



Building Wire



JUNE 2017

Building Wire

Servicing Commercial and Residential Applications

This catalog contains in-depth information on our full line of building wire power cables available today. It features the latest information on products, along with detailed technical and specification data in indexed sections.

The “spec-on-a-page” format meets your needs by featuring up-to-the-minute product information. There is also a glossary of technical terms for additional assistance.

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

And of course, if you need any further data, General Cable’s Customer Service staff provides the answers you need quickly and efficiently.



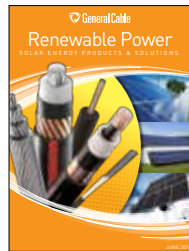
All information in this catalog is presented solely as a guide to product selection and is believed to be reliable. All printing errors are subject to correction in subsequent releases of this catalog. Although General Cable has taken precautions to ensure the accuracy of the product specifications at the time of publication, the specifications of all products contained are subject to change without notice.

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What’s New?

RENEWABLE POWER



As a company committed to environmental stewardship and renewable energy, General Cable has developed a reference guide to meet our customers’ renewable power needs. The SunGen® suite of cabling products effectively and efficiently links solar PV panels to the grid while being able to withstand the harsh operating environments of solar power applications.

FULL-LINE CATALOGS



Cord & Cordset Products

General Cable’s Carol® Brand is the most recognized name in flexible cords for temporary power. The extensive line includes portable cord, cordsets, portable power cable and premium-grade for commercial and industrial applications.



Electronic Cables

General Cable’s Carol® Brand fulfills the complete wire and cable requirements of the fast-changing electronics, sound and security marketplaces. We offer hook-up wire; communications cable; computer, coaxial and microphone cables; and designs for security systems, fire alarms and audio/visual applications.



Industrial Cables

General Cable’s line of industrial cables serves industrial, specialty and commercial applications. When you specify General Cable, not only are you assured of product excellence from legacy cables such as Uniblend®, FREP® and VNTC®, but you also have access to the most extensive line of high-quality industrial cables available anywhere in the industry.

MOBILE APPS

As a company, we continually look for ways to educate and provide time-saving tools for people interested in or using the products we manufacture. We have developed the following mobile tools and apps with you in mind.



Interactive Catalog Tool

Check out General Cable’s Calculation & Catalogs Apps and other mobile tools



North American Catalogs App



Voltage Drop Calculator



Ampacity Calculator



Conduit Fill Calculator

PRODUCT SELECTION LOCATOR

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One Company Connecting The World

POWERFUL PRESENCE · PRODUCTS PERFORMANCE · PEOPLE

General Cable has been a wire and cable innovator for over 170 years, always dedicated to connecting and powering people's lives. We are one of the largest wire and cable manufacturers in the world.

Our company serves customers through a network of manufacturing facilities in our core markets and has worldwide sales representation and distribution. We are dedicated to the production of high-quality aluminum, copper and fiber optic wire and cable and systems solutions for the energy, construction, industrial, specialty and communications sectors. With a vast portfolio of products to meet thousands of diverse application requirements, we continue to invest in research and development in order to maintain and extend our technology leadership by developing new materials, designing new products, and creating new solutions to meet tomorrow's market challenges.

In addition to our strong brand recognition and strengths in technology and manufacturing, General Cable is also competitive in such areas as distribution and logistics, marketing, sales and customer service. This combination enables us to better serve our customers globally and as they expand into new geographic markets.

General Cable offers our customers all the strengths and value of a large company, but our people give us the agility and responsiveness of a small one. We service you globally and locally.



Visit our Website at
www.generalcable.com



Corporate Social Responsibility

CREATING SHARED VALUE

General Cable believes corporate social responsibility (CSR) is about creating shared value. That means keeping a dual focus in our business decisions: what is good for us as a company and what contributes to the greater good of the communities in which we live and work.



SAFETY

Working safer by working together

General Cable has one worldwide safety vision and goal – **ZERO & BEYOND**. We measure safety performance globally, share best practices and implement sound health and safety management systems. Many of our facilities worldwide are OHSAS 18001 (safety management system) certified. All North American facilities have implemented an equivalent health and safety management system. General Cable was a pioneer in obtaining the OHSAS 18001 Certificate for Occupational Health and Safety Management Systems in Europe and North Africa.



SUSTAINABILITY

Responsible practices in daily operations

As a global leader in the wire and cable industry, General Cable recognizes its role and responsibility in promoting sustainability. Our strongest business value is continuous improvement in all areas of our company. Across our many businesses, the quest to introduce new and better products through continuous improvement in environmental designs reflects our commitment to achieving industry-leading standards and responding proactively to global environmental issues. General Cable was the first cable manufacturer to obtain certification for its environmental management system, in accordance with the ISO 14001 and EMAS Standards.



CITIZENSHIP

A commitment to being good citizens

Being responsible citizens in our communities is of the utmost importance to us. Unequivocal honesty, integrity, forthrightness and fair dealing have long been part of General Cable's core values and are expected globally in all of our business relationships with our customers, employees, suppliers, neighbors and competitors. Our company leaders and employees strive to make a difference throughout a host of volunteer activities and financial support, improving the communities in which we live and work.



INNOVATION

Technologies that power and connect the world

General Cable is delivering innovation that matters. We are focusing on R&D expertise and investing in developing wire and cable solutions that meet the challenges confronting our customers and the world. In working together and using all the ingenuity and creativity we have, we will reach the goal of being the preeminent supplier of wire and cabling solutions in the industry, with both green constructions and designs for the ever-growing renewable energy market.



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

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Visit www.GeneralCableCSR.com
to learn more.



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TFFN PVC, Low-Voltage Wiring, 600 V, UL Type TFFN, Single Conductor, Copper	5280	June 2017	5
Unicon® USE-2/RHH/RHW-2 XLPE, Low-Voltage Power, 600 V, UL Type USE-2/RHH/RHW-2, Single Conductor, Copper	5250	June 2017	6
XHHW-2 VW-1 High Speed (HS)¹ XLPE, Control and Low-Voltage Power, 600 V, UL Type SIS/XHHW-2, VW-1 Rated Single Conductor, Copper	5150	June 2017	7
XHHW-2 CT High Speed (HS)¹ XLPE, Control and Low-Voltage Power, 600 V, UL Type XHHW-2, CT Rated Single Conductor, Copper	5175	June 2017	8
Hook-Up Wire UL Types MTW, TFF, AWM and CSA TEW 90°C, 600 Volt, MTW, TFF, 105°C, 1000 Volt, AWM, 600 Volt TEW	3325	June 2017	9
Heavy Wall UL Types MTW, AWM, NEC Type THW and CSA TEW 90°C, 600 Volt	3350	June 2017	10

Section 2 Aluminum Building Wire – U.S. Market

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STABILOY® Brand XHHW-2 High Speed (HS) XLPE, Low-Voltage Power, 600 V, UL Type XHHW-2, Single Conductor, Aluminum	5180A	June 2017	14
STABILOY® Brand USE-2/RHH/RHW-2 XLPE, Low-Voltage Power, 600 V, UL Type USE-2/RHH/RHW-2, Single Conductor, Aluminum	5250A	June 2017	15
STABILOY® Brand Tray Cable XLPE, Low-Voltage Power, 600 V, UL Type TC-ER, Multi-Conductor, Aluminum	4555A	June 2017	16
STABILOY® Brand MC (Metal Clad) Cable XLPE, 600 V, UL Type MC, Multi-Conductor, Aluminum	7500A	June 2017	17
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STABILOY® Brand – Residential			
STABILOY® Brand Service Entrance Cable (SEU) XLPE, Low-Voltage Power, 600 V, UL Type SE Style U, Multi-Conductor, Aluminum	5920A	June 2017	19
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STABILOY® Brand Mobile Home Feeder Cable XLPE, Low-Voltage Power, 600 V, UL Type USE-2/RHH/RHW-2, Multi-Conductor, Aluminum	5940A	June 2017	21



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NUAL® Brand ACWU90 Cable XLPE, 600 V, CSA Type ACWU90, Aluminum	8790A	June 2017	26
NUAL® Brand RW90 High Speed (HS) XLPE, Low-Voltage Power, 600 V, CSA Type RW90, Single Conductor, Aluminum	5500A	June 2017	27
NUAL® Brand RWU90 High Speed (HS) XLPE, Low-Voltage Power, 1000 V, CSA Type RWU90, Single Conductor, Aluminum	5600A	June 2017	28
Copper			
RW90 High Speed (HS)¹ XLPE, Low-Voltage Power, 600 V, CSA Type RW90, Single Conductor, Copper	5500	June 2017	29
RWU90 High Speed (HS)¹ XLPE, Low-Voltage Power, 1000 V, CSA Type RWU90, Single Conductor, Copper	5600	June 2017	30
T90 High Speed (HS) PVC, Low-Voltage Power, 600 V, CSA Type T90/TWN75, Single Conductor, Copper	5490	June 2017	31

Section 4 Renewable Energy Cable – Aluminum and Copper

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Aluminum			
SunGen® Photovoltaic Wire XLPE, RHH or RHW-2, 600 V, UL Type PV, Single Conductor, Aluminum	5841A	June 2017	35
SunGen® Photovoltaic Wire XLPE, RHH or RHW-2, 1000 V or 2000 V, UL Type PV, Single Conductor, Aluminum	5851A	June 2017	36
SunGen® Photovoltaic Wire XLPE, 600 V, 1000 V, 2000 V, CSA Type RPV90, Single Conductor, Aluminum	5860A	June 2017	37
SunGen® Photovoltaic Wire XLPE, 1000 V or 2000 V, CSA Type RPVU90, Single Conductor, Aluminum	5870A	June 2017	38
STABILOY® Brand Zephyr2000™ XLPE, Low-Voltage Power, 2000 V, UL Type RHH/RHW-2, Single Conductor, Aluminum	5025A	June 2017	39
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SunGen® Photovoltaic Wire XLPE, RHH/RHW-2, VW-1, RPVU90, FT1, 2000 V, UL Type PV, Single Conductor, Copper	5851	June 2017	42
SunGen® Photovoltaic Wire Dual Layer EPR/XL-CPE, USE-2 at 600 V, RHH/RHW-2, RWU90, 600 V, UL Type PV Single Conductor, Copper	5800	June 2017	43
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Phone: 855-720-2792
www.generalcable.com



Specializing in Solutions to Build North America

General Cable is dedicated to providing in-stock quality wire and cable offered at competitive prices, such as:

- **NUAL® Brand and STABILOY® Brand** aluminum building wire as well as copper building wire for permanent power in many commercial and institutional buildings across North America
- **Carol® Brand cord products** used for portable power during construction
- **SunGen® PV wire** for small- to medium-scale solar photovoltaic applications such as rooftops, parking lots, highways and brownfields

Offering a total building wire solution that features the **High Speed** line of building wire, General Cable provides cutting and paralleling services as well as pulling eyes for easy installation. Our rugged Super Vu-Tron® Supreme SJ00W and S00W cord products, featuring TRU-Mark® Sequential Footage Marking, are designed to withstand severe environmental conditions for applications where flexible cords are used.

Go ALL-IN with General Cable when your customers *Demand Better and Expect More™*.

Learn more about our three freight incentive options by visiting gcna.us/all-in or call us today at 800-243-8020.



Check out General Cable's Calculation & Catalogs Apps and other mobile tools.



 **General Cable**

www.generalcable.com 1.800.243.8020



Powering Your Business Forward with the *Emerald Service™ Program*



Program Overview

With job site logistics often being the major cause of project delays, the need for a complete services solution plays a crucial part in the success of an installation. With this in mind, General Cable is pleased to offer its **Emerald Service™ Program**. Emerald Service is a complete package of critical cable services offered on our complete line of Construction & Industrial cables.

With the Emerald Service Program from General Cable, you can be assured that you get the right product, packaged to your specifications, in the timeframe needed to optimize your demanding project schedules.

Our Emerald Service Program addresses two primary areas of cable management, which can be provided to reduce your overall labor cost and installation time at the job site.

- **Packaging/Reel Preparation/Site Management**, which can limit issues associated with cable handling
- **Field Engineering Services**, for cable installation recommendation in accordance with the National Electrical Code® (NEC®) as well as other applicable industry guidelines

Preparation Services*



Cut, Package & Ship

- Cut to Length
- Paralleling
- Duplex, Triplex or Quadplex (factory shipment only)
- Joy Winding (both ends of cable exposed)
- Palletization
- Sealed End Caps
- Colored Tape Phase ID



Reel Preparation

- Type 1 — No Wrap
- Type 2 — Weather-Resistant Linerboard
- Type 3 — Lamiflex® Reinforced Fiberboard
- Type 4 — Full Wood Lagging



Pulling Eye for Single-Conductor, Multi-Conductor, Multiplexed or Paralleled Cables



Site Management and Labeling Services

- Laminate Tags
- Payoff Direction Tagging
- Lay Flat/Do Not Flop Tags
- Reel Cradles
- Test Reports
- Custom Reel Stenciling
- Weatherproof Tags
- Metal Reel Tags
- Flat Bed Shipping Service



Technical Support

- Pulling Calculations
- Engineering Site Visit
- Voltage Drop Calculations
- Ampacity Calculations

*Please consult General Cable for specific lead times and charges where applicable.

Technical Services*

While choosing the right cable is the first critical factor in job site management, General Cable also recognizes the importance of being able to accurately respond to both difficult and changing conditions during installation. To address this critical need, we are pleased to offer as part of our ***Emerald Service™ Program*** a complete range of **Engineering & Technical Advisory Services**, designed to assist you through even the most difficult installations. The following services are offered at an additional charge and can be estimated prior to the service(s) being started:

- Ampacity Calculations
- Voltage Drop Calculations
- Impedance Calculations
- Pulling Stress Calculations
- Sag & Tension Calculations
- Side & Wall Bearing Pressure Calculations
- Field Site & Inspection Services

Time-Saving Applications

Looking for ways to simplify calculations? Let us do the math! General Cable's apps provide the quick information you need to keep your jobs on track. Download them today from the App Store or Google Play.



Voltage Drop

Calculate maximum circuit distance and minimum conductor size for the required voltage drop



Conductor Ampacity

Calculate conductor ampacities for different temperature ratings



Conduit Fill

Calculate the minimum conduit size per National Electrical Code®

General Cable provides a broad range of quality Construction & Industrial products including:

Construction Cable

- Aluminum Building Wire (Commercial: XHHW-2, THHN/THWN-2, USE-2/RHH/RHW-2, MC Cable, MC Jacketed, Tray, RW90, RWU90, TECK90; Residential: SE Style U and R, Mobile Home Feeder, AC90, ACWU90, RW90, RWU90)
- Copper Building Wire (THHN/THWN-2, TFFN, T90, XHHW-2 VW-1, XHHW-2 CT, XLPE, MTW)
- Photovoltaic (PV) Wire

Industrial & Specialty Cable

- Portable & Temporary Power Cord & Cordsets
- Instrumentation Cable
- Multi-Conductor Control & Power Cable
- Low-Volt Power Cable, 600 V – 2 kV
- Med-Volt Industrial Cable, 2.4 kV – 35 kV
- Industrial Automation Cable
- Armored Cable
- Mining Cable

To see all products, visit www.generalcable.com/na/us-can/products-solutions.

With General Cable's Emerald Service Program, we can help you **power your business forward** — saving you time, reducing costs and increasing efficiency. Call us today for the solutions you need, **1.800.243.8020!**

* Please consult General Cable for specific lead times and charges where applicable.

Learn more today at
gcna.us/EmeraldService

EmeraldService@generalcable.com



Phone: 855-720-2792
www.generalcable.com

Section 1 Copper Building Wire — U.S. Market

When you partner with General Cable, you get *One Company* that manufactures and delivers all of the wire and cable products you need — from Carol® Brand cord, cordsets and electronics wire to General Cable's industrial instrumentation, power and control cables that serve an extensive range of applications and environments.

General Cable's copper building wire product line expands and enhances its current construction offering with a broad spectrum of copper products that range from 600 to 2,000 volts. Our product portfolio supports the commercial construction markets while delivering the same product quality, manufacturing expertise and service that our customers have always received from General Cable.

General Cable's building wire products include copper XHHW-2, RHH/RHW-2/USE-2 and machine tool wire. Our THHN copper products come in a variety of colors and offer a High Speed jacket designed to improve installation even under the most difficult conditions. By maintaining inventory within a network of regional distribution centers across the country, General Cable is able to ensure maximum availability for our customers. Put us to work for you.



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Unicon® USE-2/RHH/RHW-2 XLPE, Low-Voltage Power, 600 V, UL Type USE-2/RHH/RHW-2, Single Conductor, Copper	5250	June 2017	6
XHHW-2 VW-1 High Speed (HS)¹ XLPE, Control and Low-Voltage Power, 600 V, UL Type SIS/XHHW-2, VW-1 Rated Single Conductor, Copper	5150	June 2017	7
XHHW-2 CT High Speed (HS)¹ XLPE, Control and Low-Voltage Power, 600 V, UL Type XHHW-2, CT Rated Single Conductor, Copper	5175	June 2017	8
Hook-Up Wire UL Types MTW, TFF, AWM and CSA TEW 90°C, 600 Volt, MTW, TFF, 105°C, 1000 Volt, AWM, 600 Volt TEW	3325	June 2017	9
Heavy Wall UL Types MTW, AWM, NEC Type THW and CSA TEW 90°C, 600 Volt	3350	June 2017	10

THHN/THWN-2 High Speed (HS)

PVC, Low-Voltage Power

600 V, UL Type THHN/THWN-2, Single Conductor, Copper

Product Construction:

Conductor:

- 14 AWG thru 1000 kcmil bare annealed compressed stranded copper per ASTM B3 and ASTM B8
- 14 AWG thru 10 AWG solid plain copper per ASTM B3

Insulation:

- Color-coded premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC)

Jacket:

- Tough Polyamide (Nylon)

Print:

For 14 AWG solid thru 10 AWG solid:

- GENERAL CABLE® MN (YEAR) HIGH SPEED THHN/THWN-2 (UL) E66903 (SIZE) AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

For 14 AWG strand thru 10 AWG strand:

- GENERAL CABLE® MN (YEAR) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

For 8 AWG thru 1 AWG, black only:

- GENERAL CABLE® MI (MM)/(YYYY) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII SUN RES 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

For 8 AWG thru 1 AWG, all colors:

- GENERAL CABLE® MI (MM)/(YYYY) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)



Print (cont'd.):

For 1/0 and larger, black only:

- GENERAL CABLE® MI (MM)/(YYYY) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII SUN RES FOR CT USE 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

For 1/0 and larger, all colors:

- GENERAL CABLE® MI (MM)/(YYYY) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII FOR CT USE 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

Applications:

- General purpose building wire for services, feeders and branch circuits
- Conduit and raceways
- 1/0 and larger for cable tray use

Features:

- 1/0 AWG and larger are rated for cable tray use
- Rated Gasoline and Oil Resistant II
- Resistant to abrasion, acids, alkalines, ozone and water
- For THHN/THWN-2 applications, the conductor is appropriate for wet or dry locations not to exceed 90°C
- For MTW applications, the conductor is appropriate for use in dry locations at 90°C or not to exceed 60°C in wet locations or where exposed to oil or coolants (with ampacity limited to that for 75°C conductor temperature) as outlined in NFPA 79 Electrical Standards for Industrial Machinery

Features (cont'd.):

- Sequential foot markings every 2 feet on 8 AWG and larger for easy measuring
- Sunlight-resistant for 8 AWG and larger, black only
- Meets cold bend and cold impact tests at -25°C
- High Speed (HS) cable features a specially designed system that allows for fast and easy cable pulls

Compliances:

Industry Compliances:

- ASTM B3 and B8
- UL Standard 83 – THHN/THWN-2
- UL Standard 1063 for machine tool wire (MTW)
- ICEA S-95-658/NEMA WC70
- NEC® Article 310
- c(UL) – T90 Nylon

Flame Test Compliances:

- UL 2556 VW-1 rated through 1 AWG
- UL 2556 CT USE 1/0 and larger
- CSA C22.2 No. 0.3-92 FT1 Vertical Flame Test

Other Compliances:

- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



Phone: 855-720-2792
www.generalcable.com



THHN/THWN-2 High Speed (HS)

PVC, Low-Voltage Power
600 V, UL Type THHN/THWN-2, Single Conductor, Copper

CATALOG NUMBER	CONDUCTOR SIZE		NUMBER OF WIRES	MIN. AVG. INSULATION THICKNESS		JACKET THICKNESS		NOMINAL CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT		PACKAGING PUT-UP CODE
	AWG/kcmil	mm ²		INCHES	mm	INCHES	mm	INCHES	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C	

TYPE THHN/THWN-2 90°C WET OR DRY LOCATIONS

23014	14	2.08	1	0.015	0.38	0.004	0.10	0.102	2.59	16	24	19	28	20	25	20, 34
24014	14	2.08	19	0.015	0.38	0.004	0.10	0.109	2.77	13	19	16	24	20	25	20, 34
23012	12	3.31	1	0.015	0.38	0.004	0.10	0.119	3.02	25	37	28	42	25	30	20, 34
24012	12	3.31	19	0.015	0.38	0.004	0.10	0.130	3.30	20	30	24	36	25	30	20, 34
23010	10	5.26	1	0.020	0.51	0.004	0.10	0.150	3.81	40	60	45	67	35	40	10, 34
24010	10	5.26	19	0.020	0.51	0.004	0.10	0.161	4.09	32	48	38	57	35	40	10, 34
25008	8	8.37	19	0.030	0.76	0.005	0.13	0.212	5.38	51	76	62	92	50	55	32, 33, XX, 00
25006	6	13.3	19	0.030	0.76	0.005	0.13	0.248	6.30	81	121	94	140	65	75	32, 33, XX, 00
25004	4	21.2	19	0.040	1.02	0.006	0.15	0.317	8.05	129	192	151	225	85	95	32, 55, XX, 00
25002	2	33.6	19	0.040	1.02	0.006	0.15	0.375	9.53	205	305	232	345	115	130	55, XX, 00
25001	1	42.4	19	0.050	1.27	0.007	0.18	0.427	10.85	258	384	296	440	130	145	55, XX, 00
26110	1/0	53.5	19	0.050	1.27	0.007	0.18	0.466	11.84	326	485	368	548	150	170	55, XX, 00
26210	2/0	67.4	19	0.050	1.27	0.007	0.18	0.509	12.93	411	612	457	680	175	195	55, XX, 00
26310	3/0	85	19	0.050	1.27	0.007	0.18	0.557	14.15	518	771	570	848	200	225	55, XX, 00
26410	4/0	107	19	0.050	1.27	0.007	0.18	0.612	15.54	653	972	711	1058	230	260	55, XX, 00
27250	250	127	37	0.060	1.52	0.008	0.20	0.694	17.63	772	1149	850	1265	255	290	55, XX, 00
27300	300	152	37	0.060	1.52	0.008	0.20	0.747	18.97	926	1378	1011	1505	285	320	34, XX, 00
27350	350	177	37	0.060	1.52	0.008	0.20	0.797	20.24	1081	1609	1173	1746	310	350	34, XX, 00
27400	400	203	37	0.060	1.52	0.008	0.20	0.842	21.39	1235	1838	1334	1985	335	380	34, XX, 00
27500	500	253	37	0.060	1.52	0.008	0.20	0.925	23.50	1544	2298	1656	2464	380	430	34, XX, 00
27600	600	304	61	0.070	1.78	0.009	0.23	1.024	26.01	1853	2758	1996	2970	420	475	54, XX, 00
27750	750	380	61	0.070	1.78	0.009	0.23	1.126	28.60	2316	3447	2478	3688	475	535	54, XX, 00
27100	1000	507	61	0.070	1.78	0.009	0.23	1.275	32.39	3088	4595	3283	4886	545	615	54, XX, 00

Dimensions and weights are nominal; subject to industry tolerances.
(1) Allowable ampacities shown are for general use as specified by the National Electric Code.
Adjustments and corrections may apply.

COLOR CODE CHART

COLOR CODE	COLOR	COLOR CODE	COLOR
1	Black	7	Blue
2	White	8	Orange
3	Red	9	Gray
4	Green	A	Purple
5	Yellow	B	Pink
6	Brown		

PACKAGING CODE CHART

PACKAGING CODE	PACKAGING
10	2 x 500'
20	4 x 500'
32	500' Reel
33	1000' Reel
54	2000' Reel
34	2500' Reel
55	5000' Reel
0	Cut to Order
XX	Master Reel



Phone: 855-720-2792
www.generalcable.com

TFFN

PVC, Low-Voltage Wiring
600 V, UL Type TFFN, Single Conductor, Copper

Product Construction:

Conductor:

- 18 AWG and 16 AWG fully annealed bare copper per ASTM B3 and B174

Insulation:

- Color-coded premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC)

Jacket:

- Tough Polyamide (Nylon)

Print:

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) TYPE MTW OR TFFN (UL) SIZE AWG (SIZE MM²) GASOLINE AND OIL RESISTANT II 600 V OR AWM

Applications:

- Internal wiring of fixtures
- Fixture raceways
- Fire alarm circuits in raceways

Features:

- Rated Gasoline and Oil Resistant II
- Resistant to abrasion, acids, alkalines, ozone and water
- For TFFN applications, the conductor is appropriate for use in dry locations not to exceed 90°C
- For MTW applications, the conductor is appropriate for use in dry locations at 90°C or not to exceed 60°C in wet locations or where exposed to oil or coolants
- Meets cold bend and cold impact tests at -25°C

Compliances:

Industry Compliances:

- ASTM B3 and B174
- UL Standard 66 for fixture wire
- UL Standard 1063 for machine tool wire (MTW)
- NFPA 90 (NEC® Article 402)
- NFPA 79 as appliance wiring material 600 V

Other Compliances:

- RoHS Compliant

Packaging:

- 4 x 500' in a carton
- 2500' reels



CATALOG NUMBER	CONDUCTOR SIZE		NO. OF WIRES	MIN. AVG. INSULATION THICKNESS		JACKET THICKNESS		NOMINAL CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT @90°C
	AWG/kcmil	mm ²		IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	

18 AWG AND 16 AWG CONDUCTORS

28018	18	0.52	16	0.015	0.38	0.004	0.10	0.086	2.18	5	7	7	10	6
28016	16	0.82	26	0.015	0.38	0.004	0.10	0.097	2.46	8	12	11	16	8

Dimensions and weights are nominal; subject to industry tolerances.

(1) Allowable ampacities shown are for general use as specified by the National Electric Code.

Adjustment and corrections may apply.

NOTE: For MTW applications, the conductor is appropriate for use in dry locations at 90°C or not to exceed 60°C in wet locations or when exposed to oil or coolants (with ampacity limited to that for 75°C conductor temperature) as outlined in NFPA 79 Electrical Standards for Industrial Machinery.

COLOR CODE CHART

COLOR CODE	COLOR	COLOR CODE	COLOR
1	Black	7	Blue
2	White	8	Orange
3	Red	9	Gray
4	Green	A	Purple
5	Yellow	B	Pink
6	Brown		

PACKAGING CODE CHART

PACKAGING CODE	PACKAGING
20	4 x 500'
34	2500' Reel

Unicon® USE-2/RHH/RHW-2

XLPE, Low-Voltage Power

600 V, UL Type USE-2/RHH/RHW-2, Single Conductor, Copper



Product Construction:

Conductor:

- 14 AWG thru 1000 kcmil annealed bare copper compressed Class B stranding per ASTM B8

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE), black

Print:

For 14 AWG thru 2 AWG:

- GENERAL CABLE® (PLANT OF MFG) UNICON XLP TYPE USE-2 OR RHH OR RHW-2 VW-1 SIZE (AWG OR KCMIL) (SIZE MM²) 600 VOLTS SUN RES (UL) (MM)/(YYYY)

For 1/0 AWG and larger:

- GENERAL CABLE® (PLANT OF MFG) UNICON XLP TYPE USE-2 OR RHH OR RHW-2 VW-1 SIZE 600 VOLTS SUN RES FOR CT USE (UL) (MM)/(YYYY) SEQUENTIAL FEET

Options:

- 2 kV version
- Tinned copper conductor
- Class C stranding
- Various colors available
- Unicon® FREP® - flame-retardant Ethylene Propylene Rubber (EPR) insulation
- Other constructions available upon request

Applications:

- Ideally suited for use in a broad range of commercial, industrial and utility applications where reliability is a major concern, where maximum performance will be demanded and where space is limited
- In free air, raceways or direct burial in accordance with NEC

Features:

- Rated at 90°C wet or dry
- Smaller cable O.D.
- Excellent electrical, thermal and physical properties
- Excellent resistance to moisture
- Excellent resistance to crush, compression cuts and heat deformation
- Excellent flame resistance
- Excellent low temperature cold bend characteristics
- Meets cold bend test at -25°C
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls for 8 AWG and larger

Compliances:

Industry Compliances:

- National Electrical Code (NEC®)
- ICEA S-95-658/NEMA WC70
- "FOR CT USE" on 1/0 AWG and larger in accordance with NEC
- UL 44 Type RHH/RHW-2, UL File # E90499
- UL 854 Type USE-2, UL File # E90499

Flame Test Compliances:

- UL 1581 VW-1
- For 1/0 AWG and larger: IEEE 383, IEEE 1202/CSA FT4, ICEA T-29-520

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	NOMINAL COND. DIAMETER		MIN. AVG. INSULATION THICKNESS		NOM. CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C

14 AWG - 1000 kcmil CONDUCTORS

364830*	14	7	0.07	1.78	0.045	1.14	0.17	4.32	13	19	24	36	20	25
364840*	12	7	0.09	2.29	0.045	1.14	0.19	4.83	20	30	33	49	25	30
364850*	10	7	0.12	3.05	0.045	1.14	0.21	5.33	32	48	48	71	35	40
16602.210800	8	7	0.15	3.81	0.060	1.52	0.27	6.86	50	74	78	116	50	55
16602.210600	6	7	0.18	4.57	0.060	1.52	0.31	7.87	81	121	114	170	65	75
16602.210400	4	7	0.23	5.84	0.060	1.52	0.36	9.14	129	192	169	251	85	95
16602.210200	2	7	0.29	7.37	0.060	1.52	0.42	10.67	205	305	254	378	115	130
16602.215100	1/0	19	0.37	9.40	0.080	2.03	0.53	13.46	326	485	403	600	150	170
16602.215200	2/0	19	0.41	10.41	0.080	2.03	0.58	14.73	411	612	501	746	175	195
16602.215400	4/0	19	0.52	13.21	0.080	2.03	0.69	17.53	653	972	760	1131	230	260
16602.216000	250	37	0.56	14.22	0.095	2.41	0.77	19.56	772	1149	906	1348	255	290
16602.216200	350	37	0.67	17.02	0.095	2.41	0.87	22.10	1081	1609	1237	1841	310	350
16602.216500	500	37	0.80	20.32	0.095	2.41	1.00	25.40	1542	2295	1730	2575	380	430
16602.217000	750	61	0.98	24.89	0.110	2.79	1.22	30.99	2316	3447	2576	3834	475	535
16602.217500*	1000	61	1.13	28.70	0.110	2.79	1.37	34.80	3086	4592	3405	5067	545	615

Dimensions and weights are nominal; subject to industry tolerances.

