a spirally stranded conductor, in one turn, measured axially.

Stranded Conductor: A conductor composed of groups of wires twisted together.

Strap: Square- or rectangular-section bare conductor manufactured and used in coil form.

Strip: To remove insulation from a cable.

Structural Return Loss: Backward-reflected energies from uneven parts of the cable structure are termed structural return loss.

Surface Resistivity: The resistance of a material between two opposite sides of a unit square of its surface. It is usually expressed in ohms.

SV: Vacuum cleaner cord two- or three-conductor rubber-insulated. Overall rubber jacket. For light duty in damp locations. 300 V, 60°C.

SVO: Same as SV except Carolprene jacket, 300 V, 60°C.

SVT: Same as SV except all-plastic construction. With or without third conductor for grounding purposes only. 300 V, 60°C to 90°C.

Sweep Test: A test given to check attenuation by oscilloscope, as in coaxial cable.

TEW: Canadian Standard Association type appliance wires. Solid or stranded single-conductor, plastic-insulated. 600 V, 105°C.

TF: Fixture wire, thermoplastic-covered solid or 7- strands. 60°C.

TFE: Teflon® (tetrafluoroethylene).

TFF: Same as TF but flexible stranding. 60°C.

THHN: 90°C, 600 V nylon jacketed building wire.

THW: Thermoplastic vinyl-insulated building wire. Flame-retardant, moisture- and heat-resistant. 75°C. Dry and wet locations.

THWN: Same as THW but with nylon jacket overall. 75°C.

TW: Thermoplastic vinyl-jacketed building wire, moisture-resistant 60°C.

Take-Up: The process of accumulating wire or cable onto a reel, bobbin or some other type of pack. Also, the device for pulling wire or cable through a piece of equipment or machine.

Tank Test: A voltage dielectric test in which the test sample is submerged in water and voltage is applied between the conductor and water as ground.

Tape: A relatively narrow woven or cut strip of fabric, paper or film material.

Tape Cable: A form of multiple-conductor consisting of parallel metal strips imbedded in insulating material.

Tape Wrap: A spirally applied tape over an insulated or uninsulated wire.

Taped Insulation: Insulation of helically wound tapes applied over a conductor or over an assembled group of insulated conductors.

Taping: Process of insulating continuous-length, large-diameter wires with tape of nonextrudable materials.

Tear Strength: The force required to initiate or continue a tear in a material under specified conditions.

Glossary

Teflon®: DuPont's trade name for fluorocarbon resins. FEP, PFA and TFE are typical materials.

Tefzel: DuPont's trade name for a fluorocarbon material typically used as a wire wrap insulation.

Telemetry Cable: Cable used for transmission of information from instruments to the peripheral recording equipment.

Temperature Rating: The maximum temperature at which an insulating material may be used in continuous operation without loss of its basic properties.

Tensile Strength: The pull stress required to break a given specimen.

Tension Member: A member included in a fiber cable to add tensile strength.

Terminals: Metal wire termination devices designed to handle one or more conductors, and to be attached to a board bus or block with mechanical fasteners or clipped on.

Test Lead: A flexible, insulated lead wire used for making tests, connecting instruments to a circuit temporarily or for making temporary electrical connections.

Textile Braid: Any braid made from threads of cotton, silk or synthetic fibers.

Thermal Aging: Exposure to a thermal condition or programmed series of conditions for predescribed periods of time.

Thermocouple Lead Wire: An insulated pair of wires used from the couple to a junction box.

Thermoplastic: A material which softens when heated and becomes firm on cooling.

Thermoset: A material which hardens or sets when heat is applied, and which, once set cannot be resoftened by heating. The application of heat is called "curing."

Three-Phase Current: Current delivered through three wires, with each wire serving as a return for the other two.

Three-Phase Three-Wire System: An alternating current supply system comprising three conductors over which three-phase power is sent.

Three-Wire System: A d-c or single-phase a-c system comprising three conductors, one of which is maintained at a potential midway between the potential of the other two.

Tin Overcoat (TOC): Tinned copper wire stranded, then coated with pure tin.

Tinsel Wire: A low-voltage stranded wire with each strand a very thin conductor ribbon spirally wrapped around a textile yarn.

Topcoat: Bare (untinned) copper wire, stranded then coated with pure tin.

Tracer: A means of identifying polarity.

Transmission: Transfer of electric energy from one location to another through conductors or by radiation or induction fields.

Transmission Cable: Two or more transmission lines. See *Transmission Line.*

Transmission Line: A signal-carrying circuit with controlled electrical characteristics used to transmit high-frequency or narrow-pulse signals.

Transmission Loss: The decrease or loss in power during transmission of energy from one point to another. Usually expressed in decibels.

Transposition: Interchanging the relative positions of wires to neutralize the effects of induction to or from other circuits or, to minimize interference pickup by the lead-in during reception.

Tray: A cable tray system is an assembly of units or sections, and ancillary filings, made of noncombustible materials used to support cables. Cable tray systems include ladders troughs channels, solid bosom trays and similar structures.

Tray Cable: A factory-assembled multi-conductor or multipair control cable approved under the National Electrical Code for installation in trays.

Triaxial: A three-conductor cable with one conductor in the center, a second circular conductor shield concentric with the first, and third circular conductor shield insulated from and concentric with the first and second, usually with insulation, and over a braid or impervious sheath overall.

Triboelectric Noise: Noise generated in a shielded cable due to variations in capacitance between shielding and conductor as the cable is flexed.

Triple Cable: A cable composed of three insulated single conductors and one bare conductor all twisted together. It may or may not have a common covering of binding.

True Concentric: A cable in which each successive layer has a reversed direction of lay from the preceding layer.

Tubing: A tube of extruded nonsupported plastic material.

Twin Cable: A pair of insulated conductors twisted, sheathed or held together mechanically and not identifiable from each other in a common covering.

Twin Coaxial: A configuration containing two separate complete coaxial cables laid parallel or twisted around each other in one complex.

Twin Line: A transmission line which has a solid insulating material, in which the two conductors are placed in parallel to each other.

Twinner: A device for twisting together two conductors.

Twisted Pairs: A cable composed of two small insulated conductors twisted together without a common covering.

UF: Thermoplastic underground feeder and branch circuit cable.

UHF: Abbreviation for ultra high frequency, 300 to 3,000 MHz.

UL: Underwriters Laboratories, Inc.

UTE: Approval agency for France; Union Technique de l'Electricite.

Unbalanced Line: A transmission line in which voltages on the two conductors are unequal with respect to ground.

Unidirectional Concentric Stranding: A stranding where each successive layer has a different lay length, thereby retaining a circular form without migration of strands from one layer to another.

Unidirectional Stranding: A term denoting that in a stranded conductor, all layers have the same direction of lay.

Unilay Strand: A conductor constructed with a central core surrounded by more than one layer of helically-laid wires, with all layers having a common length and direction of lay.

VDE: German approval agency.

VHF: Abbreviation for very high frequency, 30 to 300 MHz.

VSWR: Abbreviation for volume standing wave ratio.

Glossary

VW-1: A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test (formerly designated FR-1-).

Velocity of Propagation: The speed of an electrical signal down a length of cable compared to speed in free space expressed as a percent. It is the reciprocal of the square root of the dielectric constant of the cable insulation.

Volt: A unit of electromotive force.

Voltage: The term most often used in place of electromotive force, potential difference or voltage drop to designate the electric pressure that exists between two points and is capable of producing a current when a closed circuit is connected between two points.

Voltage Drop: A term used to express the amount of voltage loss in a conductor of given size and length drawing a given current.

Voltage Rating: The highest voltage that may be continuously applied to a wire in conformance with standards or specifications.

Voltage Standing Wave Ration (VSWR): The ratio of the maximum effective voltage to the minimum effective voltage measured along the length of a mis-matched radio frequency transmission line.

Volume Resistivity (Specific Insulation Resistance): The electrical resistance between opposite faces of a 1 cm cube of insulating material commonly expressed in ohms/centimeter.

Vulcanization: A chemical reaction in which the physical properties of an elastomer are changed by reacting it with sulfur or other cross-linking agents.

Wall Thickness: The thickness of the applied insulation or jacket.

Water Absorption: A test to determine the water absorbed by a material after a given immersion period.

Waterblocked Cable: A cable constructed with no internal voids in order to allow no longitudinal water passage under a given pressure.

Watt: A unit of electric power.

Wave Length: The distance, measured in the direction of propagation, of a repetitive electrical pulse or waveform between two successive points that are characterized by the same phase of vibration.

Wicking: The longitudinal flow of a liquid in a wire or cable due to capillary action.

Wire: A conductor, either bare or insulated.

Wire Gauge: A system of numerical designation of wire sizes.

Wire Nut: A closed-end splice that is screwed on instead of crimped.

Wire Wrapped Connection: A solderless connection made by wrapping bare wire around a square or rectangular terminal with a power or hand tool.

Wire Wrapping Tools: Portable electric tools and automatic stationary machines used to make solderless wrapped connections of wires to terminals.

Wire and Cable Marker: Device for identification marking of wire and cable.