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

(1) Allowable ampacities shown are for general use as specified by the National Electric Code.

Adjustment and corrections may apply.



Phone: 855-720-2792
www.generalcable.com

XHHW-2 VW-1 High Speed (HS)¹

XLPE, Control and Low-Voltage Power
600 V, UL Type SIS/XHHW-2, VW-1 Rated, Single Conductor, Copper

Product Construction:

Conductor:

- 18 AWG thru 1000 kcmil tinned, annealed copper per ASTM B33
- Class B stranding per ASTM B8

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

For 18 AWG and 16 AWG:

- GENERAL CABLE® (PLANT OF MFG) 1C SIZE AWG COPPER XLPE SIS TYPE (UL) 600 V 90°C YEAR

For 14 AWG thru 4 AWG:

- GENERAL CABLE® (PLANT OF MFG) 1C SIZE AWG COPPER XLPE TYPE SIS/XHHW-2 VW-1 (UL) 600 V 90°C YEAR

¹ Sizes 8 AWG and larger would include HIGH SPEED

For 2 AWG and larger:

- GENERAL CABLE® (PLANT OF MFG) 1C SIZE AWG (SIZE MM²) HIGH SPEED TYPE XHHW-2 VW-1 (UL) 600 V 90°C SUN RES FOR CT USE MONTH/YEAR SEQUENTIAL FOOTAGE MARK

[†] Sizes smaller than 1/0 AWG do not include "FOR CT USE"

Applications:

- For use in power and control circuits in switchboards, control panels and raceways in applications not exceeding 600 volts
- Acceptable for use in OSHA-regulated installations

Features:

- Rated at 90°C wet or dry
- UL Listed as SIS/XHHW-2[†] and XHHW-2^{**} for general power or control wiring in accordance with the National Electrical Code, Section 310.15, Tables 310.15(B)16 or 310.15(B)17
- Sizes 1/0 and larger listed "SUN RES FOR CT USE"
- Excellent flame resistance
- Excellent physical, thermal and electrical properties
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls - 8 AWG and larger
- Meets cold bend and cold impact tests at -25°C

Compliances:

Industry Compliances:

- UL Type SIS 18 AWG and 16 AWG
- UL Type SIS/XHHW-2[†] - 600 V
- UL File #E90494
- UL Type XHHW-2^{**} - 600 V
- ICEA S-95-658/NEMA WC70
- 1/0 and larger are listed "SUN RES FOR CT USE" in accordance with NEC

Flame Test Compliances:

- UL 44 VW-1

Other Compliances:

- EPA 40 CPR, Part 261 for leachable lead content per TCLP method
- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material to be shipped on spools or non-returnable wood reels

[†] UL Type SIS/XHHW-2 for sizes 14 AWG thru 4 AWG

^{**} UL Type XHHW-2 for sizes 2 AWG thru 1000 kcmil



CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	NOM. COND. DIAMETER		MIN. AVG. INSULATION THICKNESS		NOM. CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
18 AWG - 1000 kcmil CONDUCTORS														
381500*	18	7	0.05	1.27	0.030	0.76	0.11	2.79	5	7	9	13	-	14
381510*	16	7	0.06	1.52	0.030	0.76	0.12	3.05	8	12	13	19	-	18
381520*	14	7	0.07	1.78	0.030	0.76	0.13	3.30	13	19	19	28	20	25
381530*	12	7	0.09	2.29	0.030	0.76	0.15	3.81	20	30	27	40	25	30
381540*	10	7	0.11	2.79	0.030	0.76	0.18	4.57	32	48	41	61	35	40
381550*	8	7	0.14	3.56	0.045	1.14	0.24	6.10	51	76	69	103	50	55
381560*	6	7	0.18	4.57	0.045	1.14	0.28	7.11	81	121	103	153	65	75
381570*	4	7	0.23	5.84	0.045	1.14	0.32	8.13	129	192	156	232	85	95
06591.210200*	2	7	0.29	7.37	0.045	1.14	0.38	9.65	205	305	239	356	115	130
06591.215100*	1/0	19	0.36	9.14	0.055	1.40	0.48	12.19	326	485	373	555	150	170
06591.215200*	2/0	19	0.41	10.41	0.055	1.40	0.52	13.21	411	612	464	691	175	195
06591.215300*	3/0	19	0.46	11.68	0.055	1.40	0.57	14.48	518	771	579	862	200	225
06591.215400*	4/0	19	0.51	12.95	0.055	1.40	0.63	16.00	653	972	722	1074	230	260
06591.216000*	250	37	0.56	14.22	0.065	1.65	0.70	17.78	772	1149	860	1280	255	290
06591.216200*	350	37	0.66	16.76	0.065	1.65	0.80	20.32	1081	1609	1185	1763	310	350
06591.216500*	500	37	0.79	20.07	0.065	1.65	0.93	23.62	1544	2298	1669	2484	380	430
06591.217000*	750	61	0.97	24.64	0.080	2.03	1.14	28.96	2316	3447	2520	3750	475	535
06591.217500*	1000	61	1.13	28.70	0.080	2.03	1.30	33.02	3086	4592	3283	4886	545	615

Dimensions and weights are nominal; subject to industry tolerances.

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

(1) Allowable ampacities shown are for general use as specified by the National Electric Code.

Adjustment and corrections may apply.

XHHW-2 CT High Speed (HS)¹

XLPE, Control and Low-Voltage Power
600 V, UL Type XHHW-2, CT Rated, Single Conductor, Copper



Product Construction:

Conductor:

- 14 AWG thru 750 kcmil bare annealed compressed copper per ASTM B3
- Class B stranding per ASTM B8

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) 1C SIZE AWG (SIZE MM²) HIGH SPEED TYPE XHHW-2 (UL) 600 V SUN RES FOR CT USE MONTH/YEAR SEQUENTIAL FOOTAGE MARK

¹ Sizes 14 AWG - 10 AWG do not include "HIGH SPEED"

[†] Sizes smaller than 1/0 AWG do not include "FOR CT USE"

Copper U.S. Market

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	NOM. COND. DIAMETER		MIN. AVG. INSULATION THICKNESS		NOM. CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C

14 AWG - 750 kcmil CONDUCTORS

391070	14	7	0.07	1.78	0.030	0.76	0.13	3.30	12	18	17	25	20	25
391080	12	7	0.09	2.29	0.030	0.76	0.15	3.81	20	30	26	39	25	30
391090	10	7	0.11	2.79	0.030	0.76	0.18	4.57	32	48	38	57	35	40
5175.008	8	7	0.14	3.56	0.045	1.14	0.24	6.10	51	76	65	97	50	55
5175.006	6	7	0.18	4.57	0.045	1.14	0.28	7.11	81	121	99	147	65	75
5175.004	4	7	0.23	5.84	0.045	1.14	0.33	8.38	129	192	152	226	85	95
5175.002	2	7	0.29	7.37	0.045	1.14	0.39	9.91	205	305	233	347	115	130
5175.001	1	19	0.32	8.13	0.055	1.40	0.44	11.18	256	381	293	436	130	145
5175.110	1/0	19	0.36	9.14	0.055	1.40	0.48	12.19	326	485	364	542	150	170
5175.210	2/0	19	0.41	10.41	0.055	1.40	0.53	13.46	411	612	453	674	175	195
5175.310	3/0	19	0.46	11.68	0.055	1.40	0.58	14.73	518	771	565	841	200	225
5175.410	4/0	19	0.51	12.95	0.055	1.40	0.63	16.00	653	972	706	1051	230	260
5175.250	250	37	0.56	14.22	0.065	1.65	0.70	17.78	722	1074	837	1246	255	290
5175.350	350	37	0.66	16.76	0.065	1.65	0.80	20.32	1081	1609	1157	1722	310	350
5175.500	500	37	0.79	20.07	0.065	1.65	0.93	23.62	1544	2298	1634	2432	380	430
5175.600	600	37	0.87	22.10	0.080	2.03	1.04	26.42	1853	2758	1972	2935	420	475
5175.750	750	61	0.98	24.89	0.080	2.03	1.15	29.21	2316	3447	2448	3643	475	535

Dimensions and weights are nominal; subject to industry tolerances.

(1) Allowable ampacities shown are for general use as specified by the National Electric Code. Adjustment and corrections may apply.

Options:

- Tinned copper conductor
- Full colored insulation

Applications:

- General purpose building wire for use primarily in conduit or other recognized raceways as specified in the National Electrical Code (NEC®)
- Industrial environments where superior insulation toughness and chemical resistance are required
- Maximum operating temperature not to exceed 90°C wet or dry locations
- In free air, raceways or cable trays in accordance with NEC

Features:

- "FOR CT USE" on 1/0 AWG and larger
- Sunlight-resistant for 1/0 AWG and larger, black only
- Rated at 90°C wet or dry
- Smaller cable O.D.
- Excellent electrical, thermal and physical properties
- Excellent resistance to moisture
- Excellent resistance to crush, compression cuts and heat deformation
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls - 8 AWG and larger
- Meets cold bend and cold impact tests at -25°C

Compliances:

Industry Compliances:

- National Electric Code (NEC®)
- UL 44 Standard for Rubber Insulated Wire and Cable
- ICEA S-95-658/NEMA WC70
- UL listed as Type 2, UL File #E90494

Flame Test Compliances:

- UL 1685, Method 1

Other Compliances:

- EPA 40 Cert, Part 261 for leachable lead content per TCLP
- RoHS Compliant
- OSHA Acceptable

Packaging:

- Material cut to length and shipped on non-returnable wood reels



Phone: 855-720-2792
www.generalcable.com

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

90°C, 600 Volt, MTW, TFF, 105°C, 1000 Volt, AWM, 600 Volt TEW

Copper U.S. Market

Product Construction:

Conductor:

- 18 through 8 AWG fully annealed stranded bare copper

Insulation:

- Premium-grade, color-coded PVC
- Temperature range:
MTW: -40°C to +90°C
AWM: -40°C to +105°C
TEW: -30°C to +105°C
- Color code: See chart below

Jacket Marking:

- **For 18 and 16 AWG:**
CAROL AWG (MM²) 600 V E135243-8 MTW (UL) OR TFF OR AWM 1015/1032/1335 VW-1 -- CSA TEW 105°C FT1 ROHS (YEAR)
- **For 14 thru 8 AWG:**
CAROL AWG (MM²) 600 V E135243-8 MTW (UL) OR AWM 1015/1032/1335 VW-1 -- CSA TEW 105°C FT1 ROHS (YEAR)

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



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

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

^(S) Actual shipping weight may vary.

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		

Heavy Wall UL Types MTW, AWM, NEC Type THW and CSA TEW

90°C, 600 Volt



AWM, MTW, THW - 600 VOLT - UL

CATALOG NUMBER	AWG SIZE	COND. STRAND	NOMINAL INS. THICKNESS		NOMINAL O.D.		APPROX. NET WT. LBS/M ⁽⁸⁾
			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

⁽⁸⁾ Actual shipping weight may vary.

Product Construction:

Conductor:

- 6 and 4 AWG fully annealed stranded bare copper

Insulation:

- Premium-grade, color-coded PVC, black
- Temperature range:
MTW: -40°C to +90°C
AWM: -40°C to +105°C
TEW: -30°C to +105°C

Jacket Marking:

- CAROL AWG (MM²) 600 V E135243-8 MTW OR THW (UL) OR AWM 1015/1032/1337 VW-1 -- CSA TEW 105°C FT1 ROHS (YEAR)

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
- CSA TEW
- Passes UL VW-1 Vertical Flame Test
- RoHS Compliant

Packaging:

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

Copper U.S. Market



Passes UL VW-1 Flame Test
Underwriters Laboratories, Inc.



Phone: 855-720-2792
www.generalcable.com

Section 2 **STABILOY® Brand Aluminum Building Wire — U.S. Market**

General Cable has a rich history of experience and innovation, with roots dating back more than 170 years. As a global leader in the wire and cable industry, General Cable focuses its resources on providing outstanding quality and delivering maximum value to its customers.

General Cable's comprehensive aluminum building wire product line supports the commercial, residential and industrial construction markets. Our superior, high-quality aluminum building wire products are made in state-of-the-art manufacturing facilities, delivered with the excellent service that our customers can count on from General Cable.

Aluminum building wire is the fastest-growing wiring solution for commercial and industrial construction projects.

General Cable's STABILOY® Brand has been the standard in quality, reliability, cost-effective installation savings and long-term performance, with aluminum building wire products used in commercial and residential applications for over 40 years.

Our STABILOY® Brand aluminum XHHW-2 feeder cable products have been featured in many high-profile stadiums, casinos, hospitals and commercial office towers throughout the United States. General Cable's XHHW-2 High Speed aluminum cable features a specially designed XLPE-2 insulation that allows for fast and easy cable pulls. These feeder cable products are available with color phase ID where specified or preferred.

General Cable's STABILOY® Brand SER and SEU service entrance products are regarded as best-in-class for workmanship and ease of installation and are frequently specified by residential electrical contractors for service entrance applications.

All General Cable aluminum building wire products are stocked in regional distribution centers, available to fulfill our customers' needs immediately.

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STABILOY® Brand USE-2/RHH/RHW-2 XLPE, Low-Voltage Power, 600 V, UL Type USE-2/RHH/RHW-2, Single Conductor, Aluminum	5250A	June 2017	15	
STABILOY® Brand Tray Cable XLPE, Low-Voltage Power, 600 V, UL Type TC-ER, Multi-Conductor, Aluminum	4555A	June 2017	16	
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Aluminum U.S. Market



STABILOY® Brand THHN/THWN-2 High Speed (HS)

PVC, Low-Voltage Power

600 V, UL Type THHN/THWN-2, Single Conductor, Aluminum

Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 750 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC)

Jacket:

- Tough Polyamide (Nylon)

Print:

For 6 AWG thru 1 AWG, black:

- GENERAL CABLE® (PLANT OF MFG) (MM) (YYYY) HIGH SPEED THHN/THWN-2 (UL) SIZE AWG (MM²) LOGO COMPACT AL GRI AND GRII SUN RES 600 V VW-1 OR AWM SEQUENTIAL FEET

For 6 AWG thru 1 AWG, all colors:

- GENERAL CABLE® (PLANT OF MFG) (MM) (YYYY) HIGH SPEED THHN/THWN-2 (UL) SIZE AWG (MM²) LOGO COMPACT AL GRI AND GRII 600 V VW-1 OR AWM SEQUENTIAL FEET

For 1/0 AWG and larger, black:

- GENERAL CABLE® (PLANT OF MFG) (MM) (YYYY) HIGH SPEED THHN/THWN-2 (UL) SIZE AWG OR KCMIL (MM²) LOGO COMPACT AL GRI AND GRII SUN RES FOR CT USE 600 V VW-1 OR AWM SEQUENTIAL FEET

For 1/0 AWG and larger, all colors:

- GENERAL CABLE® (PLANT OF MFG) (MM) (YYYY) HIGH SPEED THHN/THWN-2 (UL) SIZE AWG OR KCMIL (MM²) LOGO COMPACT AL GRI AND GRII FOR CT USE 600 V VW-1 OR AWM SEQUENTIAL FEET

Options:

- Available in black and full color skin coat

Applications:

- General purpose building wire for services, feeders and branch circuits
- Conduit and raceways

Features:

- 1/0 AWG and larger are rated "FOR CT USE"
- Gas and Oil Res GRI/GRII
- Resistant to abrasion, acids, alkaline, ozone and water
- For THHN applications, the conductor is appropriate for use in dry locations not to exceed 90°C
- For THWN-2 applications, the conductor is appropriate for use in wet and dry locations not to exceed 90°C
- UV/sunlight-resistant (black only), moisture-resistant and flame-retardant insulation
- Excellent electrical, thermal and physical properties
- Sequential foot markings every 2 feet for easy measuring
- Meets cold bend and cold impact tests at -25°C
- STABILOY® Brand AA-8000 aluminum alloy conductors are lightweight and provide increased flexibility for easy installation
- High Speed (HS) cable features a specially designed system that allows for fast and easy cable pulls

Compliances:

Industry Compliances:

- UL 83 Type THHN/THWN-2, UL File #E66903
- ICEA S-95-658/NEMA WC70
- NEC® Article 310

Flame Test Compliances:

- UL 2556 VW-1 rated through 1 AWG
- UL 2556 CT USE 1/0 and larger

Other Compliances:

- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	MIN. AVG. INSULATION THICKNESS		JACKET THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
6 AWG - 750 kcmil CONDUCTORS														
21006	6	7	0.030	0.76	0.005	0.127	0.239	6.07	25	37	38	57	50	55
21004	4	7	0.040	1.02	0.006	0.152	0.305	7.75	39	58	61	91	65	75
21002	2	7	0.040	1.02	0.006	0.152	0.360	9.14	62	92	90	134	90	100
21001	1	8	0.050	1.27	0.007	0.178	0.412	10.46	79	118	118	176	100	115
21110	1/0	10	0.050	1.27	0.007	0.178	0.451	11.46	99	147	144	214	120	135
21210	2/0	12	0.050	1.27	0.007	0.178	0.488	12.40	125	186	175	260	135	150
21310	3/0	16	0.050	1.27	0.007	0.178	0.535	13.59	158	235	214	318	155	175
21410	4/0	19	0.050	1.27	0.007	0.178	0.584	14.83	199	296	262	390	180	205
21250	250	23	0.060	1.52	0.008	0.203	0.650	16.51	235	350	314	467	205	230
21300	300	22	0.060	1.52	0.008	0.203	0.702	17.83	282	420	370	551	230	260
21350	350	26	0.060	1.52	0.008	0.203	0.743	18.87	329	490	423	629	250	280
21400	400	37	0.060	1.52	0.008	0.203	0.795	20.19	376	560	469	698	270	305
21500	500	37	0.060	1.52	0.008	0.203	0.872	22.15	471	701	574	854	310	350
21600	600	61	0.070	1.78	0.009	0.229	0.971	24.66	565	841	696	1036	340	385
21750	750	61	0.070	1.78	0.009	0.229	1.066	27.08	706	1051	852	1268	385	435

Dimensions and weights are nominal; subject to industry tolerances.

(1) Ampacities per NEC® Table 310.15(B)(16). Adjustment and corrections may apply.

Dwelling - For dwelling units, conductors shall be permitted as listed ampacities at 120/240-volt, 3-wire, single-phase services and feeders.

COLOR CODE CHART

COLOR CODE	COLOR	COLOR CODE	COLOR
1	Black	7	Blue
2	White	8	Orange
3	Red	9	Gray
4	Green	A	Purple
5	Yellow	C	Tan
6	Brown		



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STABILOY® Brand XHHW-2 High Speed (HS)

XLPE, Low-Voltage Power
600 V or 1000V, UL Type XHHW-2, Single Conductor, Aluminum



Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCMIL) (MM²) COMPACT STABILOY® AA-8030 AL XLPE 600 V OR 1000V XHHW-2 SUN RES (-40°C) (UL) YEAR DATE (TIME OF MFG) NOM ANCE SEQUENTIAL FOOTAGE

Options:

- Other sizes and stranding options available upon request
- VW-1 Flame Rating
- "FOR CT USE" for 1/0 AWG and larger
- Available in non-High Speed
- Available in black and full color skin coat
- FeederPlex HS® Type XHHW-2

Applications:

- General purpose building wire for use primarily in conduit or other recognized raceways as specified in the National Electric Code® (NEC®)
- Maximum operating temperature not to exceed 90°C in wet or dry locations
- 600 V approved for use as specified by the NEC®

Features:

- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation in all colors
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- STABILOY® Brand AA-8000 aluminum alloy conductors are lightweight and provide increased flexibility for easy installation
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls

Compliances:

- Industry Compliances:**
 - UL 44 Type XHHW-2, UL File #E39406
 - National Electrical Code (NEC®)
- Flame Test Compliances:**
 - UL 2556 Horizontal Burn
- Other Compliances:**
 - OSHA Acceptable
 - RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
6 AWG - 1000 kcmil CONDUCTORS														
8K06	6	7	0.169	4.29	0.045	1.14	0.259	6.58	25	37	39	58	50	55
8K04	4	7	0.213	5.41	0.045	1.14	0.303	7.70	39	58	56	83	65	75
8K02	2	7	0.268	6.81	0.045	1.14	0.358	9.09	62	92	83	124	90	100
8K01	1	8	0.298	7.57	0.055	1.40	0.408	10.36	79	118	108	161	100	115
8K11	1/0	10	0.337	8.56	0.055	1.40	0.447	11.35	99	147	132	196	120	135
8K21	2/0	10	0.374	9.50	0.055	1.40	0.484	12.29	125	186	162	241	135	150
8K31	3/0	16	0.421	10.69	0.055	1.40	0.531	13.49	158	235	199	296	155	175
8K41	4/0	19	0.470	11.94	0.055	1.40	0.580	14.73	199	296	244	363	180	205
8K25	250	23	0.514	13.06	0.065	1.65	0.644	16.36	235	350	292	435	205	230
8K30	300	22	0.566	14.38	0.065	1.65	0.696	17.68	282	420	345	513	230	260
8K35	350	26	0.607	15.42	0.065	1.65	0.737	18.72	329	490	397	591	250	280
8K40	400	37	0.659	16.74	0.065	1.65	0.789	20.04	376	560	443	659	270	305
8K50	500	37	0.736	18.69	0.065	1.65	0.866	22.00	471	701	544	810	310	350
8K60	600	61	0.813	20.65	0.080	2.03	0.973	24.71	565	841	664	988	340	385
8K75	750	61	0.908	23.06	0.080	2.03	1.068	27.13	706	1051	817	1216	385	435
8K10	1000	61	1.060	26.92	0.080	2.03	1.220	30.99	941	1400	1071	1594	445	500

Dimensions and weights are nominal; subject to industry tolerances.
(1) Ampacities per NEC® Table 310.15(B)(16). Adjustment and corrections may apply.
Dwelling - For dwelling units, conductors shall be permitted as listed ampacities at 120/240-volt, 3-wire, single-phase services and feeders.

COLOR CODE CHART

COLOR CODE	COLOR	COLOR CODE	COLOR
1	Black	7	Blue
2	White	8	Orange
3	Red	9	Gray
4	Green	A	Purple
5	Yellow	C	Tan
6	Brown		

Aluminum U.S. Market



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STABILOY® Brand USE-2/RHH/RHW-2

XLPE, Low-Voltage Power

600 V, UL Type USE-2/RHH/RHW-2, Single Conductor, Aluminum

Product Construction:

Conductor:

- 6 AWG thru 4 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCMIL) (MM²) COMPACT STABILOY® AA-8030 AL XLPE 600 V USE-2 OR RHH OR RHW-2 SUN RES (UL) YEAR DATE (TIME OF MFG)

Options:

- Other sizes and stranding options available upon request

Applications:

- STABILOY® Brand Type USE-2/RHH/RHW-2 cable is designed for use in residential, commercial and industrial building applications, and also in underground power distribution and network systems. The cable is also listed for RHH or RHW-2 and is suitable for installation on both sides of service-point
- Triple-Rated (USE-2 or RHH or RHW-2 URD) conductors can be used as Type USE-2 direct-buried underground service entrance cable, but are also listed as RHH and RHW-2, making them suitable for interior and exterior applications in raceways for general purpose lighting and power circuits covered under the National Electrical Code®
- 600 V approved for use as specified by the NEC®

Features:

- Rated 90°C wet or dry locations
- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- STABILOY® Brand AA-8000 aluminum alloy conductors are lightweight and provide increased flexibility for easy installation

Compliances:

Industry Compliances:

- UL 854 Type USE-2, UL File #E39725
- UL 44 for Types RHH and RHW-2, UL File #E39406
- National Electrical Code (NEC®)

Flame Test Compliances:

- UL 2556 Horizontal Burn

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
6 AWG - 1000 kcmil CONDUCTORS														
86006	6	7	0.169	4.29	0.060	1.52	0.289	7.34	25	37	45	67	50	55
86004	4	7	0.213	5.41	0.060	1.52	0.333	8.46	39	58	63	94	65	75
86002	2	7	0.268	6.81	0.060	1.52	0.388	9.86	63	94	91	135	90	100
86001	1	8	0.298	7.57	0.080	2.03	0.458	11.63	79	118	123	183	100	115
86110	1/0	10	0.337	8.56	0.080	2.03	0.497	12.62	99	147	148	220	120	135
86210	2/0	12	0.374	9.50	0.080	2.03	0.534	13.56	125	186	179	266	135	150
86310	3/0	16	0.421	10.69	0.080	2.03	0.581	14.76	158	235	218	324	155	175
86410	4/0	19	0.470	11.94	0.080	2.03	0.630	16.00	199	296	264	393	180	205
86250	250	23	0.514	13.06	0.095	2.41	0.704	17.88	235	350	319	475	205	230
86300*	300	22	0.566	14.38	0.095	2.41	0.756	19.20	282	420	374	557	230	260
86350	350	26	0.607	15.42	0.095	2.41	0.797	20.24	329	490	427	635	250	280
86400*	400	37	0.659	16.74	0.095	2.41	0.849	21.56	377	561	475	707	270	305
86500	500	37	0.736	18.69	0.095	2.41	0.926	23.52	471	701	580	863	310	350
86600*	600	61	0.813	20.65	0.110	2.79	1.033	26.24	565	841	704	1048	340	385
86750	750	61	0.908	23.06	0.110	2.79	1.128	28.65	706	1051	860	1280	385	435
86100*	1000	61	1.060	26.92	0.110	2.79	1.280	32.51	941	1400	1120	1667	445	500

Dimensions and weights are nominal; subject to industry tolerances.

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

(1) Ampacities per NEC® Table 310.15(B)(16). Adjustment and corrections may apply.

Dwelling - For dwelling units, conductors shall be permitted as listed ampacities at 120/240-volt, 3-wire, single-phase services and feeders.

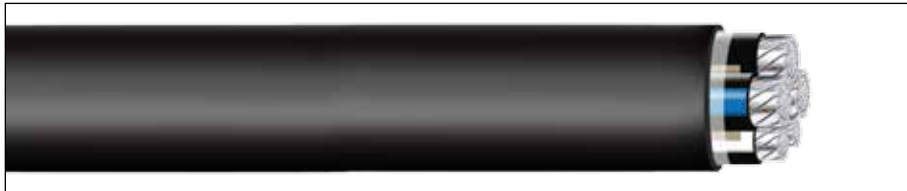


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STABILOY® Brand Tray Cable

XLPE, Low-Voltage Power
600 V, UL Type TC-ER, Multi-Conductor, Aluminum



COND. SIZE (AWG/kcmil)	GROUND SIZE	MIN. AVG. INSULATION THICKNESS		ASSEMBLY DIAMETER UNDER JACKET		JACKET THICKNESS		DIAMETER OVER JACKET		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
		IN	mm	IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
THREE CONDUCTORS WITH GROUND													
6*	6	0.045	1.14	0.61	15.5	0.060	1.5	0.735	18.7	99	147	225	335
4*	6	0.045	1.14	0.68	17.3	0.080	2.0	0.805	20.4	143	213	288	429
2*	6	0.045	1.14	0.77	19.6	0.080	2.0	0.937	23.8	212	315	414	616
1*	4	0.055	1.40	0.90	22.9	0.080	2.0	1.063	27.0	276	411	529	787
1/0*	4	0.055	1.40	0.96	24.4	0.080	2.0	1.129	28.7	337	502	616	917
2/0*	4	0.055	1.40	1.04	26.4	0.080	2.0	1.208	30.7	415	618	720	1071
3/0*	4	0.055	1.40	1.14	29.0	0.080	2.0	1.310	33.3	513	763	853	1269
4/0*	2	0.055	1.40	1.25	31.8	0.080	2.0	1.416	36.0	660	982	1032	1536
250*	2	0.065	1.65	1.39	35.3	0.080	2.0	1.554	39.5	768	1143	1209	1799
300*	2	0.065	1.65	1.50	38.1	0.080	2.0	1.666	42.3	910	1354	1393	2073
350*	2	0.065	1.65	1.59	40.4	1.110	28.2	1.814	46.1	1051	1564	1671	2487
400*	1	0.065	1.65	1.70	43.2	1.110	28.2	1.926	48.9	1208	1798	1856	2762
500*	1	0.065	1.65	1.87	47.5	1.110	28.2	2.092	53.1	1491	2219	2212	3292
600*	1	0.080	2.03	2.10	53.3	1.110	28.2	2.323	59.0	1773	2639	2641	3930
700*	1/0	0.080	2.03	2.23	56.6	1.110	28.2	2.461	62.5	2076	3089	3013	4484
750*	1/0	0.080	2.03	2.30	58.4	1.110	28.2	2.527	64.2	2217	3299	3176	4726
900*	250	0.080	2.03	2.50	58.4	1.110	28.2	2.723	69.2	2777	4133	3828	5697
FOUR CONDUCTORS WITH GROUND													
6*	6	0.045	1.14	0.63	16.0	0.06	1.5	0.760	19.3	123	183	270	402
4*	6	0.045	1.14	0.74	18.8	0.06	1.5	0.902	22.9	182	271	387	576
2*	6	0.045	1.14	0.84	21.3	0.08	2.0	1.007	25.6	275	409	509	757
1*	4	0.055	1.40	0.98	24.9	0.08	2.0	1.140	29.0	354	527	654	973
1/0*	4	0.055	1.40	1.05	26.7	0.08	2.0	1.218	30.9	437	650	767	1141
2/0*	4	0.055	1.40	1.12	28.4	0.08	2.0	1.287	32.7	540	804	899	1338
3/0*	4	0.055	1.40	1.28	32.5	0.08	2.0	1.448	36.8	671	999	1082	1610
4/0*	2	0.055	1.40	1.36	34.5	0.08	2.0	1.523	38.7	859	1278	1301	1936
250*	1	0.065	1.65	1.51	38.4	0.11	2.8	1.732	44.0	1020	1518	1641	2442
300*	1	0.065	1.65	1.61	40.9	0.11	2.8	1.831	46.5	1208	1798	1882	2801
350*	1/0	0.065	1.65	1.56	39.6	0.11	2.8	1.780	45.2	1417	2109	2117	3150
400*	1/0	0.065	1.65	1.86	47.2	0.11	2.8	2.087	53.0	1605	2389	2371	3528
500*	2/0	0.065	1.65	2.04	51.8	0.11	2.8	2.227	56.6	2008	2988	2860	4256
600*	2/0	0.080	2.03	2.35	59.7	0.11	2.8	2.575	65.4	2384	3548	3440	5119
700*	2/0	0.080	2.03	2.50	63.5	0.11	2.8	2.730	69.3	2761	4109	3904	5810
750*	3/0	0.080	2.03	2.58	65.5	0.14	3.6	2.864	72.7	2982	4438	4309	6412

Dimensions and weights are nominal; subject to industry tolerances.
* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

Product Construction:

- Conductor:**
- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
 - 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
 - 400 kcmil thru 900 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

- Insulation:**
- Flame-retardant Cross-linked Polyethylene (XLPE)

- Jacket:**
- Heat-, moisture- and sunlight-resistant Polyvinyl Chloride (PVC) applied over a taped assembly

- Markings/Print:**
- Phase conductor print:**
- GENERAL CABLE® SIZE (AWG OR KCMIL) (MM²) COMPACT STABILOY® AA-8030 AL XLPE 600 V XHHW-2 SUN RES (UL) YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE
- Jacketed print:**
- GENERAL CABLE (PLT. OF MFG.) STABILOY® AA-8030 AL TYPE TC-ER XHHW-2 90°C WET OR DRY 600 V (# OF CDRS) SIZE (AWG OR KCMIL) (MM²) (# OF CDR) SIZE (AWG OR KCMIL) (MM²) JACKET SUN RES DIR BUR (UL) YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE

- Options:**
- Other sizes and stranding options available upon request
 - Custom constructions and oversize neutrals upon request

- Applications:**
- "Type TC-ER" is used to supply power to motors and other electrical devices
 - Installed in cable trays, raceways or outdoor location where supported by a messenger wire
 - Approved for direct burial and for use in Class I and II, Division 2 hazardous locations per NEC® Article 500
 - Rated 600 volt at temperature not to exceed 90°C for wet or dry locations

- Features:**
- Oil Resistant PRI/PRII conductors
 - Gas and Oil Res GRI/GRIL conductors
 - UV/sunlight-resistant, moisture-resistant and flame-retardant PVC jacket suitable for direct burial
 - Excellent electrical, thermal and physical properties
 - Resistant to crush, compression cuts and heat deformation
 - STABILOY® Brand AA-8000 aluminum alloy conductors are lightweight and provide increased flexibility for easy installation
 - Meets cold bend and cold impact tests at -25°C

- Compliances:**
- Industry Compliances:**
- UL 1277 Type TC Power and Control Cables, UL File # E179238
 - UL 44 Type XHHW-2, UL File # E39406
 - National Electrical Code (NEC®)
- Flame Test Compliances:**
- UL 2556 Horizontal Burn
 - UL 2556 FT4/IEEE 1202
- Other Compliances:**
- OSHA Acceptable
 - RoHS Compliant

- Packaging:**
- Material cut to length and shipped on non-returnable wood reels



Aluminum U.S. Market

STABILOY® Brand MC (Metal Clad) Cable

XLPE

600 V, UL Type MC, Multi-Conductor, Aluminum

Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 900 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Markings/Print:

The cable assembly is identified with a marker tape placed under the binder tape

- GENERAL CABLE® TYPE MC-ST1 STABILOY® AA-8030 AL 600 V (UL) FOR CT USE (NOT "ST1" ON JACKETED MC UNLESS SO MARKED) FT4/IEEE 1202 NOM ANCE SEQUENTIAL FOOTAGE

Options:

- 2000 V RHH/RHW-2 is available
- Other sizes and stranding options available upon request
- Custom constructions and oversize neutrals available

Applications:

STABILOY® Brand MC cable is designed for above-ground applications and is approved for use in many applications including cable tray, power lighting and signal circuits as well as in hazardous locations as permitted in NEC Articles 501, 502, 503 and 504. Ideal applications include:

- For services, feeders and branch circuits
- For power lighting and signal circuits
- Indoors
- In cable tray
- In hazardous locations per NEC®
- In dry locations and embedded in plaster finish on brick or other masonry except in damp or wet conditions
- Interior temporary power
- Maximum operating temperature not to exceed 90°C in wet or dry locations

Features:

- Oil Resistant PRI/PRII conductors
- Gas and Oil Res GRI/GRII conductors
- 4 AWG and larger meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties

Compliances:

Industry Compliances:

- UL 1569 Metal-Clad Cables, UL File #E109108
- UL 44 Type XHHW-2
- National Electrical Code (NEC®)

Flame Test Compliances:

- CT UL 1685
- UL 2556 FT4/IEEE 1202

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



CONDUCTOR SIZE (AWG/kcmil)	MINIMUM AVERAGE INSULATION THICKNESS		SUB ASSEMBLY		NOMINAL CABLE DIAMETER OVER ARMOR		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
	INCHES	mm	INCHES	mm	INCHES	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
THREE CONDUCTORS WITH GROUND										
6-6-6-6	0.045	1.14	0.61	15.5	0.84	21.3	99	147	231	344
4-4-4-6	0.045	1.14	0.68	17.3	0.91	23.1	143	213	293	436
2-2-2-6	0.045	1.14	0.77	19.6	1.00	25.4	212	315	384	571
1-1-1-4	0.055	1.40	0.90	22.9	1.13	28.7	276	411	494	735
1/0-1/0-1/0-4	0.055	1.40	0.96	24.4	1.26	32.0	337	502	605	900
2/0-2/0-2/0-4	0.055	1.40	1.04	26.4	1.34	34.0	415	618	706	1051
3/0-3/0-3/0-4	0.055	1.40	1.14	29.0	1.44	36.6	513	763	835	1243
4/0-4/0-4/0-2	0.055	1.40	1.25	31.8	1.55	39.4	660	982	1012	1506
250-250-250-2	0.065	1.65	1.39	35.3	1.68	42.7	768	1143	1182	1759
300-300-300-2*	0.065	1.65	1.50	38.1	1.80	45.7	910	1354	1362	2027
350-350-350-2*	0.065	1.65	1.59	40.4	1.88	47.8	1051	1564	1514	2253
400-400-400-1*	0.065	1.65	1.70	43.2	2.00	50.8	1208	1798	1708	2542
500-500-500-1*	0.065	1.65	1.87	47.5	2.16	54.9	1491	2219	2045	3043
600-600-600-1*	0.080	2.03	2.10	53.3	2.39	60.7	1773	2639	2448	3643
700-700-700-1/0*	0.080	2.03	2.23	56.6	2.53	64.3	2076	3089	2803	4171
750-750-750-1/0	0.080	2.03	2.30	58.4	2.60	66.0	2217	3299	2969	4418
900-900-900-250*	0.080	2.03	2.50	63.5	2.79	70.9	2777	4133	3606	5366

FOUR CONDUCTORS WITH GROUND										
CONDUCTOR SIZE (AWG/kcmil)	INCHES	mm	INCHES	mm	INCHES	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
6-6-6-6-6*	0.045	1.14	0.63	16.0	0.86	21.8	123	183	273	406
4-4-4-4-6*	0.045	1.14	0.78	19.8	1.00	25.4	182	271	361	537
2-2-2-2-6	0.045	1.14	0.89	22.6	1.11	28.2	275	409	481	716
1-1-1-1-4	0.055	1.40	1.03	26.2	1.32	33.5	354	527	650	967
1/0-1/0-1/0-1/0-4	0.055	1.40	1.11	28.2	1.40	35.6	437	650	760	1131
2/0-2/0-2/0-2/0-4	0.055	1.40	1.18	30.0	1.48	37.6	540	804	891	1326
3/0-3/0-3/0-3/0-4	0.055	1.40	1.28	32.5	1.58	40.1	671	999	1059	1576
4/0-4/0-4/0-4/0-2	0.055	1.40	1.43	36.3	1.72	43.7	859	1278	1288	1917
250-250-250-250-1	0.065	1.65	1.59	40.4	1.88	47.8	1020	1518	1527	2272
300-300-300-300-1	0.065	1.65	1.69	42.9	1.99	50.5	1208	1798	1760	2619
350-350-350-350-1/0	0.065	1.65	1.81	46.0	2.11	53.6	1417	2109	2012	2994
400-400-400-400-1/0*	0.065	1.65	1.92	48.8	2.21	56.1	1605	2389	2215	3296
500-500-500-500-2/0	0.065	1.65	2.11	53.6	2.40	61.0	2008	2988	2687	3999
500-500-500-500-250*	0.065	1.65	2.25	57.2	2.54	64.5	2118	3152	2820	4197
600-600-600-600-2/0*	0.080	2.03	2.35	59.7	2.64	67.1	2384	3548	3215	4784
600-600-600-600-400	0.080	2.03	2.61	66.3	2.90	73.7	2635	3921	3509	5222
700-700-700-700-2/0*	0.080	2.03	2.50	63.5	2.80	71.1	2761	4109	3656	5441
750-750-750-750-3/0	0.080	2.03	2.58	65.5	2.87	72.9	2982	4438	3909	5817
750-750-750-750-750*	0.080	2.03	3.04	77.2	3.34	84.8	3529	5252	4538	6753
900-900-900-900-250*	0.080	2.03	2.83	71.9	3.13	79.5	3624	5393	4651	6921
900-900-900-900-900*	0.080	2.03	3.32	84.3	3.60	91.4	4235	6302	5348	7959

Dimensions and weights are nominal; subject to industry tolerances.

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

GRAVITYGRIP® MC CLAMP			
PIN	PRODUCT DESCRIPTION	PIN	PRODUCT DESCRIPTION
160234	GravityGrip® MC Clamp Range: 1.35 - 1.65"	177475	GravityGrip® MC Clamp Range: 2.50 - 2.75"
164727	GravityGrip® MC Clamp Range: 1.65 - 2.00"	156670	GravityGrip® MC Clamp Range: 2.75 - 3.00"
132262	GravityGrip® MC Clamp Range: 2.00 - 2.25"	182048	GravityGrip® MC Clamp Range: 3.00 - 3.25"
188993	GravityGrip® MC Clamp Range: 2.25 - 2.50"		

Use the GravityGrip® per NEC® recommendations.

Secure MC Cable without the risk of damage to conductors or running the risk of conductor pull-out.



Phone: 855-720-2792
www.generalcable.com



STABILOY® Brand Service Entrance Cable (SEU)

XLPE, Low-Voltage Power

600 V, UL Type SE Style U, Multi-Conductor, Aluminum

Product Construction:

Conductor:

- 8 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 4/0 AWG compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)
- Type XHHW-2

Jacket:

- Sunlight-resistant Polyvinyl Chloride (PVC), gray

Print:

- GENERAL CABLE® (PLANT OF MFG) STABILOY® AA-8030 AL TYPE SE CABLE STYLE U XHHW-2 600 V 2 CDRS SIZE AWG (MM²) 1 CDR SIZE AWG (MM²) SUN RES (UL) YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE

Applications:

- STABILOY® Brand SEU cable is used in service and feeder applications for dwelling units and other interior wiring applications
- Above-ground service entrance and branch circuit
- Maximum operating temperature not to exceed 90°C in wet or dry locations
- 600 V approved for use as specified by the NEC®

Features:

- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Excellent electrical, thermal and physical properties
- Smaller cable O.D.
- Meets cold bend and cold impact tests at -40°C

Compliances:

Industry Compliances:

- UL 854 Type SE Style U, UL File #E39725
- UL 44 for Types RHH and RHW-2, UL File #E39406
- National Electrical Code (NEC®)

Flame Test Compliances:

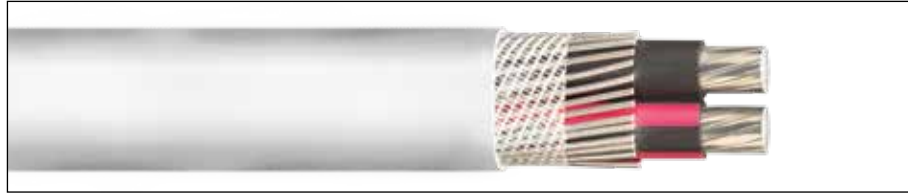
- UL 1581, Vertical Flame 1061

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material available in standard packages and shipped on non-returnable wood reels



PHASE CONDUCTORS				BARE GROUND			NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT		
SIZE		NO. OF WIRES	INS. THKN.		SIZE										NO. OF WIRES
AWG	mm²		IN	mm	AWG	mm²	IN	mm	LBS/ 1000 FT	kg/ km	LBS/ 1000 FT	kg/ km	@75°C	@90°C	
8 AWG - 4/0 AWG CONDUCTORS															
8	8.4	7	0.045	1.14	8	8.4	6	0.398 x 0.622	10.1 x 15.8	47	70	100	149	40	45
6	13.3	7	0.045	1.14	6	13.3	8	0.441 x 0.700	11.2 x 17.8	74	110	135	201	50	55
4	21.1	7	0.045	1.14	6	13.3	8	0.485 x 0.788	12.3 x 20.0	104	155	174	259	65	75
4	21.1	7	0.045	1.14	4	21.1	12	0.488 x 0.791	12.4 x 20.1	118	176	189	281	65	75
2	33.6	7	0.045	1.14	4	21.1	12	0.543 x 0.901	13.8 x 22.9	165	246	248	369	90	100
2	33.6	7	0.045	1.14	2	33.6	19	0.543 x 0.901	13.8 x 22.9	188	280	271	403	90	100
1*	42.4	8	0.055	1.40	1	42.4	19	0.607 x 1.015	15.4 x 25.8	236	351	342	509	100	115
1/0*	53.5	10	0.055	1.40	2	33.6	19	0.566 x 1.013	14.4 x 25.7	261	388	377	561	120	135
1/0*	53.5	10	0.055	1.40	1/0	53.5	24	0.646 x 1.093	16.4 x 27.8	298	443	415	618	120	135
2/0	67.4	12	0.055	1.40	1	42.4	19	0.683 x 1.166	17.3 x 29.6	329	490	456	679	135	150
2/0	67.4	12	0.055	1.40	2/0	67.4	24	0.700 x 1.183	17.8 x 30.0	376	560	504	750	135	150
3/0*	85.0	16	0.055	1.40	3/0	85.0	24	0.765 x 1.296	19.4 x 32.9	474	705	616	917	155	175
4/0	107.2	19	0.055	1.40	2/0	67.4	24	0.796 x 1.376	22.2 x 35.0	524	780	680	1012	180	205
4/0	107.2	19	0.055	1.40	4/0	107.2	24	0.835 x 1.415	21.2 x 35.9	598	890	756	1125	180	205

Dimensions and weights are nominal; subject to industry tolerances.
* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.
(1) Ampacities per NEC® Table 310.15(B)(16). Adjustment and corrections may apply.

STABILOY® Brand Service Entrance Cable (SER)

XLPE, Low-Voltage Power
600 V, UL Type SE Style R, Multi-Conductor, Aluminum



Product Construction:

Conductor:

- 8 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 300 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)
- Type XHHW-2

Jacket:

- Sunlight-resistant Polyvinyl Chloride (PVC), gray

Print:

- GENERAL CABLE® (PLANT OF MFG) STABILOY® AA-8030 AL TYPE SE CABLE STYLE R XHHW-2 600 V (NUMBER OF CONDUCTORS) CDRS SIZE (AWG OR KCMIL) (MM²) 1 CDR SIZE AWG (MM²) SUN RES (UL) YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE

Applications:

- STABILOY® Brand SER cable is used in service and feeder applications for dwelling units and other interior wiring applications
- Above-ground service entrance and branch circuit
 - Maximum operating temperature not to exceed 90°C in wet or dry locations
 - 600 V approved for use as specified by the NEC®

Features:

- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Excellent electrical, thermal and physical properties
- Meets cold bend and cold impact tests at -40°C

Compliances:

- Industry Compliances:**
- UL 854 Type SE Style U, UL File #E39725
 - UL 44 for Types RHH and RHW-2, UL File #E39406
 - National Electrical Code (NEC®)
- Flame Test Compliances:**
- UL 1581, Vertical Flame 1061
- Other Compliances:**
- OSHA Acceptable
 - RoHS Compliant

Packaging:

- Material available in standard packages and shipped on non-returnable wood reels

PHASE CONDUCTORS				BARE GROUND		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT		
SIZE	NO. OF WIRES	INS. THKN.		SIZE		IN		LBS/ 1000 FT		kg/km		@75°C	@90°C	
AWG		mm ²	IN	mm	AWG	mm ²	IN	mm	LBS/ 1000 FT	kg/km				
TWO CONDUCTOR SER WITH A BARE GROUND														
8*	8.4	7	0.045	1.14	8	8.4	0.514	13.06	46	68	98	146	40	45
6	13.3	7	0.045	1.14	6	13.3	0.584	14.83	74	110	134	199	50	60
4	21.1	7	0.045	1.14	6	13.3	0.672	17.07	103	153	174	259	65	75
4*	21.1	7	0.045	1.14	4	21.1	0.673	17.09	117	174	189	281	65	75
2*	33.6	7	0.045	1.14	4	21.1	0.782	19.86	164	244	250	372	90	100
2*	33.6	7	0.045	1.14	2	33.6	0.787	19.99	187	278	273	406	90	100
1*	42.4	8	0.055	1.40	1	42.4	0.885	22.48	236	351	344	512	100	115
1/0*	53.5	10	0.055	1.40	2	33.6	0.960	24.38	260	387	385	573	120	135
1/0*	53.5	10	0.055	1.40	1/0	53.5	0.967	24.56	297	442	424	631	120	135
2/0*	67.4	12	0.055	1.40	1	42.4	1.033	26.24	328	488	466	693	135	150
2/0*	67.4	12	0.055	1.40	2/0	67.4	1.044	26.52	375	558	515	766	135	150
4/0	107.2	19	0.055	1.40	2/0	67.4	1.226	31.14	522	777	695	1034	180	205
4/0*	107.2	19	0.055	1.40	4/0	107.2	1.248	31.70	596	887	772	1149	180	205
THREE CONDUCTOR SER WITH A BARE GROUND														
8	8.4	7	0.045	1.14	8	8.4	0.579	14.71	62	92	128	190	40	45
6	13.3	7	0.045	1.14	6	13.3	0.675	17.15	98	146	177	263	50	60
4	21.1	7	0.045	1.14	6	13.3	0.745	18.92	142	211	234	348	65	75
2	33.6	7	0.045	1.14	4	21.1	0.884	22.45	226	336	338	503	90	100
1	42.4	8	0.055	1.40	3	26.7	0.992	25.20	285	424	433	644	100	115
1/0	65.5	10	0.055	1.40	2	33.6	1.090	27.69	359	534	526	783	120	135
2/0	67.4	12	0.055	1.40	1	42.4	1.182	30.02	453	674	638	949	135	150
3/0	85.0	16	0.055	1.40	1/0	53.5	1.303	33.10	571	850	780	1161	155	175
4/0	107.2	19	0.055	1.40	2/0	67.4	1.423	36.14	720	1071	955	1421	180	205
250	126.7	23	0.065	1.65	3/0	85.0	1.580	40.13	860	1280	1147	1707	205	230
300	152.0	22	0.065	1.65	4/0	107.2	1.719	43.66	1042	1551	1360	2024	230	255
FOUR CONDUCTOR SER WITH A BARE GROUND														
2	33.6	7	0.045	1.14	4	21.1	0.995	25.27	288	429	427	635	90	100
2/0	67.4	12	0.055	1.40	1	42.4	1.331	33.81	577	859	810	1205	135	150
4/0	107.2	19	0.055	1.40	2/0	67.4	1.600	40.64	918	1366	1213	1805	180	205
250	126.7	23	0.065	1.65	3/0	85.0	1.775	45.09	1095	1630	1456	2167	205	230
300*	152.0	22	0.065	1.65	4/0	107.2	1.928	48.97	1323	1969	1724	2566	230	255

Dimensions and weights are nominal; subject to industry tolerances.
* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.
(1) Ampacities per NEC® Table 310.15(B)(16). Adjustment and corrections may apply.

Aluminum U.S. Market



Phone: 855-720-2792
www.generalcable.com

STABILOY® Brand Mobile Home Feeder Cable

XLPE, Low-Voltage Power
600 V, UL Type USE-2/RHH/RHW-2, Multi-Conductor, Aluminum

Product Construction:

Conductor:

- 6 AWG thru 4 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 4/0 AWG compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE AWG (MM²) COMPACT STABILOY® AA-8030 AL XLPE 600 V USE-2 OR RHH OR RHW-2 SUN RES (UL) YEAR DATE (TIME OF MFG)

Applications:

- STABILOY® Brand mobile home feeder cable is listed for direct burial applications and approved for use in raceways and underground installations in accordance with the requirements of the National Electrical Code®

Features:

- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- Rated 90°C wet or dry locations
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- STABILOY® Brand AA-8000 aluminum alloy conductors are lightweight and provide increased flexibility for easy installation

Compliances:

Industry Compliances:

- UL 854 Type USE-2/RHH/RHW-2, UL File #E39725
- UL 44 for Types RHH and RHW-2, UL File #E39406
- National Electrical Code (NEC®)

Flame Test Compliances:

- UL 2556 Horizontal Burn

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material available in standard packages and shipped on non-returnable wood reels



CATALOG NUMBER		CONDUCTOR SIZE AWG	PHASE/NEUTRAL INSULATION THICKNESS		GROUND INSULATION THICKNESS		ASSEMBLY DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
500'	1000'		IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
TWO CONDUCTORS WITH NEUTRAL AND GROUND												
156380	144922	2-2-4-6	0.060	1.52	0.060	1.52	0.937	23.8	188	280	294	438
146485*	135027AC	2-2-2-4	0.060	1.52	0.060	1.52	0.937	23.8	226	336	340	506
*	*	2/0-2/0-1-4	0.080	2.03	0.060	1.52	1.288	32.7	367	546	558	830
*	*	2/0-2/0-2/0-1	0.080	2.03	0.060	1.52	1.288	32.7	452	673	677	1007
151689	140231	4/0-4/0-2/0-4	0.080	2.03	0.060	1.52	1.521	38.6	560	833	790	1176
*	190193	4/0-4/0-4/0-2/0	0.080	2.03	0.060	1.52	1.521	38.6	719	1070	997	1484

Dimensions and weights are nominal; subject to industry tolerances.

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

Notes

Aluminum U.S. Market



Section 3

NUAL® Brand Aluminum & General Cable Copper Building Wire – Canadian Market

General Cable & NUAL® Brand are names synonymous with excellence. We are *One Company*, with one of the broadest product offerings and global reach in the wire and cable industry. As part of General Cable's Canadian portfolio of wire and cable products, NUAL Brand aluminum alloy building wire offers RW90, RWU90, AC90 and ACWU90 constructions of power distribution feeder cables.

Our NUAL Brand ACM (Aluminum Conductor Material) conductors were introduced to the Canadian market in 1980. These CSA-certified conductors meet all of the requirements of the Canadian Electrical Code and are specifically formulated for use in building wire applications. Just as important, NUAL Brand conductors provide superior value and quality to the electrical contractor, thereby enabling building owners to create cost-effective, sustainable, energy-efficient structures.

Our distribution centre, technical centre and manufacturing facilities have attained ISO 9001 registrations (Quality Management System) and are certified to and/or have equivalent management systems to 14001 (Environmental Management System) and OHSAS certification 18001 (Occupational Health & Safety Management).

Above all, we believe that our customers' satisfaction relies equally on the quality of our products and customer service. That's why we work so very hard to ensure that each and every product we manufacture is consistently superior to anything else on the market and delivered with expert service and support.

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PRODUCT DESCRIPTION	SPECIFICATION NUMBER	REVISION DATE	PAGE NUMBER	
NUAL® Brand – Aluminum				
NUAL® Brand AC90 Cable XLPE, 600 V, CSA Type AC90, Aluminum	8780A	June 2017	25	
NUAL® Brand ACWU90 Cable XLPE, 600 V, CSA Type ACWU90, Aluminum	8790A	June 2017	26	
NUAL® Brand RW90 High Speed (HS) XLPE, Low-Voltage Power, 600 V, CSA Type RW90, Single Conductor, Aluminum	5500A	June 2017	27	
NUAL® Brand RWU90 High Speed (HS) XLPE, Low-Voltage Power, 1000 V, CSA Type RWU90, Single Conductor, Aluminum	5600A	June 2017	28	
Copper				
RW90 High Speed (HS)¹ XLPE, Low-Voltage Power, 600 V, CSA Type RW90, Single Conductor, Copper	5500	June 2017	29	
RWU90 High Speed (HS)¹ XLPE, Low-Voltage Power, 1000 V, CSA Type RWU90, Single Conductor, Copper	5600	June 2017	30	
T90 High Speed (HS) PVC, Low-Voltage Power, 600 V, CSA Type T90/TWN75, Single Conductor, Copper	5490	June 2017	31	

Aluminum/Copper Canadian Mkt.



NUAL® Brand AC90 Cable

XLPE

600 V, CSA Type AC90, Aluminum

Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 750 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE), Type RW90

Print:

- GENERAL CABLE® (PLT. OF MFG.) SIZE (AWG OR KCMIL) AL ACM NUAL® XLPE -40°C 600 V SUN RES CSA YEAR DATE (TIME OF MFG)

Options:

- Other sizes and stranding options available upon request

Applications:

NUAL® Brand AC90 armored cable is designed for the following above-ground applications:

- For service entrance and feeders
- For power lighting and signal circuits
- Indoor locations
- In cable tray
- In dry locations and embedded in plaster finish on brick or other masonry except in damp or wet conditions
- In certain hazardous locations
- Interior temporary power

Features:

- Rated 90°C dry locations
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Meets cold and bend impact test at -40°C
- Excellent electrical, thermal and physical properties
- Excellent crush, oil and chemical resistance

Compliances:

Industry Compliances:

- CSA C22.2 No. 38
- CSA C22.2 No. 51
- CSA Approved File # LL 28117
- Canadian Electrical Code (CEC)

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



COND. SIZE (AWG/kcmil)	BOND SIZE	MIN. AVG. INSULATION THICKNESS		SUB ASSEMBLY		NOM. CABLE DIAMETER OVER ARMOR		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
		INCHES	mm	INCHES	mm	INCHES	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
SINGLE CONDUCTOR WITH CONCENTRIC BOND											
1/0	4	0.050	1.27	0.55	14.0	0.78	19.8	161	240	271	403
2/0	2	0.050	1.27	0.59	15.0	0.82	20.8	187	278	304	452
3/0	2	0.050	1.27	0.64	16.3	0.86	21.8	219	326	347	516
4/0	2	0.050	1.27	0.70	17.8	0.93	23.6	277	412	416	619
250	1	0.060	1.52	0.76	19.3	0.99	25.1	313	466	470	699
300	1	0.060	1.52	0.81	20.6	1.04	26.4	359	534	528	786
350	1/0	0.060	1.52	0.87	22.1	1.10	27.9	427	635	606	902
750	3/0	0.060	1.52	1.21	30.7	1.44	36.6	860	1280	1099	1635
THREE CONDUCTORS WITH BOND											
6	8	0.045	1.14	0.57	14.5	0.76	19.3	89	132	209	311
4	6	0.045	1.14	0.68	17.3	0.87	22.1	142	211	283	421
2	6	0.045	1.14	0.77	19.6	0.96	24.4	211	314	374	557
1	4	0.050	1.27	0.88	22.4	1.07	27.2	274	408	472	702
1/0	4	0.050	1.27	0.94	23.9	1.14	29.0	336	500	552	821
2/0	4	0.050	1.27	1.02	25.9	1.21	30.7	413	615	650	967
3/0	4	0.050	1.27	1.12	28.4	1.32	33.5	511	760	774	1152
4/0	4	0.050	1.27	1.23	31.2	1.42	36.1	634	943	927	1380
250	2	0.060	1.52	1.37	34.8	1.63	41.4	765	1138	1150	1711
300	2	0.060	1.52	1.48	37.6	1.74	44.2	905	1347	1326	1973
350	2	0.060	1.52	1.57	39.9	1.83	46.5	1046	1557	1495	2225
400	2	0.060	1.52	1.68	42.7	1.94	49.3	1186	1765	1668	2482
500	1	0.060	1.52	1.84	46.7	2.11	53.6	1484	2208	2017	3002
600	1	0.060	1.52	2.01	51.1	2.28	57.9	1765	2627	2347	3493
750	1/0	0.060	1.52	2.21	56.1	2.48	63.0	2207	3284	2856	4250
FOUR CONDUCTORS WITH BOND											
6	8	0.045	1.14	0.58	14.7	0.78	19.8	114	170	248	369
4	6	0.045	1.14	0.78	19.8	0.97	24.6	181	269	181	269
2	6	0.045	1.14	0.89	22.6	1.08	27.4	273	406	273	406
1	4	0.050	1.27	1.01	25.7	1.21	30.7	353	525	602	896
1/0	4	0.050	1.27	1.09	27.7	1.28	32.5	435	647	699	1040
2/0	4	0.050	1.27	1.16	29.5	1.35	34.3	538	801	826	1229
3/0	4	0.050	1.27	1.26	32.0	1.45	36.8	668	994	987	1469
4/0	4	0.050	1.27	1.38	35.1	1.64	41.7	832	1238	1223	1820
250	2	0.060	1.52	1.54	39.1	1.80	45.7	999	1487	1480	2202
300	2	0.060	1.52	1.66	42.2	1.92	48.8	1186	1765	1711	2546
350	2	0.060	1.52	1.75	44.5	2.02	51.3	1374	2045	1935	2880
400	2	0.060	1.52	1.88	47.8	2.15	54.6	1561	2323	2141	3186
500	1	0.060	1.52	2.07	52.6	2.33	59.2	1952	2905	2596	3863
600	1	0.060	1.52	2.25	57.2	2.52	64.0	2327	3463	3032	4512
750	1/0	0.060	1.52	2.48	63.0	2.75	69.9	2909	4329	3698	5503

Dimensions and weights are nominal; subject to industry tolerances.