Wire and Cable Tying, Clamping and Harnessing Devices: Tying faces lacing cords and flexible sleevings which are use for wire and cable bundling, harnessing and holding. Other devices include plastic ties or clamps, spiral-cut plastic tubing and plastic U-shaped trays or ducts.

Wire and Lead Cutters: Tools for cutting range from plier-type cutters to semiautomatic or fully automatic machines integrated with other wire processing operations such as stripping, forming and terminating.

Wrapper: An insulating barrier applied as a sheet or tape wrapped around a co~l periphery.

XLPE: Crosslinked polyethylene.

Yield Strength: The minimum stress at which a material will start to physically deform without increase in load.

Zytel: DuPont's trade name for nylon resins.

Unit Conversion Factors

Unit Conversion Factors

UNIT	X CONSTANT	= UNIT	UNIT	X CONSTANT	= UNIT
BTU	778.0	foot-pound (ft-lb)	gallons	3.785332	liters (l)
BTU	1054.8	joules	gallons	0.13368	cubic foot (ft^3)
BTU	0.293	watt-hours (w-hr)	gallons	231.0	cubic inch (in^3)
centimeters (cm)	0.032808	feet (ft)	gallons	3785.332	cubic centimeter (cm^3)
centimeters (cm)	0.3937	inches (in)	grams (g)	15.432	grains
centimeters (cm)	0.00001	kilometers (km)	gram/centimeter^3 (gm/cm^3)	0.0361275	pounds/in^3 (lb/in^3)
centimeters (cm)	0.010	meters (m)	horsepower (hp)	33000.0	ft-lb/min
centimeters (cm)	10.0	millimeters (mm)	horsepower (hp)	550.0	ft-lb/sec
circular mils	0.00064516	circular millimeters	horsepower (hp)	745.7	watts (w)
circular mils	0.0000007854	inches^2 (in^2)	inch (in)	0.027178	yards (yd)
circular mils	0.00050671	square millimeters (mm^2)	inch (in)	0.083333	feet (ft)
circular mils	0.7854	$mils^2$	inch (in)	0.00002540	kilometer (km)
cubic centimeter (cm^3)	0.000035314	cubic foot (ft^3)	inch (in)	0.025400	meter (m)
cubic centimeter (cm^3)	0.061023	cubic inch (in^3)	inch (in)	2.54000514	centimeter (cm)
cubic centimeter (cm^3)	0.000001	cubic meter (m^3)	inch (in)	25.4000514	millimeter (mm)
cubic centimeter (cm^3)	0.0026417	gallons	inch (in)	1000.0	mils
cubic foot (ft^3)	1728.0	cubic inch (in^3)	joules	0.000948	BTU
cubic foot (ft^3)	28317.016	cubic centimeter (cm^3)	joules	10^7	ergs
cubic inch (in^3)	0.00057870	cubic feet (ft^3)	liters (l)	61.0250	cubic inch (in^3)
cubic inch (in^3)	0.000016387	cubic meter (m^3)	meters (m)	1.093611	yards (yd)
cubic inch (in^3)	16.387162	cubic centimeter (cm^3)	meters (m)	3.2808333	feet (ft)
cubic meter (m^3)	1000000.0	centimeter (cm)	meters (m)	39.37	inch (in)
cubic meter (m^3)	35.314456	cubic foot (ft^3)	meters (m)	100.0	centimeter (cm)
cubic meter (m^3)	264.17	gallons	miles	1760.0	yards (yd)
feet (ft)	0.00018939	miles	miles	5280.0	feet (ft)
feet (ft)	0.33333	yards (yd)	miles	1.6093	kilometer (km)
feet (ft)	12	inches (in)	millimeters (mm)	0.0032808	feet (ft)
feet (ft)	0.00030480	kilometers (km)	millimeters (mm)	0.03937	inch (in)
feet (ft)	0.30480	meters (m)	millimeters (mm)	0.001	meters (m)
feet (ft)	30.480	centimeters (cm)	millimeters (mm)	0.01	centimeters (cm)
feet (ft)	304.80	millimeters (mm)	millimeters (mm)	39.3701	mils
feet/pound (ft/lb)	0.00067197	meters/grams (m/g)	millimeters (mm)	1000.0	microns (u)
foot-pound (ft-lb)	0.001285	BTU	watts (w)	44.25	ft-lb/minute
foot-pound (ft-lb)	1.356	joules	watts (w)	0.737562	ft-lb/sec
foot-pound (ft-lb)	0.1383	kilogram/meter (kg/m)	watts (w)	0.001341	horsepower (hp)
			watt-hours (w-hr)	3.41266	BTU

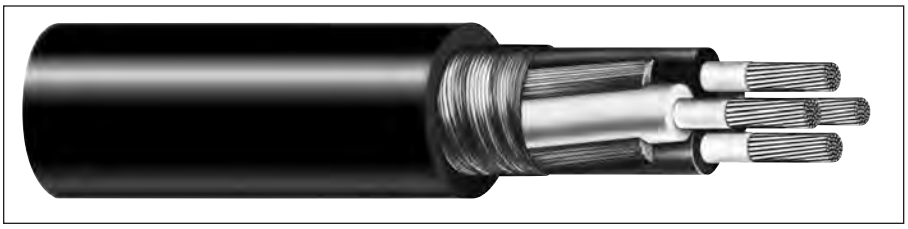
Temperature Conversion Chart

To use this chart, find your known temperature (˚F or ˚C) in the shaded column. If the known temperature is in ˚C and you wish to know its value in ˚F, move to the adjacent right-hand column. If the known temperature is in ˚F and you wish to know its value in ˚C, move to the adjacent left-hand column.

Temperature Conversion Formulas	
°C =	$\frac{5}{9}$ (°F - 32)
°F =	($\frac{9}{5}$ x °C) + 32