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NUAL® Brand ACWU90 Cable

XLPE
600 V, CSA Type ACWU90, Aluminum



Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE), Type RW90

Print:

- GENERAL CABLE® (PLT. OF MFG.) (# OF CDRS) SIZE (AWG OR KCMIL) AL ACM NUAL® ACWU90 XLPE -40°C 600 V HL FT4 AG14 SUN RES CSA YEAR DATE (TIME OF MFG) SEQUENTIAL METER MARK

Applications:

- NUAL® Brand ACWU90 armored cable is designed for use in the following applications:
- Outdoors (exposed locations)
 - In wet locations (Type RW90 conductors)
 - Direct buried
 - In cable trays
 - Encased in concrete
 - Temporary power
 - As aerial cable on a messenger
 - Class 1, Zones 1 and 2, and Classes 2 and 3, Divisions 1 and 2 hazardous locations for multi-conductors per CEC Section 18

Features:

- Rated 90°C wet or dry locations
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Meets cold and bend impact test at -40°C
- Excellent electrical, thermal and physical properties
- Excellent crush, oil and chemical resistance
- Rated AG14 (Acid Gas)

Compliances:

- Industry Compliances:**
- CSA C22.2 No. 38
 - CSA C22.2 No. 51
 - CSA C22.2 No. 174 (Hazardous Locations)
 - CSA Approved File # LL 28117
 - Canadian Electrical Code (CEC)

Flame Test Compliances:

- CSA FT1 and FT4

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

COND. SIZE (AWG/kcmil)	BOND SIZE	MIN. AVG. INSULATION THICKNESS		SUB ASSEMBLY		NOM. CABLE DIAMETER OVER ARMOR		NOM. JACKET DIAMETER OVER ARMOR		NOM. JACKET THICKNESS		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
		IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km

SINGLE CONDUCTORS WITH CONCENTRIC BOND

1	4	0.050	1.27	0.51	13.0	0.74	18.8	0.83	21.1	0.045	1.14	119	177	288	429
1/0	4	0.050	1.27	0.55	14.0	0.78	19.8	0.87	22.1	0.045	1.14	161	240	341	507
2/0	2	0.050	1.27	0.59	15.0	0.82	20.8	0.91	23.1	0.045	1.14	187	278	377	561
3/0	2	0.050	1.27	0.64	16.3	0.86	21.8	0.95	24.1	0.045	1.14	219	326	424	631
4/0	2	0.050	1.27	0.70	17.8	0.93	23.6	1.02	25.9	0.045	1.14	277	412	498	741
250	1	0.060	1.52	0.76	19.3	0.99	25.1	1.11	28.2	0.060	1.52	313	466	588	875
300	1	0.060	1.52	0.81	20.6	1.04	26.4	1.16	29.5	0.060	1.52	359	534	652	970
350	1/0	0.060	1.52	0.87	22.1	1.10	27.9	1.22	31.0	0.060	1.52	427	635	737	1097
400	1/0	0.060	1.52	0.92	23.4	1.15	29.2	1.27	32.3	0.060	1.52	474	705	795	1183
500	2/0	0.060	1.52	1.02	25.9	1.25	31.8	1.37	34.8	0.060	1.52	593	882	943	1403
600	2/0	0.060	1.52	1.11	28.2	1.34	34.0	1.46	37.1	0.060	1.52	719	1070	1097	1633
750	3/0	0.060	1.52	1.21	30.7	1.44	36.6	1.56	39.6	0.060	1.52	860	1280	1268	1887
1000	3/0	0.060	1.52	1.37	34.8	1.66	42.2	1.78	45.2	0.060	1.52	1141	1698	1645	2448

THREE CONDUCTORS WITH BOND

6	8	0.045	1.14	0.57	14.5	0.76	19.3	0.85	21.6	0.045	1.14	89	132	277	412
4	6	0.045	1.14	0.68	17.3	0.87	22.1	0.96	24.4	0.045	1.14	142	211	361	537
2	6	0.045	1.14	0.77	19.6	0.96	24.4	1.05	26.7	0.045	1.14	211	314	460	685
1	4	0.050	1.27	0.88	22.4	1.07	27.2	1.19	30.2	0.060	1.52	274	408	600	893
1/0	4	0.050	1.27	0.94	23.9	1.14	29.0	1.26	32.0	0.060	1.52	336	500	687	1022
2/0	4	0.050	1.27	1.02	25.9	1.21	30.7	1.33	33.8	0.060	1.52	413	615	794	1182
3/0	4	0.050	1.27	1.12	28.4	1.32	33.5	1.44	36.6	0.060	1.52	511	760	929	1383
4/0	4	0.050	1.27	1.23	31.2	1.42	36.1	1.54	39.1	0.060	1.52	634	943	1094	1628
250	2	0.060	1.52	1.37	34.8	1.63	41.4	1.75	44.5	0.060	1.52	765	1138	1340	1994
300	2	0.060	1.52	1.48	37.6	1.74	44.2	1.86	47.2	0.060	1.52	905	1347	1528	2274
350	2	0.060	1.52	1.57	39.9	1.83	46.5	1.95	49.5	0.060	1.52	1046	1557	1708	2542
400	2	0.060	1.52	1.68	42.7	1.94	49.3	2.06	52.3	0.060	1.52	1186	1765	1894	2819
500	1	0.060	1.52	1.84	46.7	2.11	53.6	2.26	57.4	0.075	1.91	1484	2208	2325	3460
600	1	0.060	1.52	2.01	51.1	2.28	57.9	2.43	61.7	0.075	1.91	1765	2627	2679	3987
750	1/0	0.060	1.52	2.21	56.1	2.48	63.0	2.63	66.8	0.075	1.91	2207	3284	3216	4786
1000	1/0	0.060	1.52	2.54	64.5	2.81	71.4	2.96	75.2	0.075	1.91	2909	4329	4073	6061

FOUR CONDUCTORS WITH BOND

6	8	0.045	1.14	0.58	14.7	0.78	19.8	0.87	22.1	0.045	1.14	114	170	318	473
4	6	0.045	1.14	0.78	19.8	0.97	24.6	1.06	26.9	0.045	1.14	181	269	435	647
2	6	0.045	1.14	0.89	22.6	1.08	27.4	1.20	30.5	0.060	1.52	273	406	598	890
1	4	0.050	1.27	1.01	25.7	1.21	30.7	1.33	33.8	0.060	1.52	353	525	745	1109
1/0	4	0.050	1.27	1.09	27.7	1.28	32.5	1.40	35.6	0.060	1.52	435	647	850	1265
2/0	4	0.050	1.27	1.16	29.5	1.35	34.3	1.47	37.3	0.060	1.52	538	801	985	1466
3/0	4	0.050	1.27	1.26	32.0	1.45	36.8	1.57	39.9	0.060	1.52	668	994	1158	1723
4/0	4	0.050	1.27	1.38	35.1	1.64	41.7	1.76	44.7	0.060	1.52	832	1238	1415	2106
250	2	0.060	1.52	1.54	39.1	1.80	45.7	1.92	48.8	0.060	1.52	999	1487	1690	2515
300	2	0.060	1.52	1.66	42.2	1.92	48.8	2.04	51.8	0.060	1.52	1186	1765	1934	2878
350	2	0.060	1.52	1.75	44.5	2.02	51.3	2.17	55.1	0.075	1.91	1374	2045	2230	3319
400	2	0.060	1.52	1.88	47.8	2.15	54.6	2.30	58.4	0.075	1.91	1561	2323	2454	3652
500	1	0.060	1.52	2.07	52.6	2.33	59.2	2.48	63.0	0.075	1.91	1952	2905	2936	4369
600	1	0.060	1.52	2.25	57.2	2.52	64.0	2.67	67.8	0.075	1.91	2327	3463	3398	5057
750	1/0	0.060	1.52	2.48	63.0	2.75	69.9	2.90	73.7	0.075	1.91	2909	4329	4096	6096
1000	1/0	0.060	1.52	2.85	72.4	3.11	79.0	3.26	82.8	0.075	1.91	3846	5723	5218	7765

Dimensions and weights are nominal; subject to industry tolerances.



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Aluminum/Copper Canadian Mkt.

NUAL® Brand RW90 High Speed (HS)

XLPE, Low-Voltage Power

600 V, CSA Type RW90, Single Conductor, Aluminum

Product Construction:

Conductor:

- 8 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCMIL)(MM²) AL ACM NUAL® RW90 XLPE HS (-40°C) 600 V SUN RES CSA LL 28117 YEAR DATE (TIME OF MFG) SEQUENTIAL METER MARK

Options:

- Other sizes and stranding options available upon request
- Available in non-High Speed
- Available in black and full color skin coat
- Available in FeederPlex HS® Type RW90

Applications:

- In accordance with Canadian Electrical Code (CEC), Part 1
- For wiring exposed to the weather
- For use in raceways (except cable trays) in dry, damp or wet locations in accordance with Canadian Electrical Code (CEC)
- For termination and splicing of aluminum conductors, refer to CEC Rule 12-118
- Type RW90 XPLE is certified to be pulled into underground ducts
- Standard RW90 XLPE is not approved for direct burial in the earth

Features:

- Rated 90°C wet and dry locations
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation in all colors
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls

Compliances:

Industry Compliances:

- CSA C22.2 No. 38 Type RW90, CSA File # LL 28117
- Canadian Electrical Code (CEC)

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
8 AWG - 1000 kcmil CONDUCTORS														
19008	8	7	0.134	3.40	0.045	1.14	0.224	5.69	16	24	26	39	30	30
19006	6	7	0.169	4.29	0.045	1.14	0.259	6.58	25	37	39	58	50	55(2)
19004	4	7	0.213	5.41	0.045	1.14	0.303	7.70	39	58	56	83	65	65
19002	2	7	0.268	6.81	0.045	1.14	0.358	9.09	62	92	83	124	90	95(2)
19001	1	8	0.298	7.57	0.055	1.40	0.408	10.36	79	118	108	161	100	105
19011	1/0	10	0.337	8.56	0.055	1.40	0.447	11.35	99	147	132	196	120	120
19021	2/0	12	0.374	9.50	0.055	1.40	0.484	12.29	125	186	162	241	135	145
19031	3/0	16	0.421	10.69	0.055	1.40	0.531	13.49	158	235	199	296	155	165
19041	4/0	19	0.470	11.94	0.055	1.40	0.580	14.73	199	296	244	363	180	185(2)
19025	250	23	0.514	13.06	0.065	1.65	0.644	16.36	235	350	292	435	205	215
19030	300	22	0.566	14.38	0.065	1.65	0.696	17.68	282	420	345	513	230	240
19035	350	26	0.607	15.42	0.065	1.65	0.737	18.72	329	490	397	591	250	260
19040	400	37	0.659	16.74	0.065	1.65	0.789	20.04	376	560	443	659	270	290
19050	500	37	0.736	18.69	0.065	1.65	0.866	22.00	471	701	544	810	310	330
19060	600	61	0.813	20.65	0.080	2.03	0.973	24.71	565	841	664	988	340	370
19075	750	61	0.908	23.06	0.080	2.03	1.068	27.13	706	1051	817	1216	385	405
19000	1000	61	1.060	26.92	0.080	2.03	1.220	30.99	941	1400	1071	1594	445	480

Dimensions and weights are nominal; subject to industry tolerances.

(1) Ampacity based on the Canadian Electrical Code (CEC) Part 1 Table 4 for three conductors in raceway. Refer to CEC Rules 4-004 and 4-006.

(2) For 3 wires, 120/240 V and 120/208 V residential services or subservices, the allowable ampacity for #6 AWG shall be 60A. In this case, the 5% adjustment of CEC Rule 8-106(1) cannot be applied. Refer to CEC® Rule 4-004(23) and Table 39.

COLOR CODE CHART

COLOR CODE	COLOR
01	Black
02	White
03	Red
04	Orange
05	Yellow
06	Green
07	Blue
08	Brown

PACKAGING CODE CHART

PACKAGING CODE	PACKAGING
95	300 Meters
60	600 Meters
97	900 Meters
98	1200 Meters
99	1500 Meters
90	3000 Meters
96	6000 Meters

NUAL® Brand RWU90 High Speed (HS)

XLPE, Low-Voltage Power
1000 V, CSA Type RWU90, Single Conductor, Aluminum



Product Construction:

Conductor:

- 8 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCML)(MM²) AL ACM NUAL® RWU90 XLPE HS (-40°C) 600 V SUN RES CSA LL 28117 YEAR DATE (TIME OF MFG) SEQUENTIAL METER MARK

Options:

- Other sizes and stranding options available upon request
- Available in black and full color skin coat

Applications:

- In accordance with Canadian Electrical Code (CEC), Part 1
- For wiring exposed to the weather
- For use in raceways (except cable trays) in dry, damp or wet locations in accordance with Canadian Electrical Code (CEC)
- For termination and splicing of aluminum conductors, refer to CEC Rule 12-118

Features:

- Rated 90°C wet and dry locations
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation in all colors
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- Rated for direct burial
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls

Compliances:

- Industry Compliances:**
- CSA C22.2 No. 38 Type RWU90, CSA File # LL 28117
 - Canadian Electrical Code (CEC)
- Other Compliances:**
- OSHA Acceptable
 - RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
8 AWG - 1000 kcmil CONDUCTORS														
20008	8	7	0.134	3.40	0.080	2.03	0.294	7.47	16	24	38	57	30	30
20006	6	7	0.169	4.29	0.080	2.03	0.329	8.36	25	37	51	76	50	55(2)
20004	4	7	0.213	5.41	0.080	2.03	0.373	9.47	39	58	70	104	65	65
20002	2	7	0.268	6.81	0.080	2.03	0.428	10.87	62	92	99	147	90	95(2)
20001	1	8	0.298	7.57	0.095	2.41	0.488	12.40	79	118	129	192	100	105
20011	1/0	10	0.337	8.56	0.095	2.41	0.527	13.39	99	147	155	231	120	120
20021	2/0	12	0.374	9.50	0.095	2.41	0.564	14.33	125	186	186	277	135	145
20031	3/0	16	0.421	10.69	0.095	2.41	0.611	15.52	158	235	226	336	155	165
20041	4/0	19	0.470	11.94	0.095	2.41	0.660	16.76	199	296	274	408	180	185(2)
20025	250	23	0.514	13.06	0.110	2.79	0.734	18.64	235	350	329	490	205	215
20030	300	22	0.566	14.38	0.110	2.79	0.786	19.96	282	420	385	573	230	240
20035	350	26	0.607	15.42	0.110	2.79	0.827	21.01	329	490	439	653	250	260
20040	400	37	0.659	16.74	0.110	2.79	0.879	22.33	376	560	488	726	270	290
20050	500	37	0.736	18.69	0.110	2.79	0.956	24.28	471	701	593	882	310	330
20060	600	61	0.813	20.65	0.125	3.18	1.063	27.00	565	841	719	1070	340	370
20075	750	61	0.908	23.06	0.125	3.18	1.158	29.41	706	1051	876	1304	385	405
20000	1000	61	1.060	26.92	0.125	3.18	1.310	33.27	941	1400	1138	1694	445	480

Dimensions and weights are nominal; subject to industry tolerances.

(1) Ampacity based on the Canadian Electrical Code (CEC) Part 1 Table 4 for three conductors in raceway. Refer to CEC Rules 4-004 and 4-006.

(2) For 3 wires, 120/240 V and 120/208 V residential services or subservices, the allowable ampacity for #6 AWG shall be 60A. In this case, the 5% adjustment of CEC Rule 8-106(1) cannot be applied. Refer to CEC® Rule 4-004(23) and Table 39.

COLOR CODE CHART

COLOR CODE	COLOR
01	Black
02	White
03	Red
04	Orange
05	Yellow
06	Green
07	Blue
08	Brown

PACKAGING CODE CHART

PACKAGING CODE	PACKAGING
95	300 Meters
60	600 Meters
97	900 Meters
98	1200 Meters
99	1500 Meters
90	3000 Meters
96	6000 Meters



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Aluminum/Copper Canadian Mkt.

RW90 High Speed

XLPE, Low-Voltage Power

600 V, CSA Type RW90, Single Conductor, Copper

Product Construction:

Conductor:

- 14 AWG thru 10 AWG annealed Class B Compressed stranded soft drawn bare copper
- 8 AWG thru 750 kcmil annealed Class B Compact stranded soft drawn bare copper
- 14 AWG thru 10 AWG solid bare copper

Insulation:

- Heat- and moisture-resistant, low-temperature Cross-linked Polyethylene (XLPE), Type RW90, -40°C, Sunlight Resistant (8 AWG and larger)
- Color code: 14 AWG, 12 AWG, 10 AWG – black, white, red, blue, green, yellow, orange, brown; solid colors only; 8 AWG thru 750KCM– black solid color; white, red, blue, green skim coat colors;



Print:

- **14 AWG through 10 AWG, all colors:**
 - PRYSMIAN GROUP (PLANT OF MFG) (MM/YEAR) RW90 XLPE (SIZE) (SIZE MM2) 600V (-40°C) CSA
- **14 AWG through 10 AWG, black:**
 - PRYSMIAN GROUP (PLANT OF MFG) (MM/YEAR) RW90 XLPE (SIZE) (SIZE MM2) 600V (-40°C) SR CSA
- **8 AWG and larger, all colors:**
 - PRYSMIAN GROUP (PLANT OF MFG) (MM/YEAR) HIGH SPEED RW90 XLPE (SIZE) (SIZE MM2) 600V (-40°C) SR CSA

Options:

- For 1000 volt applications, use RWU90
- PVC jacket (FT1 rating)

Applications:

- In accordance with Canadian Electrical Code (CEC), Part 1
- For wiring exposed to the weather black color (all sizes), skim coat colors (8AWG and larger)
- For use in raceways in dry, damp or wet locations in accordance with Canadian Electrical Code (CEC)
- Refer to CEC, Table 19 for conditions of use

Features:

- Rated at 90°C wet or dry
- Meets cold bend and cold impact tests at -40°C
- Sunlight-resistant, black (14AWG - 10AWG); all colors (8AWG and larger)
- High Speed cable features a specially designed XLPE insulation that allows for fast and easy cable pulls (8AWG and larger)

Compliances:

- CSA Standard C22.2 No. 38
- CSA Approval File Number 155503 or 156400

Packaging:

- Available in various standard putups in multiples of 300 meters, contact sales

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	COND. STRAND**	NOMINAL COND. O.D.		MIN. AVG. INS. THICKNESS		NOM. DIAMETER (OVER) INS.		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
14 AWG - 1000 kcmil CONDUCTORS														
388540	14	1	0.06	1.52	0.030	0.76	0.12	3.05	12	18	16	24	20	25
388550	14	7	0.07	1.78	0.030	0.76	0.13	3.30	12	18	16	24	20	25
388560	12	1	0.08	2.03	0.030	0.76	0.14	3.56	20	30	24	36	25	30
388570	12	7	0.09	2.29	0.030	0.76	0.15	3.81	20	30	25	37	25	30
388580	10	1	0.10	2.54	0.030	0.76	0.16	4.06	31	46	36	54	35	45
388590	10	7	0.11	2.79	0.030	0.76	0.17	4.32	32	48	38	57	35	45
386082	8	7	0.13	3.30	0.045	1.14	0.23	5.84	51	76	61	91	50	55
386062	6	7	0.17	4.32	0.045	1.14	0.27	6.86	81	121	93	138	65	75
386042	4	7	0.21	5.33	0.045	1.14	0.31	7.87	129	192	142	212	85	95
386032	3	7	0.24	6.10	0.045	1.14	0.33	8.38	163	243	177	264	100	115
386022	2	7	0.27	6.86	0.045	1.14	0.36	9.14	205	305	221	329	115	130
386012	1	19	0.30	7.62	0.055	1.40	0.42	10.67	259	385	281	418	130	145
386112	1/0	19	0.34	8.64	0.055	1.40	0.45	11.43	326	485	351	522	150	170
386212	2/0	19	0.38	9.65	0.055	1.40	0.49	12.45	411	612	437	651	175	195(2)
386312	3/0	19	0.42	10.67	0.055	1.40	0.54	13.72	518	771	548	815	200	225
386412	4/0	19	0.47	11.94	0.055	1.40	0.59	14.99	653	972	687	1023	230	260
386252	250	37	0.52	13.21	0.065	1.65	0.66	16.76	772	1149	812	1208	255	290
386302	300	37	0.57	14.48	0.065	1.65	0.71	18.03	925	1377	966	1438	285	320
386352	350	37	0.62	15.75	0.065	1.65	0.76	19.30	1080	1607	1122	1670	310	350
386402*	400	37	0.66	16.76	0.065	1.65	0.80	20.32	1236	1839	1310	1950	335	380
386502	500	37	0.74	18.80	0.065	1.65	0.88	22.35	1542	2295	1590	2366	380	430
386602	600	61	0.81	20.57	0.080	2.03	0.98	24.89	1850	2753	1909	2841	420	475
386752	750	61	0.91	23.11	0.080	2.03	1.08	27.43	2316	3447	2390	3556	475	535

Dimensions and weights are nominal; subject to industry tolerances.

The number of wires may be reduced as follows:

- 1AWG - 4/0AWG - 18 Wires Minimum
- 250kcmil - 500kcmil - 35 Wires Minimum
- 600kcmil - 1000kcmil - 58 Wires Minimum

(1) Based on CEC Part 1, Table 2 for three conductors in raceway (conduit). For underground installations, refer to CEC, Rule 4-004 for ampacity rating.
(2) For 3 wires, 120/240 V and 120/208 V residential services or subservices, the allowable ampacity for 2/0 AWG shall be 200A. In this case, the 5% adjustment of Rule 8-106(1) cannot be applied.

COLOR CODE CHART

COLOR CODE	COLOR
01	Black
02	White
03	Red
04	Orange
05	Yellow
06	Green
07	Blue
08	Brown

PACKAGING CODE CHART

PACKAGING CODE	PACKAGING
95	300 Meters
60	600 Meters
97	900 Meters
98	1200 Meters
99	1500 Meters
90	3000 Meters
96	6000 Meters



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Aluminum/Copper Canadian Mkt.

RWU90 High Speed

XLPE, Low-Voltage Power
1000 V, CSA Type RWU90, Single Conductor, Copper



Product Construction:

Conductor:

- 14 AWG thru 10 AWG annealed Class B Compressed stranded soft drawn bare copper
- 8 AWG thru 750 kcmil annealed Class B Compact stranded soft drawn bare copper

Insulation:

- Heat- and moisture-resistant, lowtemperature Cross-linked Polyethylene (XLPE), Type RWU90, -40°C, Sunlight Resistant (8AWG and larger)
- Color code: 14 AWG – thru 10 AWG – black, white, red, blue, green solid colors only; 8 AWG thru 750KCM– black solid color; white, red, blue, green skim coat colors;

Print:

- **14 AWG through 10 AWG, all colors:**
 - PRYSMIAN GROUP (PLANT OF MFG) (MM/YEAR) RWU90 XLPE (SIZE) (SIZE MM2) 600V (-40°C) CSA
- **14 AWG through 10 AWG, black:**
 - PRYSMIAN GROUP (PLANT OF MFG) (MM/YEAR) RWU90 XLPE (SIZE) (SIZE MM2) 600V (-40°C) SR CSA
- **8 AWG and larger, all colors¹:**
 - GENERAL CABLE® (PLANT OF MFG) 1C (SIZE) (SIZE MM²) HIGH SPEED CU XLPE 1000 V RWU90 CSA (-40°C) (MM) (YYYY)
- **8 AWG and larger, all colors:**
 - PRYSMIAN GROUP (PLANT OF MFG) (MM/YEAR) HIGH SPEED RWU90 XLPE (SIZE) (SIZE MM2) 600V (-40C) SR CSA

Option:

- PVC jacket (FT1 rating)

Applications:

- In accordance with Canadian Electrical Code (CEC), Part 1
- For wiring exposed to the weather black color (all sizes), skim coat colors (8AWG and larger)
- For use in raceways in dry, damp or wet locations in accordance with Canadian Electrical Code (CEC)
- Approved for direct burial per CEC Rule 12-012
- For service entrance below ground
- Refer to CEC, Table 19 for conditions of use

Features:

- Rated at 90°C wet or dry
- Meets cold bend and cold impact tests at -40°C
- Sunlight-resistant, black (14AWG - 10AWG); all colors (8AWG and larger)
- High Speed cable features a specially designed XLPE insulation that allows for fast and easy cable pulls - 8 AWG and larger

Compliances:

- CSA Standard C22.2 No. 38
- CSA Approval File Number 155503 or 156400

Packaging:

- Available in various standard putups in multiples of 300 meters, contact sales

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	COND. STRAND*	NOMINAL COND. O.D.		MIN. AVG. INS. THICKNESS		NOM. DIAMETER (OVER) INS.		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km	@75°C	@90°C
14 AWG - 1000 kcmil CONDUCTORS														
389570	14	7	0.07	1.78	0.060	1.52	0.19	4.83	12	18	23	34	20	25
389580	12	7	0.09	2.29	0.060	1.52	0.21	5.33	20	30	32	48	25	30
389590	10	7	0.11	2.79	0.060	1.52	0.23	5.84	32	48	46	68	35	45
392082	8	7	0.13	3.30	0.080	2.03	0.30	7.62	51	76	74	110	50	55
392062	6	7	0.17	4.32	0.080	2.03	0.34	8.64	81	121	107	159	65	75
392042	4	7	0.21	5.33	0.080	2.03	0.38	9.65	129	192	159	236	85	95
392032	3	7	0.24	6.10	0.080	2.03	0.41	10.41	163	243	195	290	100	115
392022	2	7	0.27	6.86	0.080	2.03	0.44	11.18	205	305	240	357	115	130
392012	1	19	0.30	7.62	0.095	2.41	0.50	12.70	259	385	305	454	130	145
392112	1/0	19	0.34	8.64	0.095	2.41	0.54	13.72	326	485	377	561	150	170
392212	2/0	19	0.38	9.65	0.095	2.41	0.58	14.73	411	612	466	693	175	195(2)
392312	3/0	19	0.42	10.67	0.095	2.41	0.62	15.75	518	771	578	860	200	225
392412	4/0	19	0.47	11.94	0.095	2.41	0.68	17.27	653	972	721	1073	230	260
392252	250	37	0.52	13.21	0.110	2.79	0.75	19.05	772	1149	851	1267	255	290
392302	300	37	0.57	14.48	0.110	2.79	0.80	20.32	925	1377	1028	1530	285	320
392352	350	37	0.62	15.75	0.110	2.79	0.85	21.59	1080	1607	1168	1738	310	350
392402*	400	37	0.66	16.76	0.110	2.79	0.89	22.61	1236	1839	1357	2020	335	380
392502	500	37	0.74	18.80	0.110	2.79	0.97	24.64	1542	2295	1642	2443	380	430
392602	600	61	0.81	20.57	0.125	3.18	1.07	27.18	1850	2753	1967	2927	420	475
392752	750	61	0.91	23.11	0.125	3.18	1.17	29.72	2316	3447	2453	3650	475	535

Dimensions and weights are nominal; subject to industry tolerances.

The number of wires may be reduced as follows:

- 1AWG - 4/OAWG - 18 Wires Minimum
- 250kcmil - 500kcmil - 35 Wires Minimum
- 600kcmil - 1000kcmil - 58 Wires Minimum

(1) Based on CEC Part 1, Table 2 for three conductors in raceway (conduit). For underground installations, refer to CEC, Rule 4-004 for ampacity rating.

(2) For 3 wires, 120/240 V and 120/208 V residential services or subservices, the allowable ampacity for 2/0 AWG shall be 200A. In this case, the 5% adjustment of Rule 8-106(1) cannot be applied.

COLOR CODE CHART

COLOR CODE	COLOR
01	Black
02	White
03	Red
04	Orange
05	Yellow
06	Green
07	Blue
08	Brown

PACKAGING CODE CHART

PACKAGING CODE	PACKAGING
95	300 Meters
60	600 Meters
97	900 Meters
98	1200 Meters
99	1500 Meters
90	3000 Meters
96	6000 Meters



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Aluminum/Copper Canadian Mkt.

T90 High Speed (HS)

PVC, Low-Voltage Power

600 V, CSA Type T90/TWN75, Single Conductor, Copper

Product Construction:

Conductor:

- 14 AWG thru 10 AWG stranded bare annealed copper
- 8 AWG thru 500 kcmil compressed stranded bare annealed copper
- 14 AWG thru 10 AWG solid plain copper

Insulation:

- Color-coded premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC)

Jacket:

- Tough Polyamide (Nylon)

Print:

For 14 AWG solid thru 10 AWG solid:

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED THHN/THWN-2 (UL) E66903 SIZE AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

For 14 AWG strand thru 10 AWG strand:

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) SIZE AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

For 8 AWG thru 500 kcmil, all colors:

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)

For 8 AWG thru 500 kcmil, black only:

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII SUN RES 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25°C)



CATALOG NUMBER	CONDUCTOR SIZE		NO. OF WIRES	MIN. AVG. INSULATION THICKNESS		JACKET THICKNESS		NOMINAL CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT		AMPACITY (1) 30°C AMBIENT	
	AWG/ kcmil	mm ²		IN	mm	IN	mm	IN	mm	LBS/ 1000 FT	kg/km	LBS/ 1000 FT	kg/km	@75°C	@90°C
14 AWG - 500 kcmil CONDUCTORS															
100014	14	2.08	1	0.015	0.38	0.004	0.10	0.102	2.59	16	24	19	28	15	15
110014	14	2.08	19	0.015	0.38	0.004	0.10	0.109	2.77	13	19	16	24	15	15
100012	12	3.31	1	0.015	0.38	0.004	0.10	0.102	2.59	16	24	19	28	20	20
110012	12	3.31	19	0.015	0.38	0.004	0.10	0.130	3.30	20	30	24	36	20	20
100010	10	5.26	1	0.020	0.51	0.004	0.10	0.150	3.81	40	60	45	67	30	30
110010	10	5.26	19	0.020	0.51	0.004	0.10	0.161	4.09	32	48	38	57	30	30
210008	8	8.37	19	0.030	0.76	0.005	0.13	0.212	5.38	51	76	62	92	45	45
210006	6	13.3	19	0.030	0.76	0.005	0.13	0.248	6.30	81	121	94	140	65	65
210004	4	21.2	13-6	0.040	1.02	0.006	0.15	0.317	8.05	129	192	151	225	85	85
210003	3	26.7	13-6	0.040	1.02	0.006	0.15	0.344	8.74	163	243	189	281	100	105
210002	2	33.6	13-6	0.040	1.02	0.006	0.15	0.375	9.53	205	305	232	345	115	120
210001	1	42.4	13-6	0.050	1.27	0.007	0.18	0.427	10.85	258	384	296	440	130	140
310110	1/0	53.5	13-6	0.050	1.27	0.007	0.18	0.456	11.58	326	485	368	548	150	155
310210	2/0	67.4	13-6	0.050	1.27	0.007	0.18	0.509	12.93	411	612	457	680	175	185(2)
310310	3/0	85	13-6	0.050	1.27	0.007	0.18	0.557	14.15	518	771	570	848	200	210
310410	4/0	107	13-6	0.050	1.27	0.007	0.18	0.612	15.54	653	972	711	1058	230	235
310250	250	127	37	0.060	1.52	0.008	0.20	0.694	17.63	772	1149	850	1265	255	265
310300	300	152	37	0.060	1.52	0.008	0.20	0.747	18.97	926	1378	1011	1505	285	295
310350	350	177	37	0.060	1.52	0.008	0.20	0.797	20.24	1081	1609	1173	1746	310	325
310400	400	203	37	0.060	1.52	0.008	0.20	0.842	21.39	1235	1838	1334	1985	335	345
310500	500	253	37	0.060	1.52	0.008	0.20	0.925	23.50	1544	2298	1656	2464	380	395

Dimensions and weights are nominal; subject to industry tolerances.