°C	KNOWN TEMP	°F	°C	KNOWN TEMP	°F	°C	KNOWN TEMP	°F	°C	KNOWN TEMP	°F	°C	KNOWN TEMP	°F
-45.0	**-49.0**	-56.2	-17.2	**1.0**	33.8	10.6	**51.0**	123.8	38.3	**101.0**	213.8	66.1	**151.0**	303.8
-44.4	**-48.0**	-54.4	-16.7	**2.0**	35.6	11.1	**52.0**	125.6	38.9	**102.0**	215.6	66.7	**152.0**	305.6
-43.9	**-47.0**	-52.6	-16.1	**3.0**	37.4	11.7	**53.0**	127.4	39.4	**103.0**	217.4	67.2	**153.0**	307.4
-43.3	**-46.0**	-50.8	-15.6	**4.0**	39.2	12.2	**54.0**	129.2	40.0	**104.0**	219.2	67.8	**154.0**	309.2
-42.8	**-45.0**	-49.0	-15.0	**5.0**	41.0	12.8	**55.0**	131.0	40.6	**105.0**	221.0	68.3	**155.0**	311.0
-42.2	**-44.0**	-47.2	-14.4	**6.0**	42.8	13.3	**56.0**	132.8	41.1	**106.0**	222.8	68.9	**156.0**	312.8
-41.7	**-43.0**	-45.4	-13.9	**7.0**	44.6	13.9	**57.0**	134.6	41.7	**107.0**	224.6	69.4	**157.0**	314.6
-41.1	**-42.0**	-43.6	-13.3	**8.0**	46.4	14.4	**58.0**	136.4	42.2	**108.0**	226.4	70.0	**158.0**	316.4
-40.6	**-41.0**	-41.8	-12.8	**9.0**	48.2	15.0	**59.0**	138.2	42.8	**109.0**	228.2	70.6	**159.0**	318.2
-40.0	**-40.0**	-40.0	-12.2	**10.0**	50.0	15.6	**60.0**	140.0	43.3	**110.0**	230.0	71.1	**160.0**	320.0
-39.4	**-39.0**	-38.2	-11.7	**11.0**	51.8	16.1	**61.0**	141.8	43.9	**111.0**	231.8	71.7	**161.0**	321.8
-38.9	**-38.0**	-36.4	-11.1	**12.0**	53.6	16.7	**62.0**	143.6	44.4	**112.0**	233.6	72.2	**162.0**	323.6
-38.3	**-37.0**	-34.6	-10.6	**13.0**	55.4	17.2	**63.0**	145.4	45.0	**113.0**	235.4	72.8	**163.0**	325.4
-37.8	**-36.0**	-32.8	-10.0	**14.0**	57.2	17.8	**64.0**	147.2	45.6	**114.0**	237.2	73.3	**164.0**	327.2
-37.2	**-35.0**	-31.0	-9.4	**15.0**	59.0	18.3	**65.0**	149.0	46.1	**115.0**	239.0	73.9	**165.0**	329.0
-36.7	**-34.0**	-29.2	-8.9	**16.0**	60.8	18.9	**66.0**	150.8	46.7	**116.0**	240.8	74.4	**166.0**	330.8
-36.1	**-33.0**	-27.4	-8.3	**17.0**	62.6	19.4	**67.0**	152.6	47.2	**117.0**	242.6	75.0	**167.0**	332.6
-35.6	**-32.0**	-25.6	-7.8	**18.0**	64.4	20.0	**68.0**	154.4	47.8	**118.0**	244.4	75.6	**168.0**	334.4
-35.0	**-31.0**	-23.8	-7.2	**19.0**	66.2	20.6	**69.0**	156.2	48.3	**119.0**	246.2	76.1	**169.0**	336.2
-34.4	**-30.0**	-22.0	-6.7	**20.0**	68.0	21.1	**70.0**	158.0	48.9	**120.0**	248.0	76.7	**170.0**	338.0
-33.9	**-29.0**	-20.2	-6.1	**21.0**	69.8	21.7	**71.0**	159.8	49.4	**121.0**	249.8	77.2	**171.0**	339.8
-33.3	**-28.0**	-18.4	-5.6	**22.0**	71.6	22.2	**72.0**	161.6	50.0	**122.0**	251.6	77.8	**172.0**	341.6
-32.8	**-27.0**	-16.6	-5.0	**23.0**	73.4	22.8	**73.0**	163.4	50.6	**123.0**	253.4	78.3	**173.0**	343.4
-32.2	**-26.0**	-14.8	-4.4	**24.0**	75.2	23.3	**74.0**	165.2	51.1	**124.0**	255.2	78.9	**174.0**	345.2
-31.7	**-25.0**	-13.0	-3.9	**25.0**	77.0	23.9	**75.0**	167.0	51.7	**125.0**	257.0	79.4	**175.0**	347.0
-31.1	**-24.0**	-11.2	-3.3	**26.0**	78.8	24.4	**76.0**	168.8	52.2	**126.0**	258.8	80.0	**176.0**	348.8
-30.6	**-23.0**	-9.4	-2.8	**27.0**	80.6	25.0	**77.0**	170.6	52.8	**127.0**	260.6	80.6	**177.0**	350.6
-30.0	**-22.0**	-7.6	-2.2	**28.0**	82.4	25.6	**78.0**	172.4	53.3	**128.0**	262.4	81.1	**178.0**	352.4
-29.4	**-21.0**	-5.8	-1.7	**29.0**	84.2	26.1	**79.0**	174.2	53.9	**129.0**	264.2	81.7	**179.0**	354.2
-28.9	**-20.0**	-4.0	-1.1	**30.0**	86.0	26.7	**80.0**	176.0	54.4	**130.0**	266.0	82.2	**180.0**	356.0
-28.3	**-19.0**	-2.2	-0.6	**31.0**	87.8	27.2	**81.0**	177.8	55.0	**131.0**	256.8	82.8	**181.0**	357.8
-27.8	**-18.0**	-0.4	0.0	**32.0**	89.6	27.8	**82.0**	179.6	55.6	**132.0**	269.6	83.3	**182.0**	359.6
-27.2	**-17.0**	1.4	0.6	**33.0**	91.4	28.3	**83.0**	181.4	56.1	**133.0**	271.4	83.9	**183.0**	361.4
-26.7	**-16.0**	3.2	1.1	**34.0**	93.2	28.9	**84.0**	183.2	56.7	**134.0**	273.2	84.4	**184.0**	363.2
-26.1	**-15.0**	5.0	1.7	**35.0**	95.0	29.4	**85.0**	185.0	57.2	**135.0**	275.0	85.0	**185.0**	365.0
-25.6	**-14.0**	6.8	2.2	**36.0**	96.8	30.0	**86.0**	186.8	57.8	**136.0**	276.8	85.6	**186.0**	366.8
-25.0	**-13.0**	8.6	2.8	**37.0**	98.6	30.6	**87.0**	188.6	58.3	**137.0**	278.6	86.1	**187.0**	368.6
-24.4	**-12.0**	10.4	3.3	**38.0**	100.4	31.1	**88.0**	190.4	58.9	**138.0**	280.4	86.7	**188.0**	370.4
-23.9	**-11.0**	12.2	3.9	**39.0**	102.2	31.7	**89.0**	192.2	59.4	**139.0**	282.2	87.2	**189.0**	372.2
-23.3	**-10.0**	14.0	4.4	**40.0**	104.0	32.2	**90.0**	194.0	60.0	**140.0**	284.0	87.8	**190.0**	374.0
-22.8	**-9.0**	15.8	5.0	**41.0**	105.8	32.8	**91.0**	195.8	60.6	**141.0**	285.8	88.3	**191.0**	375.8
-22.2	**-8.0**	17.6	5.6	**42.0**	107.6	33.3	**92.0**	197.6	61.1	**142.0**	287.6	88.9	**192.0**	377.6
-21.7	**-7.0**	19.4	6.1	**43.0**	109.4	33.9	**93.0**	199.4	61.7	**143.0**	289.4	89.4	**193.0**	379.4
-21.1	**-6.0**	21.2	6.7	**44.0**	111.2	34.4	**94.0**	201.2	62.2	**144.0**	291.2	90.0	**194.0**	381.2
-20.6	**-5.0**	23.0	7.2	**45.0**	113.0	35.0	**95.0**	203.0	62.8	**145.0**	293.0	90.6	**195.0**	383.0
-20.0	**-4.0**	24.8	7.8	**46.0**	114.8	35.6	**96.0**	204.8	63.3	**146.0**	294.8	91.1	**196.0**	384.8
-19.4	**-3.0**	26.6	8.3	**47.0**	116.6	36.1	**97.0**	206.6	63.9	**147.0**	296.6	91.7	**197.0**	386.6
-18.9	**-2.0**	28.4	8.9	**48.0**	118.4	36.7	**98.0**	208.4	64.4	**148.0**	289.4	92.2	**198.0**	388.4
-18.3	**-1.0**	30.2	9.4	**49.0**	120.2	37.2	**99.0**	210.2	65.0	**149.0**	300.2	92.8	**199.0**	390.2
-17.8	**0.0**	32.0	10.0	**50.0**	122.0	37.8	**100.0**	212.0	65.6	**150.0**	302.0	93.3	**200.0**	392.0

Cord Technical Information 11



As applications become more intricate, specifying wire and cable products to meet commercial, industrial and specialty requirements has become more time-consuming and complex.

Today's designers, installers and contractors must be aware not only of general power transmission types but also of the myriad of materials available to meet specific environmental and electrical performance criteria.

This technical section is presented to aid in the selection of cord products to best suit specific designs and applications.

For technical issues and questions, please contact your local General Cable distributor, your retailer or your Inside Sales Representative.

Index	Page

AWG to Metric Conversion Chart

SIZE (AWG)	mm^2	SIZE (AWG)	mm^2
18	0.82	1/0	53.5
16	1.31	2/0	64.4
14	2.08	3/0	85.0
12	3.31	4/0	107.0
10	5.26	250	127.0
9	6.63	300	152.0
8	8.37	350	177.0
6	13.30	500	253.0
4	21.15	600	304.0
2	33.62	750	380.0
1	42.40	1000	507.0

Common Wire Conductor Stranding

STRANDING CLASS	14–2 AWG	1–4/0 AWG	250 MCM – 500 MCM
B	7 STR	19 STR	37 STR
C	19 STR	37 STR	61 STR
D	37 STR	61 STR	91 STR
G	49 STR	133 STR	259 STR
H	133 STR	259 STR	427 STR
I	All sizes use 24 AWG wires		
K	All sizes use 30 AWG wires		
M	All sizes use 34 AWG wires		

Bend Radius Calculation per ICEA

Bend Radius = 6 x nominal OD (typically in inches)

Applies to the following cable types:

SJ	G-GC
SO	Welding
W	Stage Lighting & Entertainment
G	

Class K Copper Stranding

Size	Rope-Lay with Bunch Stranding		Bunch Stranding		Weight
AWG or kcmil	Nominal Number of 30 AWG Wires	Strand Construction	Nominal Number of 30 AWG Wires	Approx. O.D. (inches)	lbs./1000 ft.
1,000	10,101	37 x 7 x 39	10,101	1.419	3,270
900	9,065	37 x 7 x 35	9,065	1.323	2,935
800	7,980	19 x 7 x 60	7,980	1.305	2,585
750	7,581	19 x 7 x 57	7,581	1.276	2,455
700	6,916	19 x 7 x 52	6,916	1.207	2,240
650	6,517	19 x 7 x 49	6,517	1.166	2,110
600	5,985	19 x 7 x 45	5,985	1.125	1,940
550	5,453	19 x 7 x 41	5,453	1.056	1,765
500	5,054	19 x 7 x 38	5,054	0.988	1,635
450	4,522	19 x 7 x 34	4,522	0.933	1,465
400	3,990	19 x 7 x 30	3,990	0.878	1,290
350	3,458	19 x 7 x 26	3,458	0.809	1,120
300	2,989	7 x 7 x 61	2,989	0.768	960
250	2,499	7 x 7 x 51	2,499	0.682	802
4/0	2,107	7 x 7 x 43	2,107	0.627	676
3/0	1,666	7 x 7 x 34	1,666	0.533	535
2/0	1,323	7 x 7 x 27	1,323	0.470	425
1/0	1,064	19 x 56	1,064	0.451	338
1	836	19 x 44	836	0.397	266
2	665	19 x 35	665	0.338	211
3	532	19 x 28	532	0.304	169
4	420	7 x 60	420	0.272	132
5	336	7 x 48	336	0.235	106
6	266	7 x 38	266	0.202	84
7	210	7 x 30	210	0.179	66
8	168	7 x 24	168	0.157	53
9	133	7 x 19	133	0.146	42
10	–	–	104	0.126	32.5
12	–	–	65	0.101	20.3
14	–	–	41	0.078	12.8
16	–	–	26	0.060	8.0
18	–	–	16	0.048	5.0
20	–	–	10	0.038	3.2

Sources: ASTM B172 Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members and ICEA S-68-516 (NEMA WC8).

Class M Copper Stranding

Size	Rope-Lay with Bunch Stranding		Bunch Stranding		Weight
AWG or kcmil	Nominal Number of 34 AWG Wires	Strand Construction	Nominal Number of 34 AWG Wires	Approx. O.D. (inches)	lbs./1000 ft.
1,000	25,193	61 x 7 x 59	25,193	1.404	3,240
900	22,631	61 x 7 x 53	22,631	1.331	2,910
800	20,069	61 x 7 x 47	20,069	1.256	2,580
750	18,788	61 x 7 x 44	18,788	1.207	2,415
700	17,507	61 x 7 x 41	17,507	1.183	2,250
650	16,226	61 x 7 x 38	16,226	1.133	2,085
600	14,945	61 x 7 x 35	14,945	1.084	1,920
550	13,664	61 x 7 x 32	13,664	1.035	1,755
500	12,691	37 x 7 x 49	12,691	0.997	1,630
450	11,396	37 x 7 x 44	11,396	0.940	1,465
400	10,101	37 x 7 x 39	10,101	0.901	1,300
350	8,806	37 x 7 x 34	8,806	0.825	1,130
300	7,581	19 x 7 x 57	7,581	0.768	975
250	6,384	19 x 7 x 48	6,384	0.713	821
4/0	5,320	19 x 7 x 40	5,320	0.645	684
3/0	4,256	19 x 7 x 32	4,256	0.576	547
2/0	3,325	19 x 7 x 25	3,325	0.508	427
1/0	2,646	7 x 7 x 54	2,646	0.423	337
1	2,107	7 x 7 x 43	2,107	0.376	268
2	1,666	7 x 7 x 34	1,666	0.337	212
3	1,323	7 x 7 x 27	1,323	0.305	169
4	1,064	19 x 56	1,064	0.269	134
5	836	19 x 44	836	0.240	105
6	665	19 x 35	665	0.215	84
7	532	19 x 28	532	0.196	67
8	420	7 x 60	420	0.162	53
9	336	7 x 48	336	0.146	42
10	259	7 x 37	259	0.126	32.5
12	168	7 x 24	168	0.101	21.0
14	–	–	104	0.078	12.8
16	–	–	65	0.060	8.0
18	–	–	41	0.048	5.0
20	–	–	26	0.038	3.2

Sources: ASTM B172 Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members and ICEA S-68-516 (NEMA WC8).

Installation — Training and Bending Limitations

Physical Limitations Training and Bending

Overview

Training is the positioning of cable when it is not under tension. Bending is the positioning of cable when it is under tension. When installing cable, the object is to limit the mechanical forces so that the cable's physical and electrical characteristics are maintained for the expected service life. Bends in conductors, multiconductor cables or assemblies of conductors shall be made so that the cable will not be damaged.

A nonshielded cable can tolerate a sharper bend than a shielded cable. This is especially true for cables having helically applied metallic shielding tapes which, when bent too sharply, can separate or buckle and cut into the insulation. Remember that offsets are bends.

The problem is compounded by the fact that most tapes are under jackets that conceal such damage. The extruded polymers used for insulation shields have sufficient conductivity and coverage initially to pass acceptance testing, then fail prematurely due to corona at the shield/insulation interface.

Minimum Bending Radius in Accordance with National Electric Code

Voltage	Conductors	Shielding	Cable Types	Minimum Bending Radius as a Multiple of Conductor/Assembly Diameter		
600 V	Single	Nonshielded	All	5X		
601-2000 V			All	8X		
600 V or 2000 V	Multiconductor or Multiplexed	Nonshielded	TC or TC-ER	1 in. (25 mm) or less	Over 1 in. to 2 in. (>25 mm to 50 mm)	Over 2 in. (>50 mm)
				4X	5X	6X
			MC[1]	7X		
		Shielded	All	12X		
			TC or TC-ER	12X		
			MC	12X/7X[1]		

[1] Per 330.24B Interlocked-Type Armor or Corrugated Sheath.

Cord Product Coding System

Cord Packaging and Color Codes

Example: 02725.41.01

Product Number

Packaging Code Identification Numbers

CODE	PACKAGING	CODE	PACKAGING
15/R5	250' Spool	41	1000' Reel
18/R8	500' Spool	43	2000' Reel
21	1000' Spool	44	2500' Reel
24	2500' Spool	46	5000' Reel
35	250' Reel	85	250' Coil
38	500' Reel	99	LL Reel
40	LL Reel	XX	Shorts

Jacket Color Code Identification Numbers

CODE	COLOR	CODE	COLOR
01	Black	07	Blue
02	White	08	Brown
03	Red	10	Gray
04	Orange	13	Pink
05	Yellow	19	Purple
06	Green	77	Light Blue

Voltage Drop Calculations

To Find Volts Lost:

1. Multiply current (amperes) by the distance (feet in one conductor) by the figure in the table below for the type of system and wire used.
2. Place a decimal in front of the last six figures.
3. The result is number of volts lost.

Note: For AC 3 Phase Current Voltage Drop obtained is phase-to-phase.

WIRE SIZE	POWER FACTOR %	AC SINGLE PHASE	AC THREE PHASE	DC	WIRE SIZE	POWER FACTOR %	AC SINGLE PHASE	AC THREE PHASE	DC
14 AWG	100	5880	5090	5880	**3/0 AWG**	100	149	129	144
	90	5360	4640			90	179	155	
	80	4790	4150			80	181	156	
	70	4230	3660			70	177	153	
	60	3650	3160			60	171	148	
12 AWG	100	3690	3190	3690	**4/0 AWG**	100	121	104	114
	90	3380	2930			90	152	131	
	80	3030	2620			80	156	135	
	70	2680	2320			70	155	134	
	60	2320	2010			60	151	131	
10 AWG	100	2320	2010	2820	**250 kcmil**	100	102	89	97
	90	2150	1861			90	136	117	
	80	1935	1675			80	143	123	
	70	1718	1487			70	143	124	
	60	1497	1296			60	141	122	
8 AWG	100	1462	1265	1462	**300 kcmil**	100	86	75	81
	90	1373	1189			90	121	104	
	80	1248	1081			80	128	111	
	70	1117	969			70	131	113	
	60	981	849			60	130	113	
6 AWG	100	918	795	918	**350 kcmil**	100	74	64	69
	90	882	764			90	109	95	
	80	812	703			80	118	102	
	70	734	636			70	122	105	
	60	653	565			60	122	106	
4 AWG	100	578	501	578	**400 kcmil**	100	66	57	60
	90	571	494			90	101	88	
	80	533	462			80	111	96	
	70	489	423			70	115	99	
	60	440	381			60	116	101	
2 AWG	100	367	318	363	**500 kcmil**	100	54	47	48
	90	379	328			90	89	78	
	80	361	313			80	99	86	
	70	337	292			70	105	91	
	60	309	268			60	108	93	
1 AWG	100	291	252	288	**600 kcmil**	100	47	41	40
	90	311	269			90	83	72	
	80	299	259			80	93	81	
	70	284	246			70	99	86	
	60	264	229			60	103	89	
1/0 AWG	100	233	202	229	**750 kcmil**	100	39	34	32
	90	257	222			90	75	65	
	80	252	218			80	86	75	
	70	241	209			70	93	81	
	60	227	106			60	97	84	
2/0 AWG	100	187	162	181	**1000 kcmil**	100	31	27	24
	90	213	184			90	67	58	
	80	212	183			80	79	68	
	70	206	178			70	86	75	
	60	196	169			60	91	78	