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

** Based on CEC Part 1 Table 2 Allowable ampacities for not more than three copper conductors in raceway or cable.

*** For 3-wire 120/240 V and 120/208 V service conductors for single dwellings, or for feeder conductors supplying single dwelling units of row housing of apartment and similar buildings, and sized in accordance with Rules 8-200 (1), 8-200 (2) (1), the allowable ampacity for sizes No. 6 and No. 2/0 AWG shall be 60A and 200A, respectively. In this case, the 5% adjustment of Rule 8-106 (1) can not be applied.

Applications:

- For exposed or concealed wiring in dry or damp locations
- Maximum conductor temperature 90°C dry, 75°C wet and 60°C when exposed to oil
- For use in raceways in dry or damp locations
- Not cable tray rated

Features:

- Rated at 90°C dry or damp locations, 75°C wet
- Rated Gasoline and Oil Resistant II
- Meets cold bend and cold impact tests at -25°C
- Suitable for installation at -10°C
- Sequential foot markings every 2 feet on 8 AWG and larger for easy measuring
- Sunlight-resistant for 8 AWG and larger, black only
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls

Compliances:

- Industry Compliances:
 - c(UL) CSA Standard C22.2 No. 75
- Other Compliances:
 - RoHS Compliant

Packaging:

- 14 AWG thru 10 AWG: 300 m reels
- 8 AWG thru 6 AWG: 300 m or 3,000 m reels
- 4 AWG thru 4/0: 300 m or 1,500 m reels
- 250 kcmil thru 500 kcmil: 900 m reels

COLOR CODE CHART

COLOR CODE	COLOR
01	Black
02	White
03	Red
04	Orange
05	Yellow
06	Green
07	Blue
08	Brown

PACKAGING CODE CHART

PACKAGING CODE	PACKAGING
95	300 Meters
60	600 Meters
97	900 Meters
98	1200 Meters
99	1500 Meters
90	3000 Meters
96	6000 Meters



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Notes

Aluminum/Copper Canadian Mkt.



Section 4

SunGen® – Aluminum and Copper Photovoltaic Wire



Harnessing the Renewable Power of the Sun

Solar Photovoltaic Wire: Why Choose SunGen®?

The SunGen® Difference

As a company committed to environmental stewardship and renewable energy, General Cable has specifically designed its UL 4703 SunGen® suite of photovoltaic (PV) products to effectively and efficiently connect solar panels and concentrated solar power technologies while being able to withstand the harsh operating environments of solar power applications.

- Resistant to UV/sunlight, ozone and water absorption
- Rated for direct burial
- Stable electrical properties over a broad temperature range (-40°C to 90°C)
- Excellent flexibility and performance in low-temperature environments
- Highly resistant to deformation, even in prolonged exposure at high temperatures
- Mechanically rugged construction resists cutting, tearing and abrasions
- CSA RPV90 and RPVU90 options available
- Single and multi-conductor cable constructions
- 18 AWG – 1000 kcmil stranded copper and 6 AWG – 1000 kcmil aluminum conductors

When it comes to the wire and cable for today's solar energy projects with PV module interconnections within the photovoltaic array, General Cable's SunGen® UL Listed 4703 PV wire offers far more superior sunlight resistance and low-temperature flexibility for maximum performance and reliability for long-term outdoor exposure to the sun.

SunGen® — the obvious choice for solar photovoltaic applications.

PV Wire Applications/Compliances	SunGen® PV Wire - UL Type PV/RHH/RHW-2/USE-2
Voltage: 600, 1000 and 2000 Volts	
Direct Buried: 600, 1000 and 2000 Volts	
Conduit/Duct/Raceway	
NEC Article 690 – PV Systems	
UL 4703 PV Wire	
UL 854 USE-2	
Flame Test Requirements: FT1 & VW-1	
Maximum Operating Temperature: 90°C Wet or Dry	
Cold Bend: -40°C	
Weatherometer Sunlight Resistance: 720 Hour	

Renewable Energy Cable



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Section 4 Renewable Energy Cable – Aluminum and Copper

PRODUCT DESCRIPTION	SPECIFICATION NUMBER	REVISION DATE	PAGE NUMBER
Aluminum			
SunGen® Photovoltaic Wire XLPE, RHH or RHW-2, 600 V, UL Type PV, Single Conductor, Aluminum	5841A	June 2017	35
SunGen® Photovoltaic Wire XLPE, RHH or RHW-2, 1000 V or 2000 V, UL Type PV, Single Conductor, Aluminum	5851A	June 2017	36
SunGen® Photovoltaic Wire XLPE, 600 V, 1000 V, 2000 V, CSA Type RPV90, Single Conductor, Aluminum	5860A	June 2017	37
SunGen® Photovoltaic Wire XLPE, 1000 V or 2000 V, CSA Type RPVU90, Single Conductor, Aluminum	5870A	June 2017	38
STABILOY® Brand Zephyr2000™ XLPE, Low-Voltage Power, 2000 V, UL Type RHH/RHW-2, Single Conductor, Aluminum	5025A	June 2017	39
Copper			
SunGen® Photovoltaic Wire XLPE, RHH/RHW-2, VW-1, 600 V, UL Type PV, Single Conductor, Copper	5841	June 2017	41
SunGen® Photovoltaic Wire XLPE, RHH/RHW-2, VW-1, RPVU90, FT1, 2000 V, UL Type PV, Single Conductor, Copper	5851	June 2017	42
SunGen® Photovoltaic Wire Dual Layer EPR/XL-CPE, USE-2 at 600 V, RHH/RHW-2, RWU90, 600 V, UL Type PV Single Conductor, Copper	5800	June 2017	43
SunGen® Photovoltaic Wire Dual Layer EPR/XL-CPE, USE-2 at 600 V, RHH/RHW-2, RWU90, 2000 V, UL Type PV Single Conductor, Copper	5810	June 2017	44



SunGen® Photovoltaic Wire

XLPE, RHH or RHW-2

600 V, UL Type PV, Single Conductor, Aluminum



Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)
- RHH/RHW-2 (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCMIL) (MM²) COMPACT SUNGEN® AA-8030 AL XLPE 600 V RHH RHW-2 90°C SUN RES (-40°C) PV WIRE VW-1 DIR BUR (UL) YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE

Options:

- Other sizes and stranding options available upon request
- CT for 1/0 AWG and larger, RHH/RHW-2
- Available in black and full color skin coat

Applications:

- Single conductor, sunlight-resistant, direct burial photovoltaic wire rated 90°C wet or dry, 600 V, for interconnection wiring of grounded and ungrounded photovoltaic power systems described in NEC® Article 690
- Stable electrical properties over a broad temperature range
- General purpose building wire for use primarily in conduit or other recognized raceways as specified in the National Electric Code® (NEC®)
- Maximum operating temperature not to exceed 90°C in wet or dry locations

Features:

- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation in all colors
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- Rated for direct burial

Compliances:

- Industry Compliances:**
- UL 4703 Type PV, UL File #E343277
 - UL 44 Type RHH or RHW-2, UL File #39406
 - National Electrical Code (NEC®)

Flame Test Compliances:

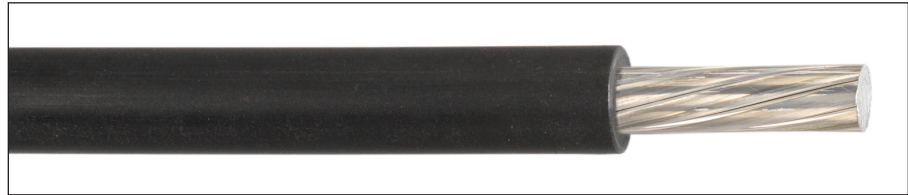
- UL 2556 Horizontal Burn
- CT UL 1685, RHH/RHW-2
- VW-1 UL 2556

Other Compliances:

- RoHS Compliant
- OSHA Acceptable

Packaging:

- Material cut to length and shipped on non-returnable wood reels



COND. SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
		IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
6 AWG - 1000 kcmil CONDUCTORS											
6*	7	0.169	4.29	0.075	1.91	0.319	8.10	25	37	51	76
4*	7	0.213	5.41	0.075	1.91	0.363	9.22	39	58	70	104
2*	7	0.268	6.81	0.075	1.91	0.418	10.62	62	92	99	147
1*	8	0.298	7.57	0.095	2.41	0.488	12.40	79	118	132	196
1/0*	10	0.337	8.56	0.095	2.41	0.527	13.39	99	147	159	237
2/0*	12	0.374	9.50	0.095	2.41	0.564	14.33	125	186	190	283
3/0*	16	0.421	10.69	0.095	2.41	0.611	15.52	158	235	230	342
4/0*	19	0.470	11.94	0.095	2.41	0.660	16.76	199	296	279	415
250*	23	0.514	13.06	0.110	2.79	0.734	18.64	235	350	336	500
300*	22	0.566	14.38	0.110	2.79	0.786	19.96	282	420	392	583
350*	26	0.607	15.42	0.110	2.79	0.827	21.01	329	490	446	664
400*	37	0.659	16.74	0.110	2.79	0.879	22.33	376	560	495	737
500*	37	0.736	18.69	0.110	2.79	0.956	24.28	471	701	602	896
600*	61	0.813	20.65	0.125	3.18	1.063	27.00	565	841	729	1085
750*	61	0.908	23.06	0.125	3.18	1.158	29.41	706	1051	888	1321
1000*	61	1.060	26.92	0.125	3.18	1.310	33.27	941	1400	1151	1713

Dimensions and weights are nominal; subject to industry tolerances.

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

COLOR CODE CHART

COLOR CODE	COLOR	COLOR CODE	COLOR
1	Black	7	Blue
2	White	8	Orange
3	Red	9	Gray
4	Green	A	Purple
5	Yellow	C	Tan
6	Brown		



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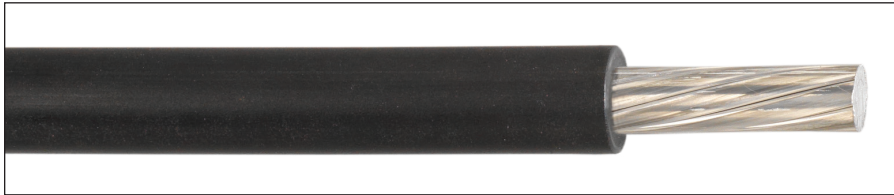


Renewable Energy Cable

SunGen® Photovoltaic Wire

XLPE, RHH or RHW-2

1000 V or 2000 V, UL Type PV, Single Conductor, Aluminum



Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)
- RHH/RHW-2 (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCMIL) (MM²) COMPACT SUNGEN® (VOLTS) PV WIRE OR RHH OR RHW-2 AA-8030 AL XLPE 90°C SUN RES (-40°C) VW-1 DIR BUR (UL) OR C(UL) (VOLTS) RPVU90 FT1 YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE

Options:

- Other sizes and stranding options available upon request
- "FOR CT USE" for 1/0 AWG and larger, RHH/RHW-2
- Available in black and full color skin coat

Applications:

- Single conductor, sunlight-resistant, direct burial photovoltaic wire rated 90°C wet or dry, 1000 V or 2000 V, for interconnection wiring of grounded and ungrounded photovoltaic power systems described in NEC® Article 690
- Stable electrical properties over a broad temperature range
- General purpose building wire for use primarily in conduit or other recognized raceways as specified in the National Electric Code® (NEC®)
- Maximum operating temperature not to exceed 90°C in wet or dry locations

Features:

- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation in all colors
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- Rated for direct burial

Compliances:

- Industry Compliances:**
 - UL 4703 Type PV, UL File #E343277
 - UL 44 Type RHH or RHW-2, UL File #39406
 - National Electrical Code (NEC®)

Flame Test Compliances:

- UL 2556 Horizontal Burn
- CT UL 1685, RHH/RHW-2
- VW-1 UL 2556

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
6 AWG - 1000 kcmil CONDUCTORS												
81006*	6	7	0.169	4.29	0.085	2.16	0.339	8.61	25	37	56	83
81004*	4	7	0.213	5.41	0.085	2.16	0.383	9.73	39	58	75	112
81002*	2	7	0.268	6.81	0.085	2.16	0.438	11.13	62	92	105	156
81001*	1	8	0.298	7.57	0.105	2.67	0.508	12.90	79	118	143	213
81110*	1/0	10	0.337	8.56	0.105	2.67	0.547	13.89	99	147	166	247
81210*	2/0	12	0.374	9.50	0.105	2.67	0.584	14.83	125	186	197	293
81310*	3/0	16	0.421	10.69	0.105	2.67	0.631	16.03	158	235	238	354
81410*	4/0	19	0.470	11.94	0.105	2.67	0.680	17.27	199	296	288	429
81250*	250	23	0.514	13.06	0.120	3.05	0.754	19.15	235	350	346	515
81300*	300	22	0.566	14.38	0.120	3.05	0.806	20.47	282	420	403	600
81350	350	26	0.607	15.42	0.120	3.05	0.847	21.51	329	490	458	682
81400*	400	37	0.659	16.74	0.120	3.05	0.899	22.83	376	560	507	754
81500	500	37	0.736	18.69	0.120	3.05	0.976	24.79	471	701	615	915
81600	600	61	0.813	20.65	0.135	3.43	1.083	27.51	565	841	744	1107
81750	750	61	0.908	23.06	0.135	3.43	1.178	29.92	706	1051	904	1345
81100*	1000	61	1.060	26.92	0.135	3.43	1.330	33.78	941	1400	1169	1740

Dimensions and weights are nominal; subject to industry tolerances.

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

COLOR CODE CHART

COLOR CODE	COLOR	COLOR CODE	COLOR
1	Black	7	Blue
2	White	8	Orange
3	Red	9	Gray
4	Green	A	Purple
5	Yellow	C	Tan
6	Brown		

Renewable Energy Cable



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SunGen® Photovoltaic Wire

XLPE

600 V, 1000 V, 2000 V, CSA Type RPV90, Single Conductor, Aluminum



Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCMIL) (MM²) AL ACM SUNGEN® RPV90 XLPE (-40°C) (VOLTS) SR CSA LL 28117 YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE

Options:

- Available in black and full color skin coat

Applications:

- Single conductor 600 V, 1000 V and 2000 V photovoltaic wire rated 90°C wet or dry for interconnection wiring of grounded and ungrounded photovoltaic power systems described in CSA 22.2 No. 271
- Stable electrical properties over a broad temperature range

Features:

- Available in 600 V, 1000 V or 2000 V
- Rated 90°C wet or dry locations
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation

Compliances:

- Industry Compliances:**
 - CSA 22.2 No. 271 File #LL 28117
 - Canadian Electrical Code (CEC)
- Flame Test Compliances:**
 - CSA 22.2 No. 2556
- Other Compliances:**
 - OSHA Acceptable
 - RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



COND. SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
		IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
6 AWG - 1000 kcmil CONDUCTORS - 600 V											
6*	7	0.169	4.29	0.045	1.14	0.259	6.58	25	37	37	55
4*	7	0.213	5.41	0.045	1.14	0.303	7.70	39	58	55	82
2*	7	0.268	6.81	0.045	1.14	0.358	9.09	62	92	82	122
1*	8	0.298	7.57	0.055	1.40	0.408	10.36	79	118	106	158
1/0*	10	0.337	8.56	0.055	1.40	0.447	11.35	99	147	130	193
2/0*	12	0.374	9.50	0.055	1.40	0.484	12.29	125	186	159	237
3/0*	16	0.421	10.69	0.055	1.40	0.531	13.49	158	235	197	293
4/0*	19	0.470	11.94	0.055	1.40	0.580	14.73	199	296	243	362
250*	23	0.514	13.06	0.065	1.65	0.644	16.36	235	350	290	432
350*	26	0.607	15.42	0.065	1.65	0.737	18.72	329	490	329	490
500*	37	0.736	18.69	0.065	1.65	0.866	22.00	471	701	541	805
750*	61	0.908	23.06	0.080	2.03	1.068	27.13	706	1051	813	1210
1000*	61	1.060	26.92	0.080	2.03	1.220	30.99	941	1400	1066	1586
6 AWG - 1000 kcmil CONDUCTORS - 1000 V											
6*	7	0.169	4.29	0.060	1.52	0.289	7.34	25	37	43	64
4*	7	0.213	5.41	0.060	1.52	0.333	8.46	39	58	61	91
2*	7	0.268	6.81	0.060	1.52	0.388	9.86	62	92	89	132
1*	8	0.298	7.57	0.080	2.03	0.458	11.63	79	118	120	179
1/0*	10	0.337	8.56	0.080	2.03	0.497	12.62	99	147	145	216
2/0*	12	0.374	9.50	0.080	2.03	0.534	13.56	125	186	176	262
3/0*	16	0.421	10.69	0.080	2.03	0.581	14.76	158	235	214	318
4/0*	19	0.470	11.94	0.080	2.03	0.630	16.00	199	296	262	390
250*	23	0.514	13.06	0.090	2.29	0.694	17.63	235	350	311	463
350*	26	0.607	15.42	0.090	2.29	0.787	19.99	329	490	418	622
500*	37	0.736	18.69	0.090	2.29	0.916	23.27	471	701	570	848
750*	61	0.908	23.06	0.090	2.29	1.088	27.64	706	1051	826	1229
1000*	61	1.060	26.92	0.090	2.29	1.240	31.50	941	1400	1081	1609
6 AWG - 1000 kcmil CONDUCTORS - 2000 V											
6*	7	0.169	4.29	0.070	1.78	0.309	7.85	25	37	46	68
4*	7	0.213	5.41	0.070	1.78	0.353	8.97	39	58	65	97
2*	7	0.268	6.81	0.070	1.78	0.408	10.36	62	92	94	140
1*	8	0.298	7.57	0.090	2.29	0.478	12.14	79	118	126	188
1/0*	10	0.337	8.56	0.090	2.29	0.517	13.13	99	147	152	226
2/0*	12	0.374	9.50	0.090	2.29	0.554	14.07	125	186	183	272
3/0*	16	0.421	10.69	0.090	2.29	0.601	15.27	158	235	222	330
4/0*	19	0.470	11.94	0.105	2.67	0.650	16.51	199	296	270	402
250*	23	0.514	13.06	0.105	2.67	0.724	18.39	235	350	324	482
350*	26	0.607	15.42	0.105	2.67	0.817	20.75	329	490	434	646
500*	37	0.736	18.69	0.105	2.67	0.946	24.03	471	701	587	874
750*	61	0.908	23.06	0.120	3.05	1.148	29.16	706	1051	869	1293
1000*	61	1.060	26.92	0.120	3.05	1.300	33.02	941	1400	1129	1680

Dimensions and weights are nominal; subject to industry tolerances.
* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.



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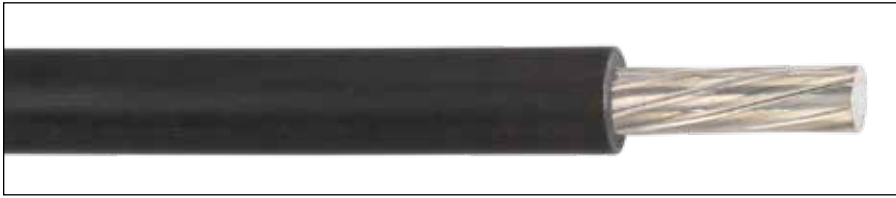


Renewable Energy Cable

SunGen® Photovoltaic Wire

XLPE

1000 V or 2000 V, CSA Type RPVU90, Single Conductor, Aluminum



Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIIV aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCMIL) (MM²) AL ACM SUNGEN® RPVU90 XLPE (-40°C) (VOLTS) SR CSA LL 28117 YEAR DATE (TIME OF MFG) SEQUENTIAL FOOTAGE

Options:

- Available in black and full color skin coat

Applications:

- Stable electrical properties over a broad temperature range
- For use in interconnection wiring of grounded and ungrounded photovoltaic power systems as described in CSA 22.2 No. 271

Features:

- Available in 1000 V and 2000 V
- Rated 90°C wet or dry locations
- UV/sunlight-resistant, moisture-resistant and flame-retardant insulation
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation
- Exposed and concealed in wet or dry locations
- Rated for direct burial

Compliances:

- Industry Compliances:**
 - CSA 22.2 No. 271 File #LL 28117
 - Canadian Electrical Code (CEC)

Flame Test Compliances:

- CSA C22.2 No. 2556

Other Compliances:

- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

COND. SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOMINAL CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
		IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
6 AWG - 1500 kcmil CONDUCTORS											
6*	7	0.169	4.29	0.080	2.03	0.329	8.36	25	37	51	76
4*	7	0.213	5.41	0.080	2.03	0.373	9.47	39	58	70	104
3*	7	0.238	6.05	0.080	2.03	0.398	10.11	50	74	83	124
2*	7	0.268	6.81	0.080	2.03	0.428	10.87	62	92	99	147
1*	8	0.298	7.57	0.095	2.41	0.488	12.40	79	118	129	192
1/0*	10	0.337	8.56	0.095	2.41	0.527	13.39	99	147	155	231
2/0*	12	0.374	9.50	0.095	2.41	0.564	14.33	125	186	186	277
3/0*	16	0.421	10.69	0.095	2.41	0.611	15.52	158	235	226	336
4/0*	19	0.470	11.94	0.095	2.41	0.660	16.76	199	296	274	408
250*	23	0.514	13.06	0.110	2.79	0.734	18.64	235	350	329	490
350*	26	0.607	15.42	0.110	2.79	0.827	21.01	329	490	439	653
500*	37	0.736	18.69	0.110	2.79	0.956	24.28	471	701	593	882
750*	61	0.908	23.06	0.125	3.18	1.158	29.41	706	1051	876	1304
1000*	61	1.060	26.92	0.125	3.18	1.310	33.27	941	1400	1138	1694

Dimensions and weights are nominal; subject to industry tolerances.

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

Renewable Energy Cable



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STABILOY® Brand Zephyr2000™

XLPE, Low-Voltage Power
2000 V, UL Type RHH/RHW-2, Single Conductor, Aluminum



Product Construction:

Conductor:

- 6 AWG thru 2 AWG Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801
- 1 AWG thru 350 kcmil compact stranded SIW aluminum alloy (8000 Series) per ASTM B800, ASTM B801 and ASTM B836
- 400 kcmil thru 1000 kcmil Class B compact stranded aluminum alloy (8000 Series) per ASTM B800 and ASTM B801

Insulation:

- Flame-retardant Cross-linked Polyethylene (XLPE)

Print:

- GENERAL CABLE® (PLANT OF MFG) SIZE (AWG OR KCML) (MM²) COMPACT STABILOY® AA-8030 AL XLPE 2000 V RHH RHW-2 SUN RES (UL) ZEPHYR2000™ YEAR DATE (TIME OF MFG)

Options:

- Other sizes and stranding options available upon request
- VW-1 Flame Rating
- "FOR CT USE" for 1/0 AWG and larger
- Available in black and full color skin coat

Applications:

- STABILOY® Brand Zephyr2000™ is the aluminum conductor solution for wind power generation, from the turbine to the step-up transformer
- Installed in raceways in accordance with the requirements of the NEC® and may be used in cable trays when marked "FOR CT USE"
 - Suitable for use in special applications such as wind power generation

Features:

- Oil Resistant PRI/PRII
- Gas and Oil Res GRI/GRII
- Rated 90°C wet or dry locations
- Sunlight-resistant RHH/RHW-2 (XLPE)
- Meets cold bend and cold impact tests at -40°C
- Excellent electrical, thermal and physical properties
- Resistant to crush, compression cuts and heat deformation

Compliances:

- Industry Compliances:**
- UL 44 Type RHH/RHW-2, UL File #E39406
 - National Electrical Code (NEC®)
- Flame Test Compliances:**
- UL 2556 Horizontal Burn
 - CT UL 1685, RHH/RHW-2
 - UL 2556 VW-1
- Other Compliances:**
- OSHA Acceptable
 - RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER		MIN. AVG. INSULATION THICKNESS		NOM. CABLE DIAMETER		ALUMINUM CONDUCTOR WEIGHT		NET WEIGHT	
			IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
6 AWG - 1000 kcmil CONDUCTORS												
80006*	6	7	0.169	4.29	0.070	1.78	0.309	7.85	25	37	49	73
80004*	4	7	0.213	5.41	0.070	1.78	0.353	8.97	39	58	68	101
80002*	2	7	0.268	6.81	0.070	1.78	0.408	10.36	62	92	96	143
80001*	1	8	0.298	7.57	0.090	2.29	0.478	12.14	79	118	129	192
80110*	1/0	10	0.337	8.56	0.090	2.29	0.517	13.13	99	147	155	231
80210*	2/0	12	0.374	9.50	0.090	2.29	0.554	14.07	125	186	186	277
80310*	3/0	16	0.421	10.69	0.090	2.29	0.601	15.27	158	235	225	335
80410*	4/0	19	0.470	11.94	0.090	2.29	0.650	16.51	199	296	272	405
80250*	250	23	0.514	13.06	0.105	2.67	0.724	18.93	235	350	327	487
80300*	300	22	0.566	14.38	0.105	2.67	0.776	19.71	282	420	382	568
80350*	350	26	0.607	15.42	0.105	2.67	0.817	20.75	329	490	436	649
80400*	400	37	0.659	16.74	0.105	2.67	0.869	22.07	376	560	485	722
80500*	500	37	0.736	18.69	0.105	2.67	0.946	24.03	471	701	590	878
80600*	600	61	0.813	20.65	0.120	3.05	1.053	26.75	565	841	715	1064
80750*	750	61	0.908	23.06	0.120	3.05	1.148	29.16	706	1051	872	1298
80100*	1000	61	1.060	26.92	0.120	3.05	1.300	33.02	941	1400	1133	1686

Dimensions and weights are nominal; subject to industry tolerances.
* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

COLOR CODE CHART

COLOR CODE	COLOR	COLOR CODE	COLOR
1	Black	7	Blue
2	White	8	Orange
3	Red	9	Gray
4	Green	A	Purple
5	Yellow	C	Tan
6	Brown		

Renewable Energy Cable

Notes





SunGen® Photovoltaic Wire

Dual Layer EPR/XL-CPE, USE-2 at 600 V, RHH/RHW-2, RWU90
600 V, UL Type PV, Single Conductor, Copper

Product Construction:

Conductor:

- 14 AWG thru 2 AWG tinned coated compressed copper. Class C stranding per ASTM B33 and B8
- 1 AWG thru 1000 kcmil tinned coated compressed copper. Class B stranding per ASTM B33 and B8

Insulation:

- Lead-free Ethylene Propylene Rubber (EPR) colored for contrast with black jacket

Jacket:

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

Print:

- GENERAL CABLE® (PLANT OF MFG) SUNGEN® 600 V PV WIRE DIR BUR OR RHH OR RHW-2 OR USE-2 (SIZE) 90°C WET OR DRY SUN RES (UL) -40°C VW-1 MONTH/YEAR OF MFG SEQUENTIAL FOOTAGE MARK

Options:

- Bare copper conductors
- Other stranding options are available upon request
- Now available in colors

Applications:

- Single conductor, sunlight-resistant, direct burial photovoltaic wire rated 90°C wet or dry, 600 V for interconnection wiring of grounded and ungrounded photovoltaic power systems as described in Section 690.31(A) and other applicable parts of the National Electrical Code® (NEC), NFPA 70

Features:

- Rated 90°C wet and dry
- Rated for direct burial
- Deformation-resistant at high temperatures
- Excellent moisture resistance, exceeds UL 44
- Stable electrical properties over a broad temperature range
- Extra tough, mechanically rugged dual-layer construction
- Increased flexibility
- Resistant to most oils and chemicals
- UV/sunlight-resistant
- Meets cold bend and cold impact tests at -40°C

Compliances:

Industry Compliances:

- UL 4703 Type PV, UL File # E323451
- National Electrical Code (NEC®)
- ICEA S-95-658/NEMA WC70
- UL 44 Type RHH or RHW-2, UL File # E90494 or E54260
- UL 854 Type USE-2 for 600 V, UL File # E90499 or E86307
- Limited Smoke Rating per UL

Flame Test Compliances:

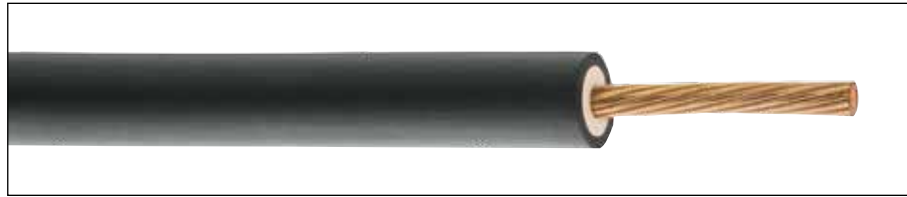
- UL 1581 VW-1
- For sizes 1/0 and larger: IEEE 383, IEEE 1202/ CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



CATALOG NUMBER	COND. SIZE (AWG/kcmil)	COND. STRAND	NOMINAL CONDUCTOR O.D.		MIN. AVG. INSULATION THICKNESS		MIN. AVG. JACKET THICKNESS		NOMINAL CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT	
			IN	mm	IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km

14 AWG - 1000 kcmil TINNED COPPER CONDUCTORS														
12211.711400*	14	19/.0142	0.070	1.78	0.030	0.76	0.030	0.76	0.201	5.11	13	19	32	48
12211.711200*	12	19/.0185	0.088	2.24	0.030	0.76	0.030	0.76	0.219	5.56	20	30	42	63
12211.711100*	10	19/.0234	0.112	2.84	0.030	0.76	0.030	0.76	0.242	6.15	32	48	59	88
12211.710800*	8	19/.0295	0.143	3.63	0.045	1.14	0.030	0.76	0.310	7.87	50	74	89	132
12211.710600*	6	19/.0372	0.184	4.67	0.045	1.14	0.045	1.14	0.376	9.55	81	121	141	210
12211.710400*	4	19/.0469	0.234	5.94	0.045	1.14	0.045	1.14	0.420	10.67	129	192	202	301
12211.710200*	2	19/.0526	0.296	7.52	0.045	1.14	0.045	1.14	0.487	12.37	205	305	292	435
12211.710100*	1	19/.0664	0.323	8.20	0.055	1.40	0.060	1.52	0.539	13.69	258	384	408	607
12211.715100*	1/0	19/.0740	0.370	9.40	0.055	1.40	0.060	1.52	0.587	14.91	326	485	478	711
12211.715200*	2/0	19/.0837	0.410	10.41	0.055	1.40	0.060	1.52	0.632	16.05	411	612	590	878
12211.715300*	3/0	19/.0940	0.460	11.68	0.055	1.40	0.060	1.52	0.678	17.22	518	771	734	1092
12211.715400*	4/0	19/.1055	0.520	13.21	0.055	1.40	0.060	1.52	0.738	18.75	653	972	865	1287
12211.716250*	250	37/.0822	0.558	14.17	0.065	1.65	0.080	2.03	0.862	21.89	772	1149	995	1481
12211.716300*	300	37/.0900	0.611	15.52	0.065	1.65	0.080	2.03	0.915	23.24	926	1378	1167	1737
12211.716350*	350	37/.0972	0.661	16.79	0.065	1.65	0.080	2.03	0.965	24.51	1063	1582	1321	1966
12211.716400*	400	37/.1040	0.706	17.93	0.065	1.65	0.080	2.03	1.010	25.65	1235	1838	1508	2244
12211.716500*	500	37/.1159	0.789	20.04	0.065	1.65	0.080	2.03	1.093	27.76	1509	2246	1810	2694
12211.716600*	600	61/.0992	0.866	22.00	0.080	2.03	0.080	2.03	1.200	30.48	1883	2802	2237	3329
12211.716750*	750	61/.1109	0.968	24.59	0.080	2.03	0.080	2.03	1.302	33.07	2316	3447	2707	4028
12211.717000*	1000	61/.1280	1.117	28.37	0.080	2.03	0.080	2.03	1.451	36.86	3088	4595	3534	5259

Dimensions and weights are nominal; subject to industry tolerances.