Insulation and Jacket Properties

TYPICAL PROPERTIES OF COMMON INSULATING MATERIALS

PARAMETER	PVC	PE	PP	XLPE	NYLON	EPDM	TFE	BUTYL RUBBER	SILICONE RUBBER	TPR
Specific Gravity	1.37	0.92	0.89	0.93-1.18	1.09	1.43	2.17	1.40	1.60	1.16-1.20
Dielectric Constant										
(a) 60 Hz	6.0	2.26	2.6	3.0	4.6	3.4	2.1	4.1	3.3	2.8
(b) 1000 Hz	5.0	2.25		3.0	4.5	3.4	2.1	4.0	3.1	2.8
Dielectric Strength, v/mil										
(a) 0.010" wall	1800	2100	850	-	1000	700	2000	700	600	625
(b) 0.040" wall	800	1050	450	700	470	500	950	500	400	
Tensile Strength, PSI x 1000	1.5-3.8	1.4-2.4	2.9-4.5	1.8-2.5	8.8-11.9	0.8-1.2	2.0-6.0	0.5-1.5	0.6-1.2	2.3
Service Temp. Range, °C	-55/+105	-90/+90	-40/+105	-55/+105	-55/+105	-55/+105	-90/+260	-40/+90	-80/+200	-55/+90
Elongation, %	200-375	350-550	700	250-400	150-380	250-450	200-500	200-400	125-400	500
Water Absorption, % in 24 hr	<0.75	<0.02	<0.02	<0.01	2.5	<0.1	<0.01	<1.0	<1.0	<0.6
Flame Resistance	Self-Extinguishing	Support Flame	Support Flame	Slow Flame	Self-Extinguishing	Supports Flame	Non-Flammable	Slow Burning	Slow (Non-Cond. Ash)	Flammable
Ozone Resistance	Excellent	Good	Excellent	Good	Good	Excellent	Excellent	Excellent	Excellent	Excellent
Flexibility	Good	Good	Good	Good-Fair	Good-Fair	Excellent	Good	Excellent	Excellent	Excellent
Abrasion Resistance	Good	Good	Fair	Excellent	Excellent	Fair	Excellent	Poor	Poor	Good-Fair
Acid Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Excellent
Base Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	Excellent
Hydraulic Fluid Resistance	Good-Fair	Fair-Poor	Fair	Good-Fair	Good-Fair	Good-Fair	Excellent	Poor	Fair-Poor	Poor
Organic Solvent Resistance	Fair-Poor	Poor	Fair	Fair	Good-Fair	Fair-Poor	Excellent	Good-Fair	Poor	Poor

NOTE: The above is representative of performance. For specific compound performance, consult factory.

TYPICAL PROPERTIES OF COMMON JACKETING MATERIALS

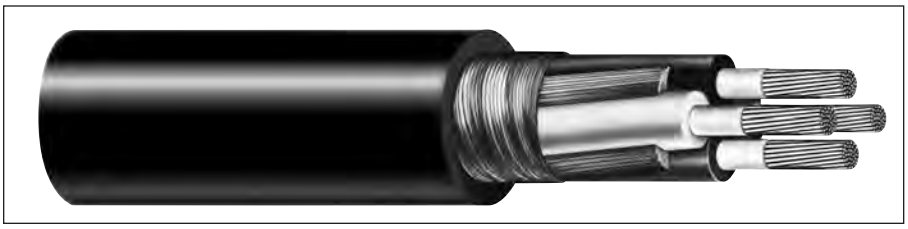
PARAMETER	PVC	PE	NYLON	CPE	TFE	SILICONE RUBBER	NEOPRENE	POLY-URETHANE	TPR
Specific Gravity	1.37	0.92	1.09	1.46	2.17	1.24	1.52	1.3	1.16-1.20
Tensile Strength, PSI x 1000	1.5-3.8	1.4-2.4	8.8-119	1.2-2.0	2.0-6.0	0.6-1.2	1.5-2.5	>3.5	2.3
Elongation, %	200-375	350-550	150-380	300-500	200-500	125-400	300-500	540-700	500
Service Temp. Range,°C	-55/+105	-80/+75	-55/+105	-50/+105	-90/+200	-80/+200	-65/+90	-65/+75	-55/+90
Ozone Resistance	Excellent	Good	Good	Excellent	Excellent	Excellent	Excellent	Good	Excellent
Weatherability	Good-Fair	Excellent-Good	Fair-Poor	Excellent	Excellent	Excellent	Good	Good	Excellent
Flame Resistance	Self-Extinguishing	Supports Flame	Flammable	Self-Extinguishing	Non-Flammable	Slow-Burn (Non-Cond. Ash)	Self-Extinguishing	Slow-Burn	Flammable
Flexibility	Good	Good	Good-Fair	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Abrasion Resistance	Good	Good	Excellent	Good	Excellent	Poor	Excellent	Excellent	Good-Fair
Acid Resistance	Excellent	Excellent	Poor	Good	Excellent	Poor	Good	Fair	Excellent
Base Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	Fair	Excellent
Hydraulic Fluid Resistance	Good-Fair	Fair-Poor	Good-Fair	Good	Excellent	Fair-Poor	Good	Poor	Good
Organic Solvent Resistance	Fair-Poor	Poor	Good-Fair	Good	Excellent	Poor	Good	Poor	Poor
Resistance to Tearing	Good	Good	Excellent	Good	Good	Fair	Good	Excellent	Good-Fair

NOTE: The above is representative of performance. For specific compound performance, consult factory.

Government and Military Wire and Cable Specifications

J-C-90: Flexible cord and fixture wire.
J-C-96: Neoprene jacketed telephone wire.
J-C-580: Flexible cord and fixture wire.
J-C-0741: Rubber and/or neoprene welding cable.
MIL-C-17: Coaxial cable – polyethylene and Teflon dielectric.
MIL-C-915, MIL-C-2194: Shipboard cable.
MIL-C-1486: 10 conductor WM-46/U only.
MIL-C-3078: Cable, electric, insulated low tension single conductor.
MIL-C-3432: 300 volt and 600 volt rubber insulated power and control cable.
MIL-C-3458: Cables, telephone.
MIL-C-3702: Cable, power electrical, ignition, high tension.
MIL-C-3849: Tinsel cord. Light duty low voltage flexible cord for switchboards, microphones, telephones, etc.
MIL-C-3883: Cord electrical (audio frequency).
MIL-C-3884: Conductor electrical (short lay).
MIL-C-4839: KEL-F insulated cable, WF-15/U.
MIL-C-4866: RG-62 B/U cable.
MIL-C-4921A (ASG): Single conductor 8 AWG 5,000 volt cable with butyl compound insulation and polychloroprene. For airport lighting.
MIL-C-5136: Cable, power, electric, polychloroprene sheathed, buna compound insulated.
MIL-C-5767: Low temperature rubber portable cords.
MIL-C-6166: Cord, headset-microphone CX1301/AR.
MIL-C-7078: 600 volt aircraft cable.
MIL-C-8721 (ASG): Cable, ignition high tension, aircraft quality.
MIL-C-8721: Miniature coaxial cables with Teflon TFE cores.
MIL-C-8817 (ASG): Cable ignition, high tension, aircraft quality.
MIL-C-9360: RG 134/U cable
MIL-C-10065: Cables, special purpose electrical (multi-pair) audio frequency.
MIL-C-10369: Cable, telephone field, for rapid payout.
MIL-C-10392: Cables, special purpose, electric (miniature).
MIL-C-10581: Cables telephone, cable assemblies, telephone, coil assembly, telephone loading
MIL-C-11060: Cables, twisted pair, internal hook-up, unshielded and shielded.
MIL-C-11097: Cable, telephone (Wire W-50-A).
MIL-C-11311: Telephone cable types WD-31/U and WT-24/U.
MIL-C-11440: Cable, power electrical.
MIL-C-12064: Low temperature power cable and cords for Arctic service.
MIL-C-12423: Cable, telephone WD-33 U.
MIL-C-12881: Cables, telephone, switchboard (cable and cable assemblies).
MIL-C-12992: Cable assembly, power, electrical (Cord CX-227 TVQ- 1).
MIL-C-13066: Cable, telephone (submarine No. 19 AWG and No. 22 AWG).
MIL-C-13077: Cable, special purpose, electrical.
MIL-C-13486: Cables, special purpose electrical: low tension, heavy duty, single CDR & multiconductor shielded arid unshielded
MIL-C-13777: Multi-conductor missile ground support cable.
MIL-C-13892: Cable, telephone (flexible).
MIL-C-14189: Cable, power electrical, 3000 volt, for field use.
MIL-C-15325: Cable, tow, electric (three conductor).
MIL-C-15479: Cables, power, electrical, submarine, Navy Standard Harbor Defense.
MIL-C-18959: Cable power, electrical, portable neoprene jacketed 600 volt.
MIL-C-18961: Cable, special purpose, electrical and wire, electrical, shot
MIL-C-18962: Cable, power, electrical, direct burial, neoprene jacketed 600 volt.
MIL-C-19381 (Ships): Cables, special purpose, electrical nuclear plant.
MIL-C-19547: Cables, electrical, special purpose, shore use.
MIL-C-19638: Cables, power electric, submarine, Navy Harbor Defense.
MIL-C-19654: Cable, telephone, submarine.
MIL-C-19787: Cable, electric, torpedo, 65 conductor (torpedo control, electric setting).
MIL-C-19883: Cables, special purpose, electric, for remote control radar set AN/FPN-28.
MIL-C-21069: Cable, electrical, shield, 600 volt (non-flexing service).
MIL-C-22667: Cable, special purpose, buoyant, electrical (submarine use).
MIL-C-23020: Coaxial cable for use inside submarines (water blocked).
MIL-C-23206: Cable, special purpose, electrical. Silicone rubber, water blocked.
MIL-C-23437: Cable, electrical, shielded pairs.
MIL-C-24145 (Ships): Cable, electrical special purpose for shipboard use (water blocked and non-water blocked). Formerly BuShip 660 L.
MIL-C-24640: Cable, electrical, lightweight for shipboard use.
MIL-C-24643: Cable and cord, electrical, low-smoke for shipboard use.
MIL-C-25115: RG-62 C/U.
MIL-C-25509: RG-115 A U
MIL-C-26468 (USAF): Cables, guided missile, ground installation, general requirements for.
MIL-C-27072: Multi-conductor ground support cable.
MIL-C-27212: Cable, power, electrical, airport lighting control.
MIL-C-27500: Shielded and unshielded aircraft and missile cables.
MIL-C-36359 (USAF): Power cable of two voltage range for airport lighting 8 AWG (3,000-5,OOOV) CCLP insulated.
MIL-C-55021: Cables, twisted pairs and triples, internal hook-up, shielded and unshielded.
MIL-C-55036: Cable, telephone, WM130##/6.
MIL-E-9085 (USAF): Electrical cord, WM-85/u.
MIL-E-9088 (USAF): Electrical cord, WF-15/u.
MIL-R-833 (USAF): RF cable, RG12/u.
MIL-STD-122: Color code for chassis wiring for electronic equipment.
MIL-STD-681: Identification coding and application of hook-up wire.
MIL-W-76: General purpose hook-up wire. Vinyl insulated types LW, MW and HW.
MIL-W-438: Wire ignition electric power.
MIL-C-442: Thermoplastic or rubber jacketed two conductor parallel rip cord.
MIL-W-583: Wire, magnet, electrical.
MIL-W-3093: Wire, insulated, W-121, W-122, W-123, WD15/u, WD-16, WF-9/u, WT-3/u (distributing, frame wires).
MIL-W-3104: Wire, insulated No. 20 AWG, extra flexible.
MIL-W-3975: Wire, electrical (tinsel).
MIL-W-3861: Wire, electrical (bare copper).
MIL-W-5086: 600 volt aircraft wire (copper conductors).
MIL-W-5088: Installation of wiring and wiring devices in aircraft.
MIL-W-5274: Spec for aircraft wire, Type I 600V, Type II 600V, Type 111 300 rating
MIL-W-5845: Wire, electrical, iron and constantan, thermocouple.
MIL-W-5846: Wire, electrical, chromel and alumel, thermocouple.
MIL-W-5908: Wire, electrical, copper and constantan, thermocouple.
MIL-W-6370: Wire, electrical, insulated antenna.
MIL-W-7072: 600 volt aircraft wiring (aluminum conductors).
MIL-W-7500: Wire, electrical, WS-31-U.
MIL-W-8160: Installation of wire in guided missiles.
MIL-W-877: 600 volt silicone rubber insulated aircraft wire.
MIL-W-12349: KEL-F insulated hook-up wire.
MIL-W-12410: General purpose hook-up wire similar to MIL-W-76.
MIL-W-12995: Wire, electrical (W-29 and W-120).
MIL-W-13075: Wire, electrical
MIL-W-13169: Wire, electrical (for instrument test leads).
MIL-W-13241: Wire, electrical.
MIL-W-16400: General specification for electronic equipment, Naval ship and shore.
MIL-W-16878: Electronic hook-up wire. Includes vinyl (Types B, C, and D), Teflon (Types ET, E, EE, KT, K and KK) and polyethylene (Type J).
MIL-W-17211 (Ships): Wire, electrical, radio antenna 7/12, 7/14, 7/16, 7/18, 7/20, 7/22.
MIL-W-19150: Wire, insulated, hard drawn copper.
MIL-W-19583 (Navy): Wire, electrical, magnet, high temperature, film insulated.
MIL-W-21306: Wire, electrical twisted pair, color coded switchboard.
MIL-W-22759: Teflon and Tefzel insulated airframe wire.
MIL-W-25038: Wire, electrical, high temperature and fire-resistant aircraft.
MIL-W-27300: Teflon insulated 600 volt aircraft wire.
MIL-W-81044: Irradiated wire for aircraft and hook-up.
MIL-W-81381: Wire, electric polyamide insulated copper and copper alloy (Kapton H-film).
MIL-W-81822: Solid conductor, wire wrap insulated and uninsulated.
NAS-702: General purpose PVC insulated hook-up wire.
NAS-703: High temperature general purpose Teflon TFE insulated wire. Similar to Types E and EE of MIL-W-16878.

Cordset Technical Information 12



General Cable takes pride in offering high-quality cordsets to our customers that provide reliable service year after year in the most rugged uses and application conditions. From our innovative **Plug-it®** line of cordset products and extension cord accessories to the ultimate extension cord in the industry – **FrogHide®** – we sell the products that power you forward.

Handy information and technical data in this section will help in the correct selection and matching of our cordset products to your application. For difficult applications or more detailed technical questions, please contact your local General Cable distributor, your retailer, or your Inside Sales Representative.

Index **Page**

Extension Cord Facts

What does AWG mean?

AWG means American Wire Gauge. It designates the size of the copper wire. The standard sizes for extension cords are 16 AWG, 14 AWG, 12 AWG and 10 AWG. The smaller the AWG number, the larger the size of the copper wire and wattage rating.

What do the amp and watt ratings mean?

Never plug more than the specific number of watts into a cord. For example, could you plug a 150-watt lamp, a 60-watt lamp and a 10-amp appliance into an extension cord rated 13 amps/1625 watts?

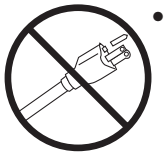
Use the Amp to Watt Conversion Table to determine the total number of watts to be used (150 watts + 60 watts + 1250 watts = 1460 watts). Therefore, it is safe to use the 13-amp/1625-watt extension cord.

Always look for the Underwriters Laboratory label which is permanently attached or molded into the cord. Read the label for instructions and electrical ratings.

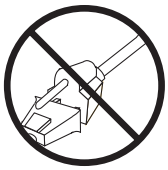
Amps To Watts (@ 125 V) Conversion Table		
0	=	0
1	=	125
2	=	250
3	=	375
4	=	500
5	=	625
6	=	750
7	=	875
8	=	1000
9	=	1125
10	=	1250
11	=	1375
12	=	1500
13	=	1625
14	=	1750
15	=	1875

How to use an extension cord properly.

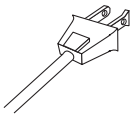
- Be sure the cord you have selected meets the intended use. Never use a cord outdoors that is not marked for outdoors.
- Inspect cord thoroughly before each use. Do not use if damaged.



- Do not remove, bend or modify any metal prongs or pins of plug.
- Look for the number of watts on appliances to be plugged into cord.
- Refer to UL Label on cord for specific wattage.
- Do not connect a three-prong plug into a two-hole cord.



- Do not plug more than the specified number of watts into a cord.
- Make sure appliance is off before connecting cord to outlet.



- A polarized plug has one blade wider than the other.
- Fully insert plug into outlet.
- Do not use excessive force to make connections.
- Do not run cords through doorways, holes in ceilings, walls or floors.
- Do not use an extension cord when wet.

- Keep extension cords away from water.
- Keep children and pets away from extension cords.

- Avoid overheating. Uncoil cord and do not cover it with any other material.
- Do not plug one extension cord into another.
- Do not drive, drag or place objects over extension cord.
- Always grasp plug when removing it from cord or outlet.
- Do not unplug by pulling on cord.

- Always store extension cords indoors.

- Do not walk on cord.
- Always unplug cord when not in use.
- Always look for the Underwriters Laboratory (UL) label which is permanently attached or molded into the cord. Read the label for instructions and electrical ratings.

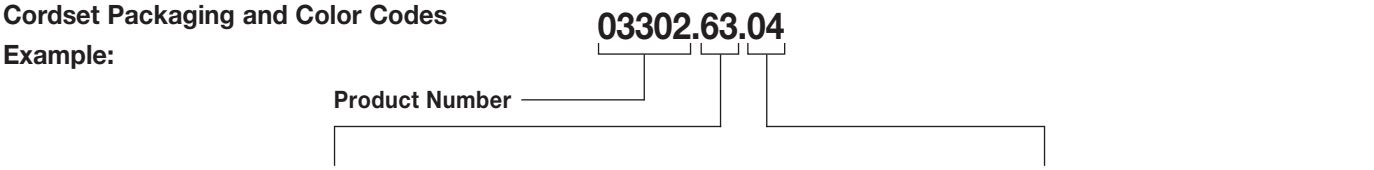
CAROL BRAND

General Cable

Cordset Product Coding System

Cordset Packaging and Color Codes

Example:



Packaging Code Identification Numbers

CODE	PACKAGING	CODE	PACKAGING
13	Clamshell	70	Bulk (with tie)
60	Cuff	73	Bulk (without tie)
61	Box	96	Card
63	Sleeve		

Jacket Color Code Identification Numbers

CODE	COLOR	CODE	COLOR
00	No color	06	Green
01	Black	07	Blue
02	White	08	Brown
03	Red	10	Gray
04	Orange	17	Beige
05	Yellow		

Surface Printed Legend

Our extension cords have surface-printed jackets to provide a means of identifying and distinguishing between different types of extension cords.