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



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Renewable Energy Cable

SunGen® Photovoltaic Wire

Dual Layer EPR/XL-CPE, USE-2 at 600 V, RHH/RHW-2, RWU90
2000 V, UL Type PV, Single Conductor, Copper



Product Construction:

Conductor:

- 14 AWG thru 2 AWG tinned coated compressed copper. Class C stranding per ASTM B33 and B8
- 1 AWG thru 1000 kcmil tinned coated compressed copper. Class B stranding per ASTM B33 and B8

Insulation:

- Lead-free Ethylene Propylene Rubber (EPR) colored for contrast with black jacket

Jacket:

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

Print:

- GENERAL CABLE® (PLANT OF MFG) SUNGEN® 2000 V PV WIRE DIR BUR OR RHH OR RHW-2 OR 600 V USE-2 (SIZE) 90°C WET OR DRY SUN RES (UL) -40°C VW-1 c(UL) RWU90 1000 V MONTH/YEAR OF MFG SEQUENTIAL FOOTAGE MARK

Options:

- Bare copper conductors
- Other stranding options are available upon request
- Now available in colors

Applications:

- Single conductor, sunlight-resistant, direct burial photovoltaic wire rated 90°C wet or dry, 2000 V for interconnection wiring of grounded and ungrounded photovoltaic power systems as described in Section 690.31(A) and other applicable parts of the National Electrical Code® (NEC), NFPA 70

Features:

- Rated 90°C wet and dry
- Rated for direct burial
- Deformation-resistant at high temperatures
- Excellent moisture resistance, exceeds UL 44
- Stable electrical properties over a broad temperature range
- Extra tough, mechanically rugged dual-layer construction
- Increased flexibility
- Resistant to most oils and chemicals
- UV/sunlight-resistant
- Meets cold bend and cold impact tests at -40°C

Compliances:

Industry Compliances:

- UL 4703 Type PV, UL File # E323451
- National Electrical Code (NEC®)
- ICEA S-95-658/NEMA WC70
- UL 44 Type RHH or RHW-2, UL File # E90494 or E54260
- UL 854 Type USE-2 for 600 V, UL File # E90499 or E86307
- Limited Smoke Rating per UL

Flame Test Compliances:

- UL 1581 VW-1
- For sizes 1/0 and larger: IEEE 383, IEEE 1202/CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

CATALOG NUMBER	COND. SIZE (AWG/kcmil)	COND. STRAND	NOMINAL CONDUCTOR O.D.		MIN. AVG. INSULATION THICKNESS		MIN. AVG. JACKET THICKNESS		NOMINAL CABLE DIAMETER		COPPER WEIGHT		NET WEIGHT	
			IN	mm	IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
14 AWG - 1000 kcmil TINNED COPPER CONDUCTORS														
12221.711400*	14	19/.0142	0.070	1.78	0.045	1.14	0.030	0.76	0.232	5.89	13	19	36	54
12221.711200*	12	19/.0185	0.088	2.24	0.045	1.14	0.030	0.76	0.250	6.35	20	30	46	68
12221.711100*	10	19/.0234	0.112	2.84	0.045	1.14	0.030	0.76	0.273	6.93	32	48	64	95
12221.710800*	8	19/.0295	0.143	3.63	0.055	1.40	0.030	0.76	0.332	8.43	50	74	95	141
12221.710600*	6	19/.0372	0.184	4.67	0.055	1.40	0.045	1.14	0.398	10.11	81	121	148	220
12221.710400*	4	19/.0469	0.234	5.94	0.055	1.40	0.045	1.14	0.442	11.23	129	192	208	310
12221.710200*	2	19/.0526	0.296	7.52	0.055	1.40	0.045	1.14	0.507	12.88	205	305	306	455
12221.710100*	1	19/.0664	0.323	8.20	0.065	1.65	0.060	1.52	0.561	14.25	258	384	440	655
12221.715100*	1/0	19/.0740	0.370	9.40	0.065	1.65	0.060	1.52	0.607	15.42	326	485	505	752
12221.715200*	2/0	19/.0837	0.410	10.41	0.065	1.65	0.060	1.52	0.652	16.56	411	612	615	915
12221.715300*	3/0	19/.0940	0.460	11.68	0.065	1.65	0.060	1.52	0.700	17.78	518	771	747	1112
12221.715400*	4/0	19/.1055	0.520	13.21	0.065	1.65	0.060	1.52	0.760	19.30	653	972	891	1326
12221.716250*	250	37/.0822	0.558	14.17	0.075	1.91	0.080	2.03	0.882	22.40	772	1149	1012	1506
12221.716300*	300	37/.0900	0.611	15.52	0.075	1.91	0.080	2.03	0.935	23.75	926	1378	1184	1762
12221.716350*	350	37/.0972	0.661	16.79	0.075	1.91	0.080	2.03	0.985	25.02	1063	1582	1339	1993
12221.716400*	400	37/.1040	0.706	17.93	0.075	1.91	0.080	2.03	1.030	26.16	1235	1838	1527	2272
12221.716500*	500	37/.1159	0.789	20.04	0.075	1.91	0.080	2.03	1.113	28.27	1509	2246	1831	2725
12221.716600*	600	61/.0932	0.866	22.00	0.090	2.29	0.080	2.03	1.222	31.04	1883	2802	2262	3366
12221.716750*	750	61/.1109	0.968	24.59	0.090	2.29	0.080	2.03	1.324	33.63	2316	3447	2734	4069
12221.717000*	1000	61/.1280	1.117	28.37	0.090	2.29	0.080	2.03	1.473	37.41	3088	4595	3564	5304

Dimensions and weights are nominal; subject to industry tolerances.
* Non-stock item; minimum runs apply. Please contact Customer Service for price and delivery.



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Notes

Section 5 Technical Information

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Tools and Applications

As a company, we continually look for ways to educate and provide time-saving tools for people interested in or using the products we manufacture. We have developed the following mobile tools and apps with you in mind.

On a mobile device or tablet?

Visit our mobile page now:

Calculation & Interactive Catalogs App



Interactive
Catalog Tool



Mobile Product Cross-Reference Web, Reference & Catalog Tools



Looking for General Cable products or their equivalents? Check this link out for our interactive catalog site and the Carol® Brand product cross-references.

STABILOY® Brand Aluminum Building Wire Cable Design Software



General Cable's cable design software for STABILOY Brand aluminum building wire is a proprietary tool specifically designed for electrical engineers and contractors. This valuable tool performs several essential computations, such as:

- Voltage Drop
- Conduit Fill
- Detailed electrical comparison between copper and STABILOY Brand AA8030 series aluminum alloy conductors
- Ability to design and modify circuits using STABILOY Brand per project and generate documentation as needed

Building Wire Types

WIRE TYPE	DESCRIPTION
AC90	One to Four Insulated, Phase-Identified NUAL [®] ACM Conductors and One Bare Bonding Conductor Inside Flexible Interlocked Aluminum Armor. Cross-Linked Polyethylene (XLPE) Insulated Conductors are Rated for 90°C. Dry Location (CSA Type).
ACWU90	Interlocked Aluminum Armor and PVC Jacket is Designed for Direct Burial, Wet Locations or Encased in Concrete. The Outer PVC Jacket on ACWU90 Makes this Durable and Rugged Cable Assembly Approved for Use in Class 1, Zones 1 and 2, and Classes 2 and 3, Divisions 1 and 2 Hazardous Locations. Cross-Linked Polyethylene (XLPE) Insulation Conductors are Rated 90°C Dry and Wet Locations (CSA Type).
MC	Interlocked Aluminum Armor Type Cable with Cross-linked Polyethylene Insulation (XLPE) XHHW-2 600 V or RHW-2 2000 V, High Heat-Resistant, 90°C Dry and Wet Locations 600 V.
MCJ	Interlocked Aluminum Armor Type Cable with Cross-linked Polyethylene Insulation (XLPE) XHHW-2 600 V or RHW-2 2000 V, High Heat-Resistant, 90°C Dry and Wet Locations with PVC Jacket.
MHF	Underground Service Entrance, Cross-linked Polyethylene Insulation (XLPE), 90°C Direct Burial 600 V.
PV	Single Conductor, Insulated and Integrally or Non-Integrally Jacketed, Sunlight-Resistant, Photovoltaic Wire Rated 90°C Dry and Wet Locations, 600 V, 1 kV, 2 kV, for Interconnection Wiring of Grounded and Ungrounded Photovoltaic Power Systems (Solar).
RHH	Rubber (Thermoset) Insulation, High Heat Resistant, 90°C Dry and Damp Locations 600 V.
RHW	Rubber (Thermoset) Insulation, Heat Resistant, 75°C Dry and Wet Locations 600 V.
RHW-2*	Rubber (Thermoset) Insulation, Heat Resistant, 90°C Dry and Wet Locations 600 V.
RW90	Cross-linked Polyethylene Insulation (XLPE), 90°C Dry and Wet Locations (CSA Type) 600 V, 1000 V, 2000 V.
RWU90	Cross-linked Polyethylene Insulation (XLPE), 90°C Direct Burial (CSA Type) 1 kV.
SE Style R	Service Entrance Round Construction, THHN/THWN or XHHW/XHHW-2 Insulation, 90°C Dry and 75°C Wet Locations 600 V.
SE Style U	Service Entrance Uninsulated Concentric Neutral, THHN/THWN or XHHW/XHHW-2 Insulation, 90°C Dry and 75°C Wet Locations 600 V.
T90	Thermoplastic Insulation, Nylon Jacket 90°C Dry and Damp Locations (CSA Type) 600 V.
TC	Multi-Conductor Tray Cable, Several Combinations of Insulation and Jacketing Compounds, Cable Tray Use 600 V.
TFN	Thermoplastic Insulation, Fixture Wire, Nylon Jacket, 90°C Dry Locations 600 V.
TFFN	Thermoplastic Insulation, Flexible Fixture Wire, Nylon Jacket, 90°C Dry Locations 600 V.
THHN	Thermoplastic Insulation, High Heat Resistant, Nylon Jacket, 90°C Dry and Damp Locations 600 V.
THW	Thermoplastic Insulation, Heat Resistant, 75°C Dry and Wet Locations 600 V.
THW-2*	Thermoplastic Insulation, Heat Resistant, 90°C Dry and Wet Locations 600 V.
THWN	Thermoplastic Insulation, Heat Resistant, Nylon Jacket, 75°C Dry and Wet Locations 600 V.
THWN-2*	Thermoplastic Insulation, Heat Resistant, Nylon Jacket, 90°C Dry and Wet Locations 600 V.
TWN75	Thermoplastic Insulation, Nylon Jacket 75°C Wet Locations (CSA Type) 600 V.
USE	Underground Service Entrance, Cross-linked Polyethylene Insulation (XLPE), 75°C Direct Burial 600 V.
USE-2*	Underground Service Entrance, Cross-linked Polyethylene Insulation (XLPE), 90°C Direct Burial 600 V.
USE-2/RHH/RHW-2	Underground Service Entrance, Cross-linked Polyethylene Insulation (XLPE), 90°C Direct Burial USE-2 600 V or RHH/RHW-2 600 V/2000 V.
XHHW	Cross-linked Polyethylene Insulation (XLPE), High Heat-Resistant, 90°C Dry Locations and 75°C Wet Locations 600 V.
XHHW-2*	Cross-linked Polyethylene Insulation (XLPE), High Heat-Resistant, 90°C Dry and Wet Locations 600 V.

* -2 is the UL designation for 90°C dry and wet locations.

- Dry Location** A location not normally subject to dampness or wetness. A location classified as dry may be temporarily subject to dampness or wetness, as in the case of a building under construction.
- Damp Location** Locations protected from weather and not subject to saturation with water or other liquids but subject to moderate degrees of moisture. Examples of such locations include partially protected locations under canopies, marquees, roofed open porches, and like locations, and interior locations subject to moderate degrees of moisture, such as basements, some barns, and some cold storage warehouses.
- Wet Location** Installations underground or in concrete slabs or masonry in direct contact with the earth; in locations subject to saturation with waters or other liquids, such as vehicle washing areas; and in unprotected locations exposed to weather.

Location information based on National Electrical Code Book

Glossary

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

Accelerated Aging: A test performed on material or cable meant to duplicate long-time environmental conditions in a relatively short space of time.

AC90: Single- or multi-conductor insulated cables with metal interlocked armor without an overall jacket.

A.C. Resistance: The total resistance offered by a device in an alternating current circuit due to inductive and capacitive effects, as well as the direct current resistance.

ACWU90: Single- or multi-conductor insulated cables with metal interlocked armor with an overall jacket. AC90 with a jacket.

Adhesion: The state in which two surfaces are held together by interfacial forces which may be chemical or mechanical in nature.

Adjacent Conductor: Any conductor next to another conductor either in the same multi-conductor cable layer or in adjacent layers.

AEIC: Association of Edison Illuminating Companies.

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

AIA: Aluminum Interlocked Armor.

Alloy: A combination of two or more metals to form a new or different metal, having specific or desirable qualities.

Alternating Current (A.C.): An electric current that continually reverses its direction, giving a definite plus and minus wave form at fixed intervals.

Alternating Voltage: The voltage developed across a resistance or impedance through which alternating current is flowing.

Ambient Temperature: Any all-encompassing temperature within a given area.

American Wire Gauge: A standard used in the determination of the physical size of a conductor determined by its circular mil area. Usually expressed as AWG. Also referred to as Brown and Sharpe (B&S) wire gauge.

Ampacity: The maximum current an insulated wire or cable can safely carry without exceeding either the insulation or jacket material limitations. (Same as *Current Carrying Capacity*.)

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

Anneal: To subject to high heat with subsequent cooling. Annealing is the act of softening the metal by means of heat to render it more flexible.

ANSI: The American National Standards Institute.

Apparatus Wire and Cable: Apparatus wire is an overall term used to describe a number of specific wire types including non-automotive battery cables, defroster wire, electric furnace cables, and gas tube sign ignition cables. Also included under this heading in AWG sizes 14 and heavier are appliance wire, fixture wire, machine tool wire, motor and transformer lead wire, pump or well cable, and switchboard and control wire. The National Electrical Manufacturers Association states that apparatus wire is "insulated wire and cable used in connecting electrical apparatus to a power source, also including wire and cable used in the apparatus itself."

Appliance Wire and Cable: Appliance wiring material is a classification of Underwriters' Laboratories, Inc., covering insulated wire and cable intended for internal wiring of appliances and equipment. Each construction satisfies the requirements for use in particular applications.

Area of Conductor: The size of a conductor cross-section, measured in circular mils, square inches, etc.

Armor: A braid or wrapping of metal, usually steel or aluminum, used for mechanical protection.

Armored Cable: A cable having a metallic covering for protection against mechanical injury. Also a specific cable construction; Type AC defined by UL4 and NEC® Article 333.

ASA: The American Standards Association, former name of ANSI.

ASME: The American Society of Mechanical Engineers.

ASTM: The American Society for Testing and Materials.

AWG: Abbreviation for American Wire Gauge.

AWM: Designation for appliance wiring material.

Balanced Circuit: A circuit so arranged that the impressed voltages on each conductor of the pair are equal in magnitude but opposite in polarity with respect to ground.

Bare Conductor: A conductor having no covering. A conductor with no coating or cladding on the copper.

Bedding: A layer of material applied to a cable immediately below the armoring.

Bending Radius: Radius of curvature that a cable can be safely bent without any adverse effects.

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

Branch Circuits: The individual circuits are served from the smaller electrical panels by insulated conductors. These conductors are run through ducts, conduits or raceways. These individual circuits are sometimes referred to as branch circuits. The conductors will provide power from the final overcurrent device (fuse or circuit breaker) protecting the load served. General-use branch circuits supply power to a number of outlets for lighting and appliance loads. Branch circuit conductors are usually #14, #12 or #10 AWG.

Glossary

Breakdown of Insulation: Failure of an insulation resulting in a flow of current through the insulation. It may be caused by the application of too high voltage or by defects or decay.

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

Building Wire: A general term used for light and power wiring products, 1000 volts or less.

Bunch Strand: Any number of conductor strands twisted together in one direction with the same lay length.

Buried Cable: A cable installed directly in the earth without use of underground conduit. Also called "direct burial cable."

Bus: A conductor which serves as a common connection for the corresponding conductors of two or more circuits.

Cable: A group of individually insulated conductors in twisted or parallel configuration, with or without an overall covering.

Cable Tray: A raceway consisting of a prefabricated structure of troughing and fittings, formed and constructed so that cables may be readily installed and removed without injury.

Cabling: The act of twisting together two or more insulated components by machine to form a cable.

Capacitance: Storage of electrically separated charges between two plates having different potentials. The value depends largely on the surface area of the plates and the distance between them.

CE Code, CEC: Canadian Electrical Code.

Certified Test Report (CTR): A report providing actual test data on a cable. Tests are normally run by a Quality Control Department, which shows that the product being shipped conforms to test specifications.

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

Circular Mil: A measurement used for the area of wire, calculated by squaring the diameter. 1 circular mil = (.001)² x 106

Coefficient of Expansion: The fractional change in dimension of a material given a unit change in temperature.

Cold Bend: Test procedure whereby a sample of wire or cable is wound around a mandrel of a specified size within a cold chamber, at a specified temperature for a given number of turns at a given rate of speed. The sample is then removed and examined for defects or deterioration in the materials or construction.

Cold Flow: Permanent deformation of a material due to a mechanical force.

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

Compatibility: The ability of dissimilar materials to exist in mutual proximity or contact without changing their physical or electrical properties.

Compound: A term used to designate an insulating and jacketing material made by mixing two or more ingredients. To compound; the mixing together of two or more different materials to make one material.

Concentric Stranding: A central wire surrounded by one or more layers of helically wound strands in a fixed round geometric arrangement. The most common fixed installation type conductors are:

- 1) Round – no diameter reduction
- 2) Compressed – approximately 3% diameter reduction
- 3) Compact – approximately 10% diameter reduction

Conductivity: A term used in describing the capability of a material to carry an electrical charge. Usually expressed as a percentage of copper conductivity copper being one hundred percent (100%).

Conductor: Any material capable of carrying an electrical charge easily.

Conduit: A tube or trough for protecting electrical wires and cables. It may be a solid or flexible tube in which insulated electrical wires are run.

Connector: A device used to physically and electrically connect two or more conductors.

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 wire coating materials in a continuous process.

Core: In cables, a term used to denote a component or assembly of components, over which other materials are applied, such as additional components, shield, sheath, or armor.

Corrosion: The process or result of a material being eaten or worn away, usually by chemical reaction.

Counterpoise: Bare copper, usually soft drawn, buried around the perimeter of a structure for grounding purposes when grounding electrical transmission towers – usually running parallel to the overhead lines along the right-of-way. A grounding installation employed where deep ground rods cannot effectively be used due to dry, rocky, or poor soil.

Crazing: The minute cracks on the surface of plastic materials.

Creep: The dimensional change with time of a material under a mechanical load.

Crimp Termination: A wire termination that is applied by physical pressure of terminal to wire.

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.

Glossary

Cross-Sectional Area: The area of the cut surface of an object cut at right angles to the length of the object.

CSA: Abbreviation for Canadian Standards Association. The Canadian counterpart of Underwriters Laboratories.

Current: The rate of flow of electricity in a circuit, measured in amperes.

Current, Alternating (A.C.): An electric current that periodically reverses direction of electron flow. The number of full cycles occurring in a given unit of time (one second) is called the frequency of the current.

Current Carrying Capacity: The maximum current an insulated conductor or cable can continuously carry without exceeding its temperature rating. It is also called *ampacity*.

Current, Direct (D.C.): Electrical current whose electrons flow in one direction only; it may be constant or pulsating as long as their movement is in the same direction.

Cut-Through Resistance: The ability of a material to withstand mechanical pressure, usually a sharp edge of prescribed radius, without separation.

Cycle: The complete sequence of alternation or reversal of the flow of an alternating electric current. (See *Hertz*.)

D.C.: Abbreviation for "Direct Current."

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: 1) Any insulating medium which intervenes between two conductors and permits electrostatic attraction and repulsion to take place across it. 2) A material having the property that energy required to establish an electric field is recoverable in whole or in part, as electric energy.

Dielectric Breakdown: The voltage at which a dielectric material is punctured, which is divisible by thickness to give dielectric strength.

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 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 higher than the rated voltage is applied for a specified time to determine the adequacy of the insulation under normal conditions.

Direct Burial Cable: A cable installed directly in the earth.

Direct Current (D.C.): An electric current which flows in only one direction.

Direction of Lay: The direction, either clock-wise or counterclockwise, of a conductor or group of conductors when looking axially down a cable length.

Drawing: In the manufacturing of wire, pulling the metal through a die or series of dies for reduction of diameter to a specified size.

Duct: An underground or overhead tube used for carrying electrical conductors.

Duty: A characteristic of an electrical service that describes the degree of regularity of the load over time.

Continuous Duty - A duty of the load which is substantially constant over prolonged time.

Short Time Duty - A duty of the load which is substantially constant for a short and defined time.

Intermittent Duty - A duty of the load having defined periods of:

- (a) Load and no-load
- (b) Load and rest, and
- (c) Load, no load, and rest

Periodic Duty - A duty of the load in which the load conditions are regularly recurrent.

Varying Duty - A duty of the load having loads over intervals of time, both of which are subject to wide variation.

EEMAC: Electrical and Electronic Manufacturers Association of Canada (U.S. counterpart is NEMA).

EIA: Abbreviation for Electronic Industries Association.

Elongation: The fractional increase in length of a material stressed in tension.

Elongation at Break: The tensile strain in a test piece stretched to breaking point, the conditions being such that the stress is substantially uniform over the cross-section.

Embossing: A means of marker identification by means of thermal identification leaving raised lettering on the sheath material or cable.

Emergency Overloads: Loads which occur when larger than normal currents are carried through a cable or wire over a short period of time.

EMI: Electromagnetic Interference. Unwanted parasitic electromagnetic waves capable of affecting the operation of communication and signal circuits and devices.

Extrusion: The process of continuously forcing a plastic or elastomer and a conductor core through a die, thereby applying a continuous coating of insulation or jacket to the core or conductor.

FAA: Federal Aviation Administration.

Farad: A unit of electrical capacity.

Feeder Conductors: The power is distributed from the main load center into sub-panels via feeder cables. Each panel contains over-current protection devices for the circuits it serves.

Filler: (1) A material used in the cable to fill large interstices between electrical components; (2) A substance, often inert, added to a compound to improve properties and/or decrease cost.

Glossary

Fixture Wire: Fixture wires according to the National Electrical Code are designed for installation in lighting fixtures and in similar equipment where enclosed or protected and not subject to bending or twisting in use. They also are used for connecting lighting fixtures to the conductors of the circuit that supplies the fixtures. Fixture wires shall not be smaller than No. 18. Flexible stranding is used for most fixture wire, but solid conductors may be used in some applications.

Flame Resistance: Ability of the material to extinguish flame once the source of heat is removed.

Flame Retardance: Ability of a material to prevent the spread of combustion by a low rate of travel so the flame will not be conveyed.

Flexibility: The ease with which a cable may be bent.

FOR CT USE: Optional flame rating, and products meeting the test requirements that are deemed suitable for installation in cable trays. NEC will permit single conductor sizes 1/0 AWG and larger to be installed in cable trays.

FR-1: A flammability rating established by Underwriters' Laboratories for wires and cables that pass a specially designed vertical flame test. This designation has been replaced by VW-1.

FT1: One of several CSA flame test designations for wires and cables which pass the C22.2 No. 0.3 test requirements (other designations include FT2, FT4, etc.).

Gauge: A term used to denote the physical size of a wire.

Ground: a) An electrical term meaning to connect to the earth or other large conducting body to serve as a ground, thus making a complete electrical circuit. b) A wire intended to be used for grounding (also called grounding conductor).

Ground Faults: Those conditions where electric current flows to the earth and thereby creates a neutral-to-earth voltage.

Grounding Conductor: A conductor used to connect equipment of the grounded circuit of a wiring system to a grounding electrode or electrodes.

GSIA: Galvanized Steel Interlock Armor.

Hard Drawn Copper Wire: Copper wire that has been drawn to size and not annealed.

Heat Distortion: Distortion or flow of a material or configuration due to application of heat.

Heat Resistance: Ability of a substance to maintain physical and chemical identity and electrical integrity under specified temperature conditions.

Heat Seal: In cabling, a method of sealing a tape wrap jacket by means of thermal fusion.

Heat Shock: A test to determine stability of a material by sudden exposure to high temperature for a short period of time.

Hertz (Hz): A term replacing cycles-per-second as a unit of frequency.

Hi-Pot: A test designed to determine the highest voltage that can be applied to a conductor without electrically breaking down the insulation.

High Temperature Wire and Cable: Those electrical wires and cables having thermal operating characteristics of 150°C and higher.

Horizontal Stripe: A colored stripe running horizontally with the axis of a conductor, sometimes called a longitudinal stripe, used as a means of circuit identification.

Hygroscopic: Capable of absorbing and retaining moisture.

Hz: Abbreviation for Hertz.

ICEA: Insulated Cable Engineers Association (formerly IPCEA).

IEC: International Electrotechnical Commission, similar to the ISO in structure and scope.

IEEE: Institute of Electrical and Electronics Engineers.

IMSA: International Municipal Signal Association.

Induced Current: An electric current set up in a circuit by cutting lines of force; a current caused by electromagnetic induction.

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.

Insulated Wire: A conductor of electricity covered with a non-conducting material.

Insulation: A non-conductive material usually surrounding or separating two conductive materials. Often called the dielectric in a radio frequency cable.

Insulation Resistance: That property of an insulating material which resists electrical current flow through the insulating material when a potential difference is applied.

Insulation Thickness: The wall thickness of the applied insulation.

Interstice: In cable construction, the space, valley or void left between or around the cable's components.

ISA: Instrument Society of America.

ISO: International Standards Organization.

Jacket: A material covering over a wire insulation or an assembly of components. An overall jacket on a complex cable grouping is also often referred to as a sheath.

kcmil: One thousand circular mils (MCM).

Kilohertz: 1,000 Hertz (cycles).

Kilovolt: A term denoting one thousand volts.

Kilowatt: A term denoting one thousand watts.

Lay: The axial distance required for one cabled conductor or conductor strand to complete one revolution about the axis around which it is cabled.

Lay Direction: The direction in which the strands of a conductor run over the top of the conductor as they recede from an observer looking along the axis of the conductor.

Glossary

Leakage Current: The undesirable flow of current through or over the surface of an insulation.

Limiting Oxygen Index: Percentage of oxygen necessary to support combustion of a specified material.

Line Drop (Voltage Drop): A voltage loss occurring between any two points in a power circuit. Such loss, or drop, is due to resistance, reactance or leakage of the circuit, type of cable and configuration.

Line Voltage: The value of the potential existing on a supply or power line. Rated voltage of the cables.

Low-Voltage: 2 kV or less, most applications for low voltage power are 1000 volts or less.

LS/NH: Low Smoke/Non Halogen.

LSZH: Low Smoke, Zero Halogen.

Lug: A term commonly used to describe a terminal, usually crimped or soldered to the conductor, with provision for screwing down to a terminal.

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. Other information such as date of manufacture may also be included.

Marker Thread: A colored thread laid parallel and adjacent to the strands of an insulated conductor which identifies the cable manufacturer. It may also denote a temperature rating or the specification to which the cable is made.

MCM: One thousand circular mils.

Megohm: One million ohms.

Messenger: The linear supporting member, usually a high strength steel wire, used as the supporting element of a suspended aerial cable. The messenger may be an integral part of the cable or exterior to it.

Metal Clad (MC) Cable: Consists of one or more conductors enclosed in a metallic sheath. The sheath may be a smooth or corrugated metal tube or interlocking metal tape.

Mho: The unit of conductivity. The reciprocal of an ohm.

Mil: A unit used in measuring diameter of a wire or thickness of insulation over a conductor. One one-thousandth of an inch (.001").

Moisture Absorption: The amount of moisture, in percentage, that a material will absorb under specified conditions.

MTW: Machine Tool Wire is a stranded flexible hook-up wire used for the internal wiring of appliances, control wiring for machine tools and in various other building applications.

Multi-Conductor: More than one conductor within a single cable.

Multi-Plexed Conductors: Three or more completed cables together without filler or common jacket.

National Electrical Code (NEC): A consensus standard published by the National Fire Protection Association (NFPA) and incorporated in OSHA regulations.

NBS: National Bureau of Standards.

NEMA: National Electrical Manufacturers Association.

Neutral Conductor: The conductor connected to the neutral point of a system that is intended to carry current under normal conditions.

Neutral Point: The common point on a wye-connection in a polyphase system or midpoint on a single phase, 3-wire system of midpoint of a single phase portion of a 3-phase delta system or a midpoint of a 3 wire, direct current system.

NFPA: National Fire Protection Association.

NM-B: Type NM, Non-Metallic Sheathed Cable. A cable assembly consisting of insulated conductors jacketed with a non-metallic material.

Nylon: An abrasion-resistant thermoplastic with good chemical resistance used for wire and cable jacketings.

Ohm: Unit of resistance such that a constant current of one ampere produces a force of one volt.

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.

Overall Diameter: Finished diameter over wire or cable.

Overcurrent: Any current in excess of the rated current of equipment or the ampacity of a conductor. It may result from overload, short circuit or ground fault.