Example: 16/3 SJTW OUTDOOR E-XXXXX (UL)

- 16/3 — Gauge & Conductor
- SJTW — Jacket Compound
- OUTDOOR — Application
- E-XXXXX — UL Identification #
- (UL) — UL Listed

Inner Wire Color Code Chart

NO. OF CONDUCTORS	COLOR
2	Black, White
3	Black, White, Green
4	Black, White, Green, Red

Understanding Wire Gauge

- Gauge refers to the size of the wire
- The thinner the wire, the higher the gauge number
- The thicker the wire, the lower the gauge number

- The lower the gauge, the more electrical current (amps) the wire can carry
- The lower the gauge, the longer distance the wire can be run from an electrical source

How to Select the Right Extension Cord

1. Look up the amp rating on the power tool or appliance.

Extension Cord Selector

EQUIPMENT	AMP RATING
Circular Saw	12-15
Power Drill	3-7
Hedge Trimmer	2-3
Weed Trimmer	2-4
Chain Saw	7-12
Leaf Blower	6-12
Bug Killer	1-2
Lawn Mower	6-12

2. Determine the maximum distance the tool or appliance will be from the electrical outlet.
3. Use the Extension Cord Selector chart below to identify the proper gauge.

Extension Cord Selector

MAXIMUM DISTANCES	UP TO 10 AMPS	UP TO 15 AMPS
0' to 25'	16 Gauge	14 Gauge
25' to 50'	16 Gauge	14 Gauge
50' to 75'	16 Gauge	12 Gauge
75' to 100'	16 Gauge	12 Gauge

Extension Cord Performance Guide

	FROGHIDE® ULTRA FLEX® RUBBER	LIFETIME PLUS® SUPER FLEX®	ALL WEATHER BLUE	SAFETY ORANGE®
Low-Temp Flex	Excellent	Good	Good	Fair
Room-Temp Flex	Excellent	Very Good	Very Good	Good
Oil Resistance	Excellent	Very Good	Very Good	Fair
Cap/Cord Bonding	Excellent	Very Good	Very Good	Good
Abrasion Resistance	Excellent	Very Good	Very Good	Very Good
Chemical Resistance	Excellent	Very Good	Very Good	Very Good
Heat Softening	Excellent	Fair	Fair	Fair
Water Resistance	Excellent	Excellent	Excellent	Excellent
Flame Resistance	Excellent	Very Good	Very Good	Very Good

Ground Fault Circuit Interrupters (GFCI)

What is the GFCI?

The GFCI is a fast-acting circuit interrupter that senses small current imbalances.

These small imbalances in the circuit are caused by current leakage to ground and, in a fraction of a second, the GFCI shuts off the electricity. The GFCI continually matches the amount of current going to an electrical device against the amount of current returning from the device along the normal path. Whenever the amount "going" differs from the amount "returning" by approximately 5 milliamps, the GFCI interrupts the electrical power within as little as 1/40 of a second.

What are OSHA's Electrical Standards for Construction?

GFCIs can be used successfully to reduce electrical hazards on construction sites...

Tripping of GFCIs - interruption of current flow - is sometimes caused by wet connectors and tools. It is a good practice to limit exposure of connectors and tools to excessive moisture by using watertight or sealable connectors. Providing more GFCIs or shorter circuits can prevent tripping caused by the cumulative leakage from several tools or by leakages from extremely long circuits.

To help cope with the electrical hazards at construction sites...

The Occupational Safety and Health Administration (OSHA) issued a revision of OSHA safety and health regulation, 29 Code of Federal Regulations Part 1926, Subpart K (Electrical Standards of Construction). This revision was published in the federal Register and contains the requirements for the GFCI and the assured equipment grounding conductor program.

What are the Employer's Responsibilities on a Construction Site?

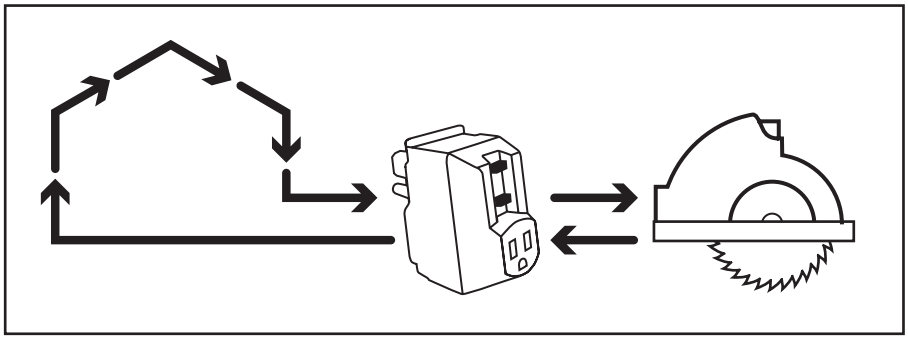
OSHA ground-fault protection rules and regulations have been determined necessary and appropriate for employee safety and health.

Therefore, it is the employer's responsibility to provide either...

- Ground-fault circuit interrupters on construction sites for receptacle outlets in use and not a part of the permanent wiring of the building or structure.
- A scheduled and recorded assured equipment grounding conductor program on construction sites, covering all cordsets, receptacles that are not part of the permanent wiring of the building or structure, and equipment connected by cord and plug that are for use or used by employees.

It is also the employer's responsibility to provide approved ground fault circuit interrupters for a 120-volt, single-phase, 15- and 20-ampere receptacle outlets on construction sites that are not part of the permanent wiring of the building or structure, and that are in use by employees. Receptacles on the ends of extension cords are not part of the permanent wiring and, therefore must be protected by GFCIs whether or not the extension cord is plugged into permanent wiring.

Effective management of worker safety and health protection is a decisive factor in reducing the extent and severity of work-related injuries and illnesses and their related costs. An effective program includes provisions for the systematic identification, evaluation and prevention or control of general workplace hazards, specific job hazards and potential hazards that may arise from foreseeable conditions. An effective program will include management commitment and employee involvement, work site analysis, hazard prevention and control, training and the proper equipment.



NEMA Receptacle and Plug Chart

	VOLTAGE	LINE NO.	15 AMPERE		20 AMPERE	
			RECEPTACLE	PLUG	RECEPTACLE	PLUG
2 Pole 2 Wire	125 V	1	1-15R 	1-15P 		
	250 V	2	2-15R 	2-15P 	2-20R 	2-20P 
2 Pole 3 Wire Grounding	125 V	5	5-15R 	5-15P 	5-20R 	5-20P 
	250 V	6	6-15R 	6-15P 	6-20R 	6-20P 
	277 V	7	7-15R 	7-15P 	7-20R 	7-20P 
3 Pole 3 Wire	125/250 V	10			10-20R 	10-20P 
	3 ϕ Δ 250 V	11	11-15R 	11-15P 	11-20R 	11-20P 
3 Pole 4 Wire Grounding	125/250 V	14	14-15R 	14-15P 	14-20R 	14-20P 
	3 ϕ Δ 250 V	15	15-15R 	15-15P 	15-20P 	15-20P 
4 Pole 4 Wire	3 ϕ Y 120/208 V	18	18-15R 	18-15P 	18-20R 	18-20P 

NEMA Receptacle and Plug Chart

	VOLTAGE	LINE NO.	30 AMPERE RECEPTACLE	30 AMPERE PLUG	50 AMPERE RECEPTACLE	50 AMPERE PLUG	60 AMPERE RECEPTACLE	60 AMPERE PLUG
2 Pole 2 Wire	125 V	1						
	250 V	2	2-30R 	2-30P 				
2 Pole 3 Wire Grounding	125 V	5	5-20R 	5-30P 	5-50R 	5-50P 		
	250 V	6	6-30R 	6-30P 	6-50R 	6-50P 		
	277 V	7	7-30R 	7-30P 	7-50R 	7-50P 		
3 Pole 3 Wire	125/250 V	10	10-30R 	10-30P 	10-50R 	10-50P 		
	3 ϕ Δ 250 V	11	11-30R 	11-30P 	11-50R 	11-50P 		
3 Pole 4 Wire Grounding	125/250 V	14	14-30R 	14-30P 	14-50R 	14-50P 	14-60R 	14-60P 
	3 ϕ Δ 250 V	15	15-30R 	15-30P 	15-50R 	15-50P 	15-60R 	15-60P 
4 Pole 4 Wire	3 ϕ Y 120/208 V	18	18-30R 	18-30P 	18-50R 	18-50P 	18-60R 	18-60P 

LOCKING-TYPE PLUGS AND RECEPTACLES

VOLTAGE	LINE NO.	15 AMPERE RECEPTACLE	15 AMPERE PLUG	20 AMPERE RECEPTACLE	20 AMPERE PLUG	30 AMPERE RECEPTACLE	30 AMPERE PLUG
125 V	L-1	L1-15R	L1-15P				
250 V	L-2			L2-20R	L2-20P		
125 V	L-5	L5-15R	L5-15P	L5-20R	L5-20P	L5-30R	L5-30P
250 V	L-6	L6-15R	L6-15P	L6-20R	L6-20P	L6-30R	L6-30P
277 V, A.C.	L-7	L7-15R	L7-15P	L7-20R	L7-20P	L7-30R	L7-30P
480 V	L-8			L8-20R	L8-20P	L8-30R	L8-30P
600 V	L-9			L9-20R	L9-20P	L9-30R	L9-30P