Overlap: The amount the trailing edge laps over the leading edge of a tape wrap.

Overload: Operation of equipment in excess of normal, full-load rating or a conductor in excess of rated ampacity that, when it persists for a sufficient length of time, would cause damage or dangerous overheating. A fault, such as a short circuit or ground fault is not an overload.

Parallel: A construction in which two or more conductors are laid parallel, separated by an insulating material.

Parallel Cable: Two or more cables used to share the current in heavily loaded power circuits which permits the use of smaller conductors.

Percentage Conductivity: Conductivity of a material expressed as a percentage of that of copper. Also used to indicate ratio of conductance between phase conductor and neutral in power cables.

Plastic: Also called thermoplastic, high polymeric substances, including both natural and synthetic products, but excluding the rubbers, that are capable of flowing under heat and pressure.

Glossary

Plasticizer: A chemical agent added in compounding plastics to make them softer and more flexible.

Polyethylene: A family of insulating materials derived from polymerization of ethylene gas. They are basically pure hydrocarbon resins, with excellent dielectric properties.

Polymer: A substance made of many repeating chemical units or molecules. The term *polymer* is often used in place of plastic, rubber, or elastomer.

Polyolefin: A family of thermoplastics based upon the unsaturated hydrocarbons known as olefins. When combined with butylene or styrene polymers, they form compounds such as polyethylene and polypropylene.

Polypropylene: A thermoplastic polymer of propylene.

Polyvinyl Chloride (PVC): A thermoplastic material composed of polymers of vinyl-chloride which may be rigid or elastomeric, depending on specific formulation.

Porosity: Multiple air voids in an insulation or jacket wall.

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.

Pulling Eye: A device which may be fastened to the conductor or conductors of a cable or formed by or fastened to the wire armor and to which a hook or rope may be directly attached in order to pull the cable into or from a duct.

Put-Up: Refers to packaging of wire and cable. The term itself refers to the packaged product that is ready to be stored or shipped.

Quadruplex Cable: Assembly of four single conductors twisted together.

Rated Temperature: The maximum temperature at which an electric component can operate for extended periods without loss of its basic properties.

Rated Voltage: The maximum voltage at which an electric component can operate for extended periods without undue degradation or safety hazard.

REA: Rural Electrification Administration.

Reel Drum Diameter: Diameter of the drum (or hub) of the reel.

Reel Flange Diameter (Reel Height): Diameter of the reel flanges.

Reel Traverse: Width of space between reel flanges.

Reel Width: Overall width of reel.

Resistance: In D.C. circuits, the opposition a material offers to current, measured in ohms. In A.C. circuits, resistance is the real component of impedance and may be higher than the value measured at D.C.

RHH: Rubber-insulated building wire, heat- and moisture-resistant, 90°C dry or 75°C wet locations.

RHH-2: Rubber-insulated building wire, heat- and moisture-resistant, 90°C wet or dry locations.

RHW: Rubber-insulated building wire, heat- and moisture-resistant, 90°C dry or 75°C wet locations.

RHW-2: Rubber-insulated building wire, heat- and moisture-resistant, 90°C dry or wet locations.

Ridge Marker: One or more ridges running laterally along the outer surface of an insulated wire or cable for purpose of identification.

Ringing Out: The process of locating or identifying specific conductive paths by means of passing current through selected conductors.

Rip Cord: Two or more insulated conductors in a parallel configuration which may be easily separated, leaving the insulation of each conductor intact.

Rope Strand: A conductor composed of a center group of twisted strands surrounded by one or more layers of similar groups of twisted strands.

Rubber: A general term used to describe wire insulation and jackets made of thermosetting elastomers, such as natural or synthetic rubbers, EPR, neoprenes, Hypalon, butyl rubber and others.

RW90: Cross-Linked Polyethylene Insulation (XLPE), 90°C dry and wet locations (CSA type) 600 V

RWU90: Cross-Linked Polyethylene Insulation (XLPE), 90°C direct burial (CSA type) 1 kV

SE-R: Service Entrance Round Construction, THHN/THWN or XHHW insulation, 90°C dry and 75° wet locations 600 V

SE-U: Service Entrance Uninsulated Concentric Neutral, THHN/THWN or XHHW insulation, 90°C dry and 75° wet locations 600 V

Separator: Pertaining to wire and cable, a layer of insulating material such as textile, paper, etc., which is placed between a conductor and its dielectric, between a cable jacket and the components it covers, or between various components of a multi-conductor cable. It can be utilized to improve stripping qualities and/ or flexibility, or can offer additional mechanical or electrical protection to the components it separates.

Serve: Any filament or group of filaments, such as wires or fibers helically wound around a central core.

Service Conductors: In commercial and industrial applications, power is typically wired into the building to a main load center. Power is carried directly from a step-down transformer by a secondary service cable. Depending on the application, the step-down transformer may be mounted on a utility pole or mounted at ground level in enclosed box.

Service Drop: The overhead electric service conductors from the last pole or other aerial support to and including the splices, if any connecting to the service entrance conductors at the building or other structure.

Glossary

Sheath: The material, usually an extruded plastic or elastomer, applied outermost to a wire or cable. Very often referred to as a *jacket*.

Short Circuit Current Rating: The prospective symmetrical fault current at a nominal voltage to which an apparatus or system is able to be connected without sustaining damage exceeding defined acceptance criteria.

Shrink Tubing: Tubing which has been extruded, cross-linked and mechanically expanded which, when reheated, will return to its original diameter.

SIA: Steel Interlocked Armor.

SIC: Specific Inductive Capacity.

SIW: Single Input Wire – compressed or compact stranding which may use combinations of a fewer number of individual drawn wire sizes to product finished conductors.

Side Wall Bearing Pressure (SWBP): A term used in reference to the pressure on a cable which is being pulled around a curved surface under tension. If excessive, SWBP can damage cable components and reduce the life of the cable.

Solid Conductor: A conductor consisting of a single wire.

Spark Test: A test designated to locate imperfections (usually pin-holes) in a wire insulation by application of an electrical potential across the material for a very short period of time while the wire is drawn through an electrode field with one end of the wire grounded.

Specific Gravity: The ratio of the weight of any volume of substance to a weight of an equal volume of some substance taken as a standard, usually water for liquids and hydrogen for gases.

Strand: A single uninsulated wire.

Stranded Conductor: A conductor composed of individual groups of wires twisted together to form an entire unit.

Surge: A temporary and relatively large increase in the voltage or current in an electrical circuit or cable. Also called *transient*.

T90 Nylon: Nylon jacketed thermoplastic insulated conductor, primarily intended for installation in raceways.

Tank Test: A term used to describe a voltage dielectric test where the specimen to be tested is submerged in a liquid (usually water) and a voltage potential applied between the conductor and the liquid as ground.

TECK90: Armored cable characterized by an assembly of insulated conductors covered by an inner jacket, interlocked metallic armor, and outer covering, for use in a wide variety of industrial and other applications.

Temperature Rating: The maximum temperature at which insulating material may be used in continuous operation without loss of its basic properties.

Tensile Strength: A term denoting the greatest longitudinal tensile stress a substance can bear without tearing apart or rupturing.

TFFN: Thermoplastic insulation, flexible fixture wire, nylon jacket, 90°C dry locations 600 V

Thermoplastic: Material that will resoften and distort from its formed shape by heating above a critical temperature peculiar to the material.

Thermosetting: Term describing insulation that will not resoften or distort from its formed shape by heating until a destructive temperature is reached.

THHN: 90°C, 600 volt, nylon jacketed building wire for dry and damp locations.

THHN-2: Incorrect reference commonly misapplied when THWN-2 is called out.

THW: Thermoplastic, vinyl insulated building wire. Flame-retardant, moisture- and heat-resistant, 75°C, dry and wet locations.

THWN: 75°C, 600 volt, nylon jacketed building wire for dry and wet locations.

THWN-2: 90°C, 600 volt, nylon jacketed building wire for dry and wet locations.

Tinned Copper: Tin coating over copper to aid in soldering and inhibit corrosion.

Tinned Wire: Copper wire that has been coated with a layer of tin or solder to simplify soldering.

Tray: A cable tray is a unit or assembly of units or sections and associated fittings, made of noncombustible materials, forming a rigid structural system used to support cables.

Tray Cable: A factory-assembled multi-conductor or multi-pair control, signal or power cable specifically approved under the National Electrical Code for installation in trays.

Triplexed Cable: Three individual cables twisted together without fillers or a common jacket.

UD: Underground Distribution.

UF: Thermoplastic underground feeder and branch circuit cable.

UL: Underwriters Laboratories. An independent organization which operates a listing service for electrical and electronic materials and equipment (Canadian counterpart is CSA).

Glossary

Ungrounded: Not connected to ground or to a conductive body that extends the ground connection.

Unidirectional Concentric Stranding:

Consists of a central wire surrounded by one or more layers with lay direction the same for successive layers and with the length of the lay increased for each successive layer. Normal direction of lay of the outer layer is left-hand.

Unidirectional Stranding: A term denoting that, in a stranded conductor, all layers have the same direction of lay.

Unilay: More than one layer of helically laid wires with the direction of lay and length of lay the same for all layers.

Unilay Stranding: A bunched construction having 19, 27, 37, or any number of strands which might be found in a concentric stranding.

URD: Underground Residential Distribution.

USE: NEC Type Underground Service Entrance Cable, 90°C dry or 75°C wet locations.

USE-2: NEC Type Underground Service Entrance Cable, 90°C dry or wet locations.

Valley: Any void between the insulated conductors of a cable or between a cable core and its covering. See also *interstice*.

Volt: A unit of electrical pressure. One volt is the amount of pressure that will cause one ampere of current in one ohm of resistance.

Voltage: The term most often used in place of electromotive force, potential, potential difference, or voltage drop, to designate electric pressure that exists between two points and is capable of producing a flow of current when a closed circuit is connected between the two points.

Voltage Drop: The amount of voltage loss from original input in a conductor of given size and length or over a connection such as a termination.

Voltage Rating: The highest voltage that may be continuously applied to a wire or cord in conformance with standards or specifications.

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.

Wall Thickness: The thickness of the applied insulation or jacket.

Watt: A unit of electrical power. One watt is equivalent to the power represented by one ampere of current under a pressure of one volt in a D.C. circuit.

Wicking: The longitudinal flow of a liquid in a wire or cable construction due to capillary action.

Wire: (1) A single piece of slender, flexible metal ranging in approximate size from a piece that is difficult to bend by hand to a fine thread; (2) Several wires (as in 1) twisted together; (3) Wires (as in 1 or 2) that are insulated.

Wire Gauge: A measure of the diameter or sizes of wires. The sizes are expressed by numbers.

XHHW: Heat and moisture-resistant Cross-linked Polyethylene insulated building wire, 90°C dry, 75°C wet.

XHHW-2: Ditto, 90°C wet or dry.

XLP: Cross-linked Polyethylene.

XLPE: Also Cross-linked Polyethylene.

Metric Conversion Factors

	To Convert From	To	Multiply By
Length	Inches	Millimeters	25.4
	Millimeters	Inches	0.03937
	Inches	Centimeters	2.54
	Centimeters	Inches	0.3937
	Feet	Meters	0.3048
	Meters	Feet	3.2808
Area	Kilofeet (1000 feet)	Kilometers	0.3048
	Kilometers	Kilofeet (1000 feet)	3.2808
	Square Inches	Square Millimeters	645.16
	Square Millimeters	Square Inches	0.00155
	Square Inches	Square Centimeters	6.4516
	Square Centimeters	Square Inches	0.155
	Square Inches	Circular Mils	1,273,240
	Circular Mils	Square Inches	7.854×10^{-7}
	Circular Mils	Square Millimeters	5.066×10^4
	Square Millimeters	Circular Mils	1973.51
	Square Feet	Square Meters	0.0929
	Square Meters	Square Feet	10.764
Weight	Pounds	Kilograms	0.4536
	Kilograms	Pounds	2.2046
	Pound/Kilofeet	Kilograms/Kilometer	1.4882
	Kilograms/Kilometer	Pounds/Kilofeet	0.6720
	Ohms/Kilofeet	Ohms/Kilometer	3.2808
	Ohms/Kilometer	Ohms/Kilofeet	0.3048
Electrical	Microfarads/Kilofeet	Microfarads/Kilometer	3.2808
	Microfarads/Kilometer	Microfarads/Kilofeet	0.3048
	Insulation Resistance: Megohms — Kilofeet	Megohms — Kilometer	0.3048
	Megohms — Kilometer	Megohms — Kilofeet	3.2808
Mechanical	Pounds/Square Inch	Kilo Pascal*	6.895
	Kilo Pascal*	Pounds/Square Inch	0.1432
	Pounds (force)	Newtons	4.448

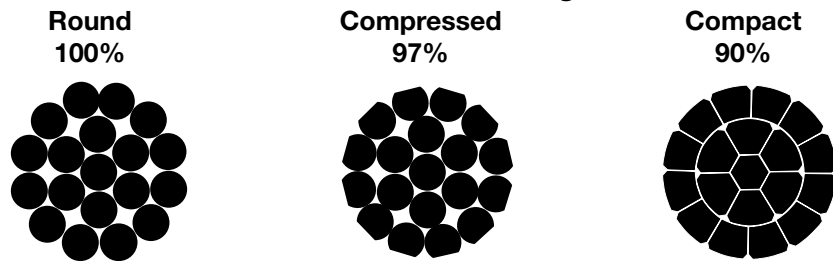
* 1 Pascal = 1 Newton/square meters

Conductor Reference

TABLE 1 – Conductor Reference Table – Stranded Bare Copper Conductor and Aluminum (ACM) Conductor

Stranded Bare Copper Conductor Standards			Aluminum (ACM) Conductor Standards		
Conforms to:	ASTM B3	Soft or annealed copper wire	Conforms to:	ASTM B800	Standard specification for 8000 Series aluminum alloy wire for electrical purposes—annealed and intermediate tempers
	ASTM B8	Concentric lay stranded copper conductors Class B, C and D		ASTM B801	Standard specification for concentric-lay-stranded conductors of 8000 Series aluminum alloy for subsequent covering or insulation
	ASTM B33	Tinned soft or annealed copper wire		ASTM B836	Standard specification for compact round stranded aluminum conductors using single input wire construction
	ASTM B172	Rope lay stranded copper conductors having bunch stranded members Classes I, K and M		ASTM B901	Standard specification for compressed round stranded aluminum conductors using single input wire construction
	ASTM B173	Rope lay stranded copper conductors having concentric stranded members Classes G and H			
	ASTM B174	Bunch stranded copper conductors			
	ASTM B496	Compact round concentric lay stranded copper conductors			

Concentric Stranding



Class B and Class C Conductors for General Wiring

Copper and Aluminum Conductors

ASTM CLASS B and CLASS C

SIZE	CLASS B STRANDING	CLASS C STRANDING	NOMINAL AREA		NOMINAL O.D.							
					CLASS B CONCENTRIC		CLASS C CONCENTRIC		COMPRESSED		COMPACT	
AWG/kcmil	INCHES	INCHES	CIRCULAR MILS	mm ²	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
22	7/.0096	19/.0058	640	0.324	0.0287	0.729	0.0290	0.737	—	—	—	—
20	7/.0121	19/.0073	1,020	0.519	0.0362	0.919	0.0365	0.927	—	—	—	—
18	7/.0152	19/.0092	1,620	0.823	0.0456	1.16	0.0460	1.168	—	—	—	—
16	7/.0192	19/.0117	2,580	1.31	0.0576	1.46	0.0585	1.486	—	—	—	—
14	7/.0242	19/.0147	4,110	2.08	0.0727	1.85	0.0735	1.867	0.071	1.80	—	—
12	7/.0305	19/.0185	6,530	3.31	0.0915	2.32	0.0925	2.350	0.089	2.26	0.085	2.16
10	7/.0385	19/.0234	10,380	5.261	0.116	2.95	0.116	2.95	0.113	2.87	0.107	2.72
8	7/.0486	19/.0295	16,510	8.367	0.146	3.71	0.146	3.71	0.142	3.61	0.134	3.40
6	7/.0612	19/.0372	26,240	13.30	0.184	4.67	0.184	4.67	0.178	4.52	0.169	4.29
4	7/.0772	19/.0469	41,740	21.15	0.232	5.89	0.232	5.89	0.225	5.72	0.213	5.41
2	7/.0974	19/.0591	66,360	33.62	0.292	7.42	0.292	7.42	0.283	7.19	0.268	6.81
1	19/.0664	37/.0476	83,690	42.41	0.332	8.43	0.332	8.43	0.322	8.18	0.299	7.59
1/0	19/.0745	37/.0534	105,600	53.49	0.372	9.45	0.372	9.45	0.362	9.19	0.336	8.53
2/0	19/.0837	37/.0600	133,100	67.43	0.418	10.62	0.418	10.62	0.405	10.0	0.376	9.55
3/0	19/.0940	37/.0673	167,800	85.01	0.470	11.94	0.470	11.94	0.456	11.6	0.423	10.74
4/0	19/.1055	37/.0756	211,600	107.2	0.528	13.41	0.528	13.41	0.512	13.0	0.475	12.07
250	37/.0822	37/.0640	250,000	127	0.575	14.61	0.575	14.61	0.558	14.2	0.520	13.21
300	37/.0900	61/.0701	300,000	152	0.630	16.00	0.630	16.00	0.611	15.5	0.570	14.48
350	37/.0973	61/.0757	350,000	177	0.681	17.30	0.681	17.30	0.661	16.8	0.616	15.65
400	37/.1040	61/.0810	400,000	203	0.728	18.49	0.728	18.49	0.706	17.9	0.659	16.74
500	37/.1162	61/.0905	500,000	253	0.813	20.65	0.813	20.65	0.789	20.0	0.736	18.69
600	61/.0992	91/.0812	600,000	304	0.893	22.68	0.893	22.68	0.866	22.0	0.813	20.65
750	61/.1109	91/.0908	750,000	380	0.998	25.35	0.998	25.35	0.968	24.6	0.908	23.06
1000	61/.1280	91/.1048	1,000,000	507	1.152	29.26	1.152	29.26	1.117	28.4	1.060	26.92

Adapted from UL 1581 Reference Standard for Electrical Wires, Cables, and Flexible Cords.

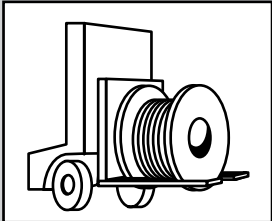


Phone: 855-720-2792
www.generalcable.com

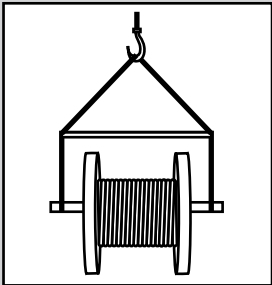
Recommended Reel Handling Practices

How to Handle Cable Reels

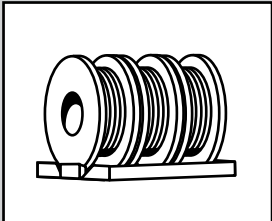
YES



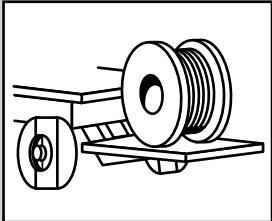
Cradle both reel flanges between forks.



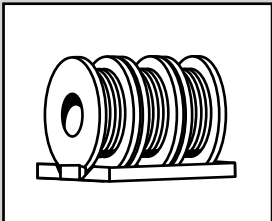
Reels can be hoisted with a shaft extended through both flanges.



Always load with flanges on edge and chock and block securely.

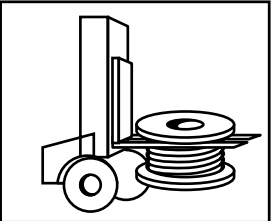


Lower reels from truck using hydraulic gate, hoist or fork lift. LOWER CAREFULLY.

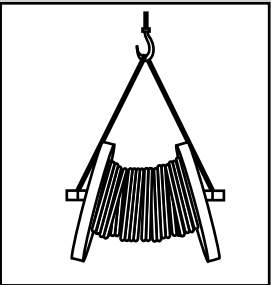


Always load with flanges on edge and chock and block securely.

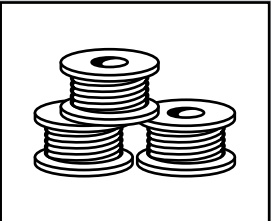
NO



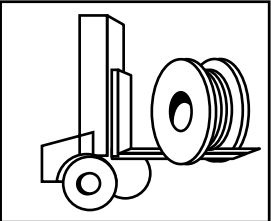
Do not lift by top flange. Cable or reel will be damaged.



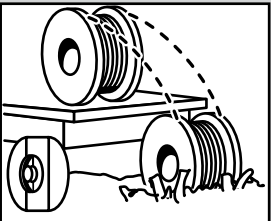
Use a spreader bar to prevent bending the reel flanges and mashing the cable.



Upended heavy reels will often arrive damaged. Refuse or receive subject to inspection for hidden damage.



Never allow forks to touch cable surface or reel wrap.



Never drop reels.

Technical Information

Recommended Cable Handling Practices

Unloading and Moving of Reels:

Cable reels are never shipped upended (flat side down). Cable reels that arrive in this manner should be rejected or received only after a thorough inspection for damage.

See “Recommended Reel Handling Practices” page.

Upon receipt, a cable’s protective covering and/or lagging should be inspected for evidence of damage during shipment. If evidence of damage is found, a report should immediately be made to the carrier.

Under no circumstances should reels be dropped from the delivering vehicle to the ground.

Unloading and reel handling should be accomplished so that the equipment used does not contact the cable surface, and in the case of protective wrap, that the equipment does not contact the protective wrap.

If unloading and reel handling is accomplished by crane, either a cradle supporting the reel flanges or a shaft through the arbor hole should be used. If a fork lift is utilized, the forks must lift the reel at 90° to the flanges and the forks must be long enough to make complete lifting contact with both flanges. Under no circumstances should the forks come into contact with the cable surface or the protective wraps.

When a reel of cable is rolled from one point to another, care must be taken to see that there are no objects on the surface area which could contact or damage the cable surface or protective wrap.

If an inclined ramp is used for unloading, the ramp must be wide enough to contact both flanges completely. The stopping of the reels at the bottom shall be accomplished by using the reel flanges and not the surface of the cable.

Minimum Drum Diameters for Packaging Cables	
Type of Cable	Minimum Drum Diameter as a Multiple of Outside Diameter of Cable
1. Single and multiple conductor cable - unshielded 0-2000 V	10
2. Single and multiple conductor cable - unshielded 2400 V	12
3. Single and multiple conductor cable - wire shield (UniShield®) 5-35 kV	12
4. Single and multiple conductor cable - helically applied tape shield (Uniblend®) 5-35 kV	14
5. Single and multiple conductor cable - longitudinally applied flat tape shield (Type TC)	20
6. Single and multiple conductor cable - Interlocked Armor (Duralox®) 600 V-35 kV	14
7. Triplexed single conductors cabled together. The circumscribing overall diameter* shall be multiplied by the factor in 1 - 6 and then by the reduction factor.	.75

*Single conductor times 2.155 times
NEMA WC26 EEMAC201-2007 Binational Wire and Cable Packaging Standard

Technical Information



Recommended Cable Storage Practices

Storage and Storage Maintenance:

Finished cables have no established shelf-life. Moisture and atmospheric conditions can cause exposed conductors to oxidize and discolor. Uncovered/unsheltered cable will degrade due to exposure to direct sunlight and/or the elements. If the cables are protected, there should be no degradation of the insulation.

In general, any cable for use indoors should be stored indoors. Any cable suitable for installation outdoors is suitable for storage outdoors. Cables stored outdoors should have the ends sealed to prevent moisture ingress into the cable and should be used within two years or less.

Cables should be stored in a sheltered area. The cable conductor should not be exposed to water.

Cables with a cold temperature marking, e.g. -10°C , -25°C , or -40°C , may be stored outdoors. Cables without a cold temperature marking must be stored indoors.

Cable reels must remain in the upright position. Cable reels must not be stored on their sides. Reels must not be stacked.

Cable reels should be stored with the protective covering or lagging in place. If a length of cable has been cut from the reel, the cable end should be immediately resealed to prevent the entrance of moisture. If a part length is returned to storage, the reel's protective covering should be restored.

Wooden reels should be stored off the ground to prevent rotting. Reels should be stored on a flat, hard surface so that flanges do not sink into the earth. The weight of the reel and cable must be carried at all times by the reel flanges.

Cable reels and lagging must not be stored for an extended time period sitting in direct contact with water or dampness. Timbers or metal supports must be placed under the reel flanges to provide elevated storage of the reels away from the direct contact with water or damp soil.

Reels should be stored in an area where construction equipment, falling or flying objects or other materials will not contact the cable.

Cable should be stored in an area where chemicals or petroleum products will not be spilled or sprayed on the cable.

Cable should be stored in an area away from open fires or sources of high heat.

If the reels are relocated, they should be handled as suggested in the "Recommended Reel Handling Practices" section, and inspection made on each reel during the relocation.

If the cables are stored in a secure area and not exposed to the effects of the weather, an annual inspection should be satisfactory.

Where the reels are exposed to the weather, a bimonthly inspection should be performed to observe any sign of deterioration.

If the reels are exposed in a non-secure area, policing of the area at frequent intervals may be required depending on circumstances.

Records of delivery date, manufacturer, installation date, any extenuating circumstances, along with all test reports, should be kept on file.

Pre-Installation Instructions

Pre-Installation

Overview

To ensure safety during cable installation and reliability once the cable is installed, you should confirm the following prior to installation:

- The cable selected is proper for your application
- The cable has not been damaged in transit or storage

Review all applicable state and national codes to verify that the cable chosen is appropriate for the job. Also, consult your local building authority.

Next, you must identify any existing cable damage and prevent any further damage from occurring. This is done through proper cable inspection, handling and storage.

Cable Inspection

Inspect every cable reel for damage before accepting the shipment. Be particularly alert for cable damage if:

- A reel is laying flat on its side
- Several reels are stacked
- Other freight is stacked on a reel
- Nails have been driven into reel flanges to secure shipping blocks
- A reel flange is damaged
- A cable covering is removed, stained or damaged
- A cable end seal is removed or damaged
- A reel has been dropped (hidden damage likely)

Cabling Handling

Remove all nails and staples from the reel flanges before moving a reel, and avoid all objects that could crush, gouge or impact the cable when moving. NEVER use the cable as a means to move a reel.

When unreeling, observe recommended bending radii, use swivels to prevent twisting and avoid overruns.

Installation – Overview and Checklist

Installation

Overview

Most cables are subjected to more mechanical stress during installation than they ever experience in actual operation. Needless to say, handling and pulling your cable according to manufacturer's recommendations is extremely important.

There are six main considerations in any cable installation:

- Ambient temperature
- Equipment
- Conduit fill
- Mechanical fit in raceway
- Physical limitations
- Knowledgeable installers

For more information, reference IEEE 1185 Recommended Practices for Cable Installations in Generating Stations and Industrial Facilities.

Installation Temperature

Low temperatures are a cause for concern when installing cable. Cable should not be installed when temperatures are less than the cold bend temperature rating of the cable product plus 15°C (i.e., minimum installation temperature = cold bend temperature rating + 15°C). The cold bend temperature rating is indicated on the catalog spec sheet.

Prior to performing a low temperature (less than 10°F or -12°C) cable installation, cable should be stored for a minimum of 24 hours at a temperature of 55°F (13°C) or higher.

Cable should be pulled more slowly and trained in place the same day it is removed from storage. Do not impact, drop, kink or bend cable sharply in low temperatures.

Equipment

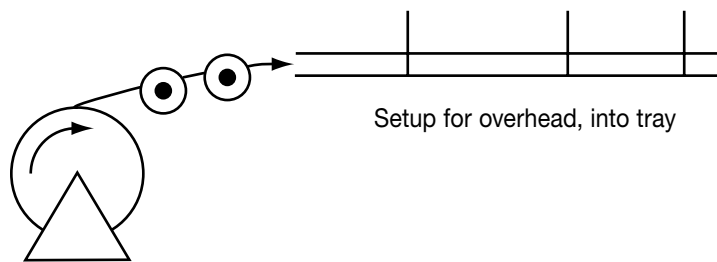
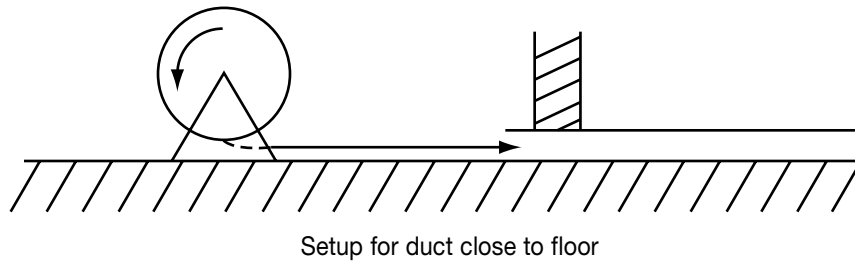
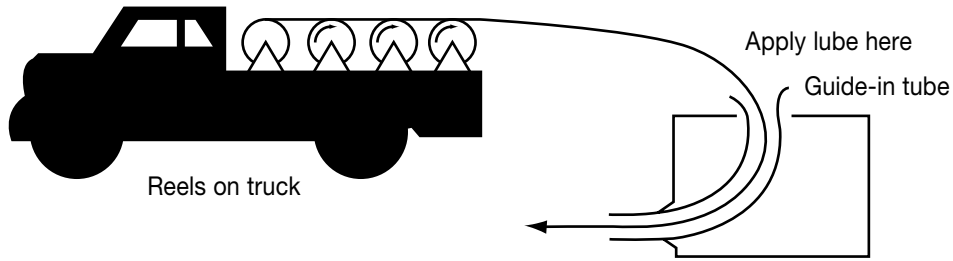
The proper use of appropriate equipment is crucial to a successful cable installation. The equipment needed for most installations is detailed in the following checklist:

- 0-1/5/10 kip dynamometer
- basket grip pullers
- cable cutter
- cable end seals
- cable pulling lubricant
- cable tray bend sheaves
- cable tray rollers
- capstan-type puller
- diameter tape
- duct cleaning mandrels
- electric safety blankets and clamps
- extension cords and GFCI protection
- fish tape or string blower/vacuum
- floodlights
- gang rollers: with at least 4 ft. effective radius
- gloves
- guide-in flexible tubing (elephant trunks)
- hand winches (come-a-long)
- HI-POT tester
- lint-free rags
- make-up air blower & hose
- manhole edge sheave
- measuring tape
- personal protection equipment (PPE)
- plywood sheets
- portable electric generator
- pre-lubing devices
- pulling rope
- pump, diaphragm
- radios or telephones
- reel arbor
- reel brakes
- reel jacks
- several wire rope slings of various lengths
- shackles/clevis
- short ropes for temp tie-offs
- swivels
- warning flags, signs

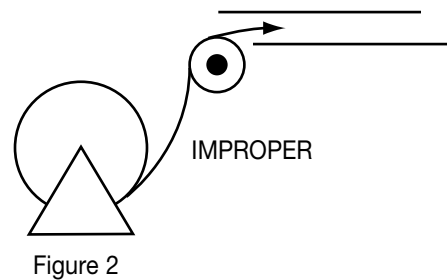
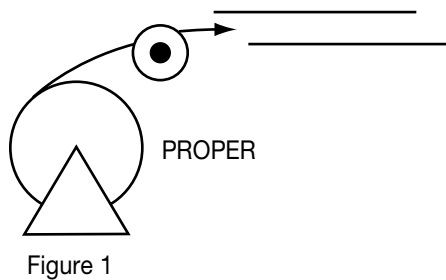
Installation – Feed-In Setups

Cable Feed-In Setups

The following diagrams illustrate various cable feed-in setups:



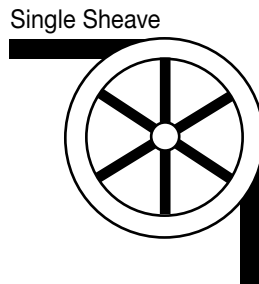
The feed-in setup should unreel the cable with a natural curvature (Figure 1) as opposed to a reverse "S" curvature (Figure 2).



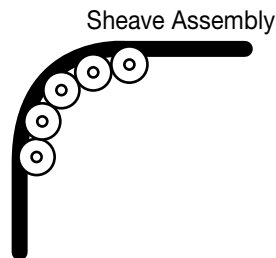
Installation – Feed-In Setups

Cable Feed-In Setups (continued)

Single sheaves should only be used for GUIDING cables. Arrange multiple blocks to maintain bending radii whenever cable changes direction or elevation.



For pulling around bends, use conveyor sheave assemblies of the appropriate radius series.



The pulleys must be positioned to ensure that the effective curvature is smooth and changes direction or elevation evenly at each pulley. Never allow a polygon curvature to occur (Figure 3).

The fit of a pulley around the cable is also important when pulling heavy weights (i.e. pulleys at the top of a vertical drop).

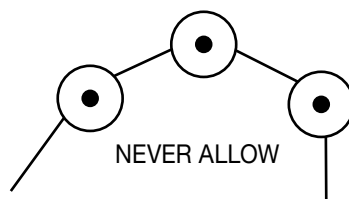
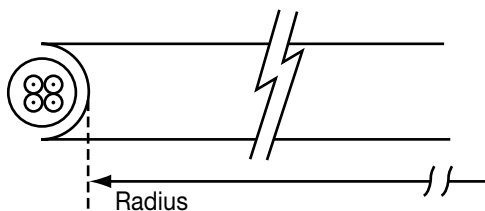


Figure 3

Remember to use the radius of the surface over which the cable is bent, not the outside flange diameter of the pulley. A "10 inch" cable sheave typically has a 10 inch outside flange diameter with a 6 inch inside diameter that provides an inside (bending) radius of 3 inches.



Installation – Conductor Maximum Pulling Tensions

Multi-Conductor Cables Having Equal-Sized Conductors,
in Parallel or as Multiplexed Assemblies

ALUMINUM CONDUCTOR

AWG/kcmil	MAXIMUM ALLOWABLE PULLING TENSION (LBS)					
	NUMBER OF CONDUCTORS					
	1	2	3	4	5	6
8	99	198	198	317	396	475
6	157	315	315	504	630	756
4	250	501	501	801	1002	1202
2	316	631	631	1010	1263	1515
1	398	796	796	1274	1593	1911
1/0	502	1004	1004	1607	2009	2410
2/0	634	1267	1267	2028	2534	3041
3/0	799	1597	1597	2556	3194	3833
4/0	1007	2014	2014	3222	4027	4833
250	1500	3000	3000	4800	6000	7200
350	2100	4200	4200	6720	8400	10080
500	3000	6000	6000	9600	12000	14400
750	4500	9000	9000	14400	18000	21600
1000	6000	12000	12000	19200	24000	28800

The maximum allowable pulling tensions are for direct attachment to the conductor.

$$T = 0.006 \times \text{cmil} \times n, \text{ if } n < 3$$

$$T = 0.006 \times \text{cmil} \times 2, \text{ if } = 3$$

$$T = 0.006 \times \text{cmil} \times n \times 0.8, \text{ if } n > 3$$

When more than two conductors are pulled in parallel in an installation containing bends, the maximum allowable pulling tension is limited to the two conductor columns, regardless of the number of conductors that are being pulled.

Installation – Conductor Maximum Pulling Tensions

Multi-Conductor Cables Having Equal-Sized Conductors;
In Parallel or as Multiplexed Assemblies

COPPER CONDUCTOR

AWG/kcmil	MAXIMUM ALLOWABLE PULLING TENSION (LBS)					
	NUMBER OF CONDUCTORS					
	1	2	3	4	5	6
18	13	26	39	41	52	62
16	20	40	60	65	81	97
14	33	66	99	105	132	158
12	52	104	157	167	209	251
10	83	166	249	266	332	399
8	132	264	396	423	528	634
6	210	420	630	672	840	1008
4	334	668	1002	1069	1336	1603
2	531	1062	1593	1699	2124	2548
1	670	1339	2009	2142	2678	3214
1/0	845	1690	2534	2703	3379	4055
2/0	1065	2130	3194	3407	4259	5111
3/0	1342	2685	4027	4296	5370	6444
4/0	1693	3386	5078	5417	6771	8125
250	2000	4000	6000	6400	8000	9600
350	2800	5600	8400	8960	10000	10000
500	4000	8000	10000	10000	10000	10000
750	6000	10000	10000	10000	10000	10000
1000	8000	10000	10000	10000	10000	10000

The maximum allowable pulling tensions are for direct attachment to the conductor.

$T = 0.008 \times \text{cmil} \times n$, if $n \leq 3$

$T = 0.008 \times \text{cmil} \times n \times 0.8$, if $n > 3$

When more than two conductors are pulled in parallel in an installation containing bends, the maximum allowable pulling tension is limited to the two conductor column, regardless of the number of conductors that are being pulled.

Installation – Conductor Maximum Pulling Tensions

Multi-Conductor Cables Having Equal-Sized Conductors, without Subassemblies

COPPER CONDUCTOR

NUMBER OF CONDUCTORS	MAXIMUM ALLOWABLE PULLING TENSION (LBS)				
	CONDUCTOR SIZE (AWG/kcmil)				
	18	16	14	12	10
2	26	40	66	104	166
3	39	60	99	157	249
4	41	65	105	167	266
5	52	81	132	209	332
6	62	97	158	251	399
7	73	113	184	293	465
8	83	129	210	334	531
9	93	145	237	376	598
10	104	161	263	418	664
12	124	194	316	502	797
14	145	226	368	585	930
15	156	242	395	627	996
16	166	258	421	669	1000
18	187	290	473	752	1000
19	197	306	500	794	1000
20	207	323	526	836	1000
22	228	355	549	919	1000
24	249	387	631	1000	1000
25	259	403	658	1000	1000
30	311	484	789	1000	1000
37	383	596	974	1000	1000

The maximum allowable pulling tensions are for multi-conductor cables pulled into a raceway or cable tray using a basket grip or similar device secured directly to the cable jacket. It is recommended that a combination of basket grips and pulling eyes be used whenever possible.

$$T = 0.008 \times \text{cmil} \times n, \text{ if } n \leq 3$$

$$T = 0.008 \times \text{cmil} \times n \times 0.8, \text{ if } n > 3$$

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, multi-conductor 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		
				1 in. (25 mm) or less	Over 1 in. to 2 in. (>25 mm to 50 mm)	Over 2 in. (>50 mm)
600 V	Single	Nonshielded	All	5X		
601-2000 V			All	8X		
600 V or 2000 V	Multi-conductor or Multiplexed	Nonshielded	TC or TC-ER	4X	5X	6X
			MC ³	7X		
		Shielded	All	12X		
			TC or TC-ER	12X		
			MC	12X/7X ¹		
Over 2000 V	Single	Nonshielded	MV	8X		
		Nonshielded	MC ³	7X		
	Multi-conductor or Multiplexed	Shielded	MC and MV	12X ²		
		Nonshielded	MC and MV	8X		
		Shielded	MC and MV	12X/7X ^{1,2}		

¹ 12 times the diameter of an individual shielded conductor or 7 times the overall cable diameter, whichever is greater.
² Since UniShield[®] is a unique construction, there are no applicable values for the bending radius in the NEC. However, General Cable recommends 8 times for single conductors, and for multiplexed or multi-conductor cables, it is 8 times the diameter of the individual conductors or 5 times the overall diameter, whichever is greater, in accordance with ANSI/ICEA S-93-639 5-46 kV *Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy*.
³ Per 330.24B Interlocked-Type Armor or Continuously Corrugated Metallic Sheath.

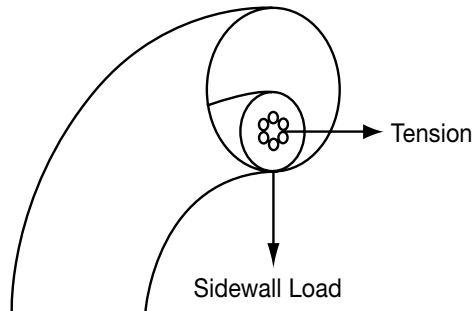
Installation – Maximum Sidewall Pressure

Overview

Sidewall bearing pressure (SWBP), or sidewall loading, is the radial force exerted on a cable being pulled around a conduit bend or sheave. Excessive SWBP can crush a cable and is, therefore, one of the most restrictive factors in installations having bends and requiring high pulling tensions. SWBP is reduced by increasing the radius of bends.

The maximum tension that can safely be applied to the cable during installation can be calculated using the maximum SWBP for the cable and the radius of the bend it is traversing.

For example, a cable having a maximum SWBP of 300 lb/ft that is being pulled around a bend having a radius of 2 feet should have no more than 300 lbs/ft x 2 ft or 600 lbs tension applied to it as the cable exits the bend.



CABLE TYPE		SWBP ¹ (LBS/FT)
300 V and 600 V, Shielded and Nonshielded, Control & Instrumentation (≤ 10 AWG)		500
600 V and 2400 V Nonshielded Power (≥ 8 AWG)		1200
5 kV - 46 kV Shielded Power	Concentric Neutral with Extrude-To-Fill (Encapsulating) Jacket	2000
	Concentric Neutral without Jacket	1200 ²
	LACT Shielded with Overlaying (Sleeved) Jacket	1500
	Helical Tape Shielded with Overlaying (Sleeved) Jacket	1500
	Wire Shielded with Overlaying (Sleeved) Jacket	1500
TECK90 and HVTECK Cable (All Voltages)		1000
Interlocked Armored Cable (All Voltages)		1000
CCW [®] MC-HL Armored Cable (All Voltages)		500

¹ When exceeding 1000 lbs/ft SWBP, proceed with caution.

² For a three-cable pull (triplexed or parallel), a maximum SWBP limit of 750 lbs/ft is recommended.

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General Cable’s Approval List of Cable Pulling Lubricants

The following manufacturers, who are listed in the 2006 UL Electrical Construction Equipment Directory, provide wire pulling compounds intended for use as lubricants in installing electrical conductors in raceways. These manufacturers have had some of their products evaluated by Underwriters Laboratories (UL) to determine their compatibility with conductor insulation and coverings.

Since it is not feasible to test every possible combination of cable material with every wire pulling compound, the installer should check with the pulling compound manufacturer or the cable manufacturer to determine compatibility between specific cable materials and the pulling compound.

The Listing Mark for these products includes the UL symbol, together with the word “LISTED,” a control number and the product name “Wire Pulling Compound.” Refer to the latest edition of the UL Electrical Construction Equipment Directory for the current listing of manufacturers of wire pulling compounds and their control numbers.

- | | |
|---------------------------------------|--------------------------------|
| 3M Company | J. C. Whitlam Mfg. Co. |
| American Bentonite International Inc. | Klein Tools Inc. |
| American Polywater Corp. | Madison Electric Products Inc. |
| Arnco Corp. | Rainbow Technology Corp. |
| Dura-Line Corp. | Rectorseal |
| Greenlee Textron | Thomas & Betts Corp. |
| Ideal Industries Inc.* | |

*Yellow 77 not recommended for use with UniShield[®] cables.

For LSZH jacketed cable, consult with pulling compound manufacturers.

Other wire pulling compounds may be suitable for use with General Cable constructions. Contact the wire pulling compound manufacturer regarding the suitability of their products with specific General Cable products.



Phone: 855-720-2792
www.generalcable.com

Technical Information

Short Circuit Current Calculation Overview

The maximum short circuit current which is permitted to flow in the insulated conductor, or the metallic shielding and bonding (grounding) components, is dependent on the duration of the short circuit and the material used in the cable.

Insulated Conductors Formula

The graphs on the following pages show the short circuit capability of 10 AWG to 1000 kcmil, copper and aluminum, XLPE and EPR insulated conductors for various periods of time. These graphs are in accordance with ICEA publication P-32-382. The equations are based on the assumption that the duration of the short circuit is so short that the heat generated is contained within the conductor, taking into consideration the temperature limit of the insulation.

The graphs are derived from the following formula:

$$\begin{aligned} \text{Copper Conductor } \left[\frac{I}{A} \right]^2 & t = 0.0297 \log_{10} \left[\frac{T_2 + 234}{T_1 + 234} \right] \\ \text{Aluminum Conductor } \left[\frac{I}{A} \right]^2 & t = 0.0125 \log_{10} \left[\frac{T_2 + 228}{T_1 + 228} \right] \end{aligned}$$

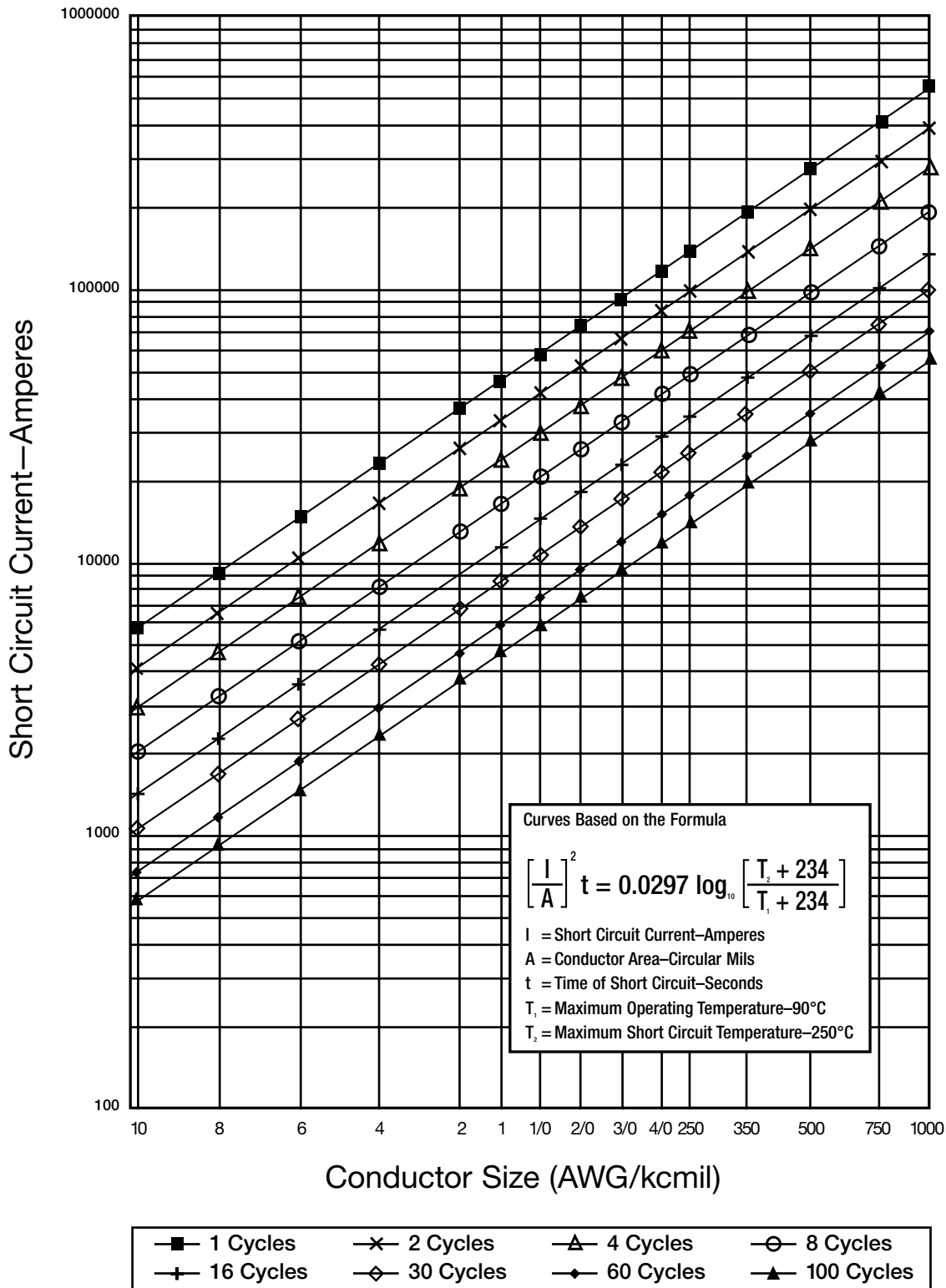
Which simplify to:

$$\begin{aligned} \text{Copper Conductor } I &= \frac{0.07195 \text{ A}}{\sqrt{t}} && \text{amperes for MV-90} \\ \text{Copper Conductor } I &= \frac{0.06773 \text{ A}}{\sqrt{t}} && \text{amperes for MV-105} \\ \text{Aluminum Conductor } I &= \frac{0.0470 \text{ A}}{\sqrt{t}} && \text{amperes for MV-90} \\ \text{Aluminum Conductor } I &= \frac{0.044 \text{ A}}{\sqrt{t}} && \text{amperes for MV-105} \end{aligned}$$

- Where:
- I = Short circuit current (amperes)
 - A = Conductor cross-sectional area (circular mils)
 - t = Short circuit duration (seconds)
 - T₁ = Maximum normal operating temperature, 90°C for MV-90 or 105°C for MV-105
 - T₂ = Maximum short circuit temperature, 250°C

Short Circuit Currents

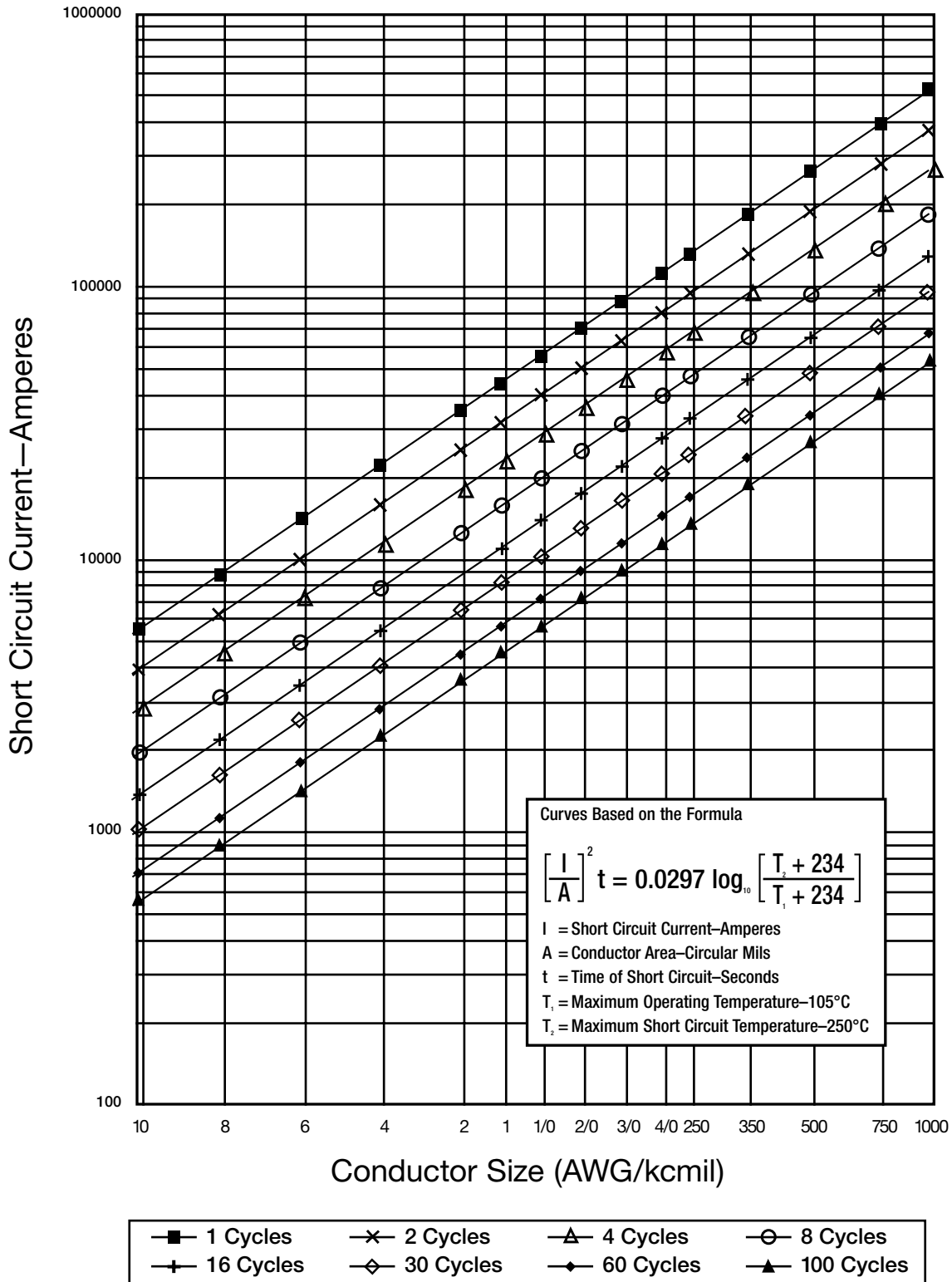
Allowable Short Circuit Currents For Thermoset Insulated Copper Conductors Rated For 90°C Maximum Continuous Operation



Technical Information

Short Circuit Currents

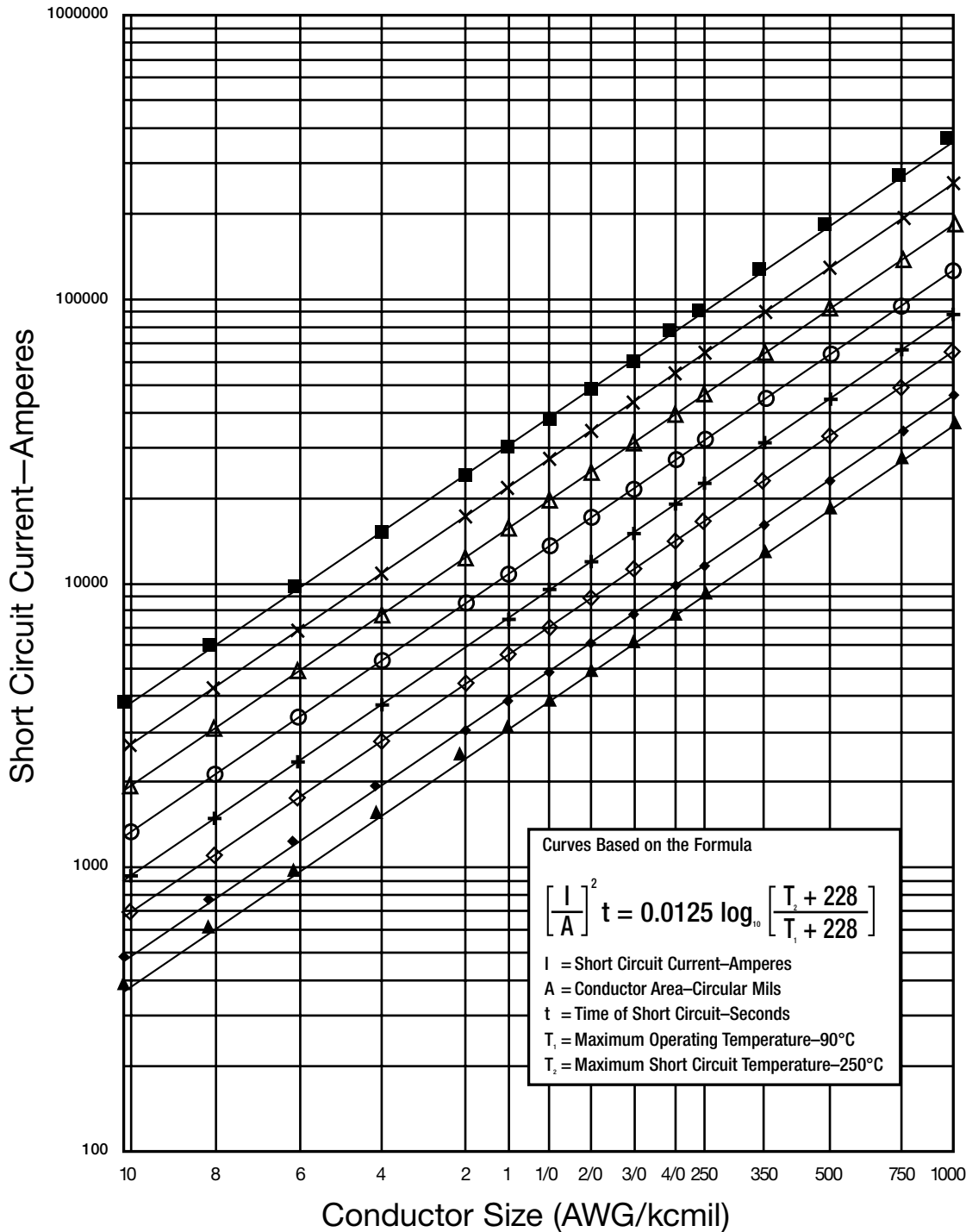
Allowable Short Circuit Currents For Thermoset Insulated Copper Conductors Rated For 105°C Maximum Continuous Operation



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Short Circuit Currents

Allowable Short Circuit Currents For Thermoset Insulated Aluminum Conductors Rated For 90°C Maximum Continuous Operation



- | | | | |
|-------------|-------------|-------------|--------------|
| ■ 1 Cycles | × 2 Cycles | ▲ 4 Cycles | ○ 8 Cycles |
| + 16 Cycles | ◇ 30 Cycles | ◆ 60 Cycles | ▲ 100 Cycles |



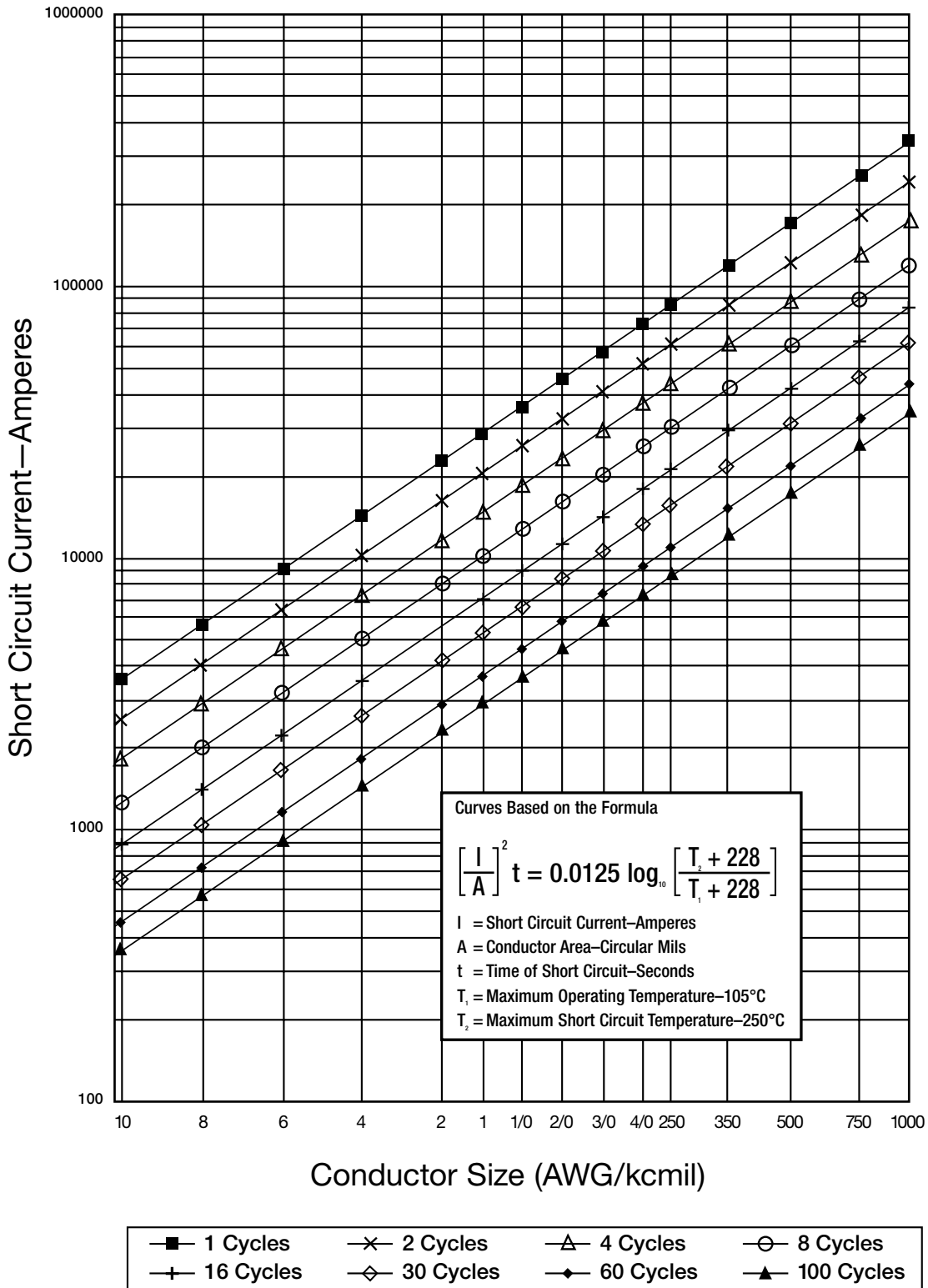
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Technical Information

Short Circuit Currents

Allowable Short Circuit Currents For Thermoset Insulated Aluminum Conductors Rated For 105°C Maximum Continuous Operation



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