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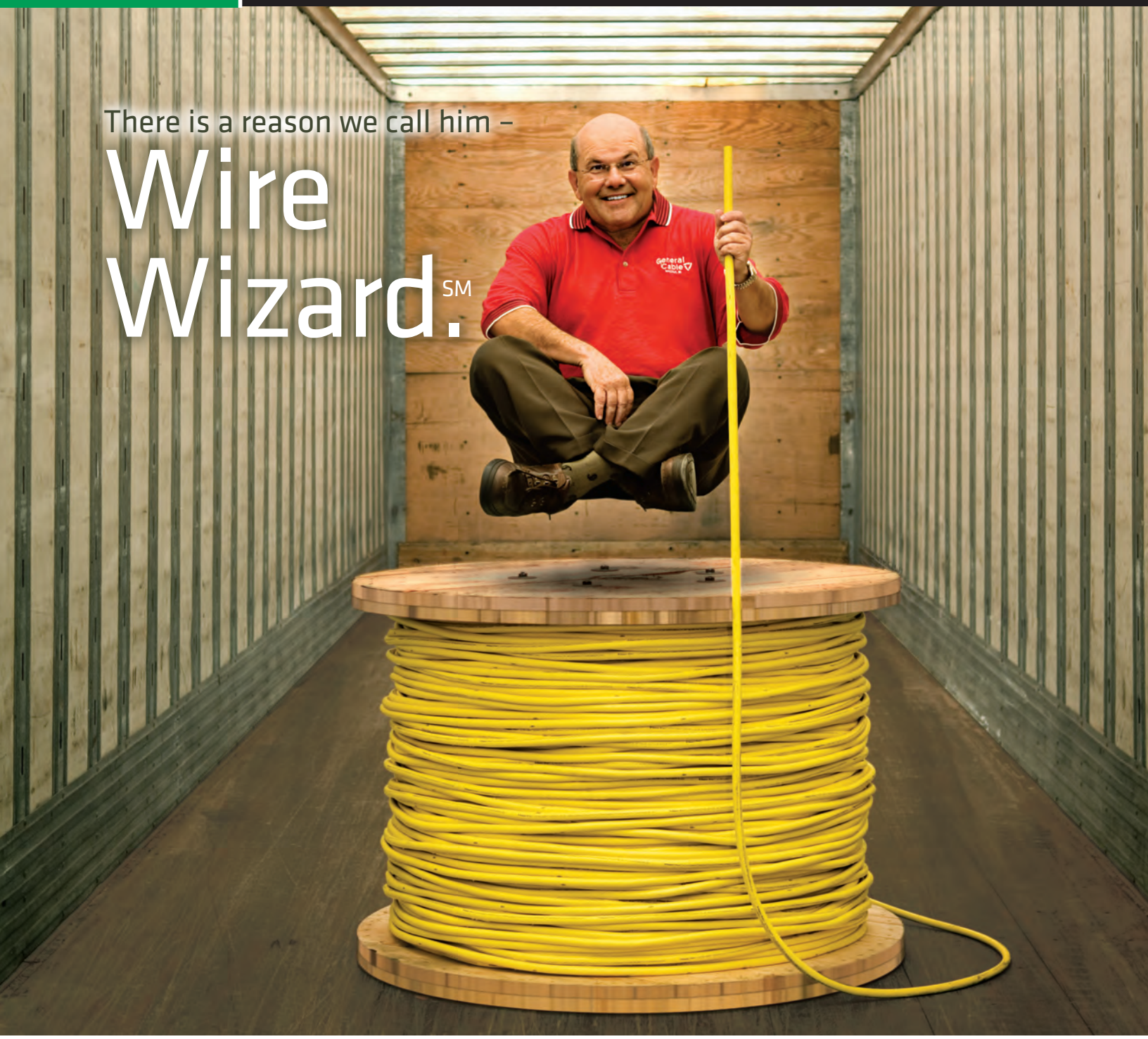
Notes



Sam Friedman–Wire Wizard.℠ When it comes to solving your problems, he makes magic happen.

Sam's highest and most challenging form of wire wizardry is new product development, followed closely by solving tough, often one-of-a-kind technical problems. His powers are also evident in quality control and in laboratory testing. We call on Sam to perform his wizardry all the time. And so do our customers. Sam, Director, Technical Services, Carol® Brand Cord Products, and the entire team of General Cable Wire Wizards are ready to perform magic. "Whether it's providing a prototype, solving an applications problem, or answering a technical question, we try to make magic happen," explains Sam. Magic or not, our Wizards always seem to find the answer and serve the customer. And there's no smoke or mirrors about that.

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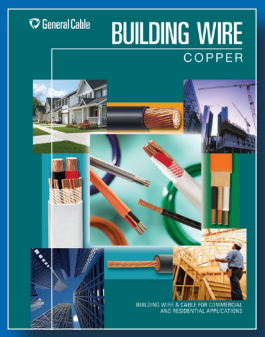

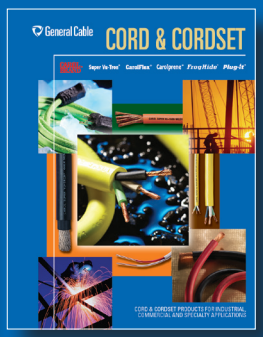

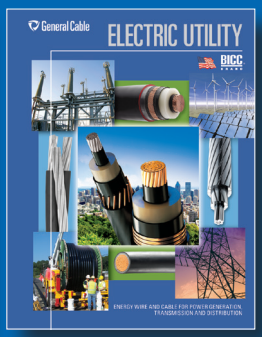

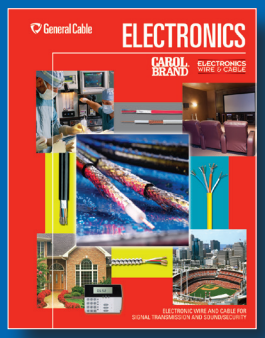

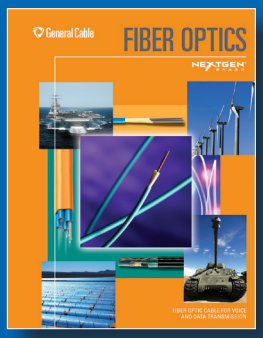

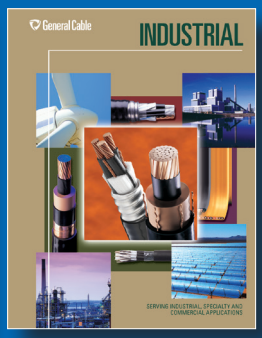

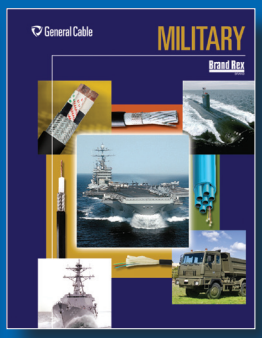

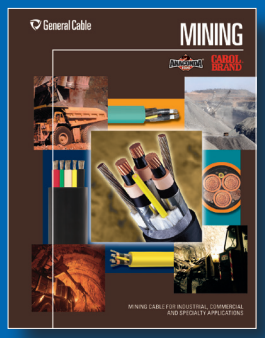

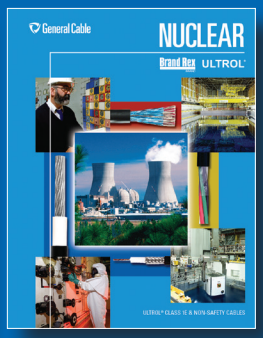

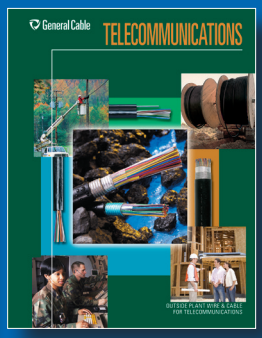

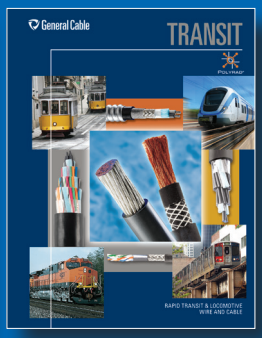

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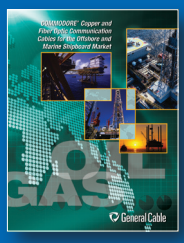

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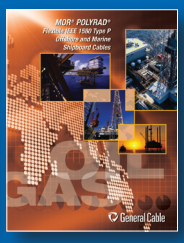

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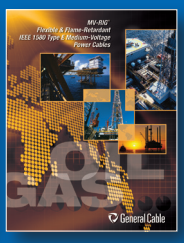

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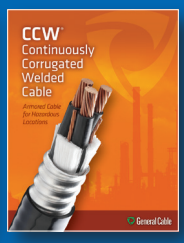

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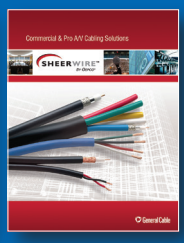

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