

# XTRA•GUARD® Flexible Cables

## PERMANENT SOLUTIONS FOR CRITICAL FLEXING APPLICATIONS

Manufactured In The U.S.A. 

Choose **XTRA•GUARD® Flexible Cables** to deliver high speed dependability along with the flexibility needed in cases of difficult and/or complex cable positioning. **XTRA•GUARD® Flexible Cables** feature unsurpassed flame and moisture resistance, outstanding oil and chemical resistance, premium grade PVC and Polyurethane jackets. **XTRA•GUARD® Flexible Cables** are UL Recognized or Listed, CSA certified, tested to MIL-C-13777G for flex life and are **CE** marked. Product performance is verified with certified test reports. Call or visit our web site at [www.alphawire.com](http://www.alphawire.com) for up-to-date cable test information.



### COMMON FLEXING APPLICATIONS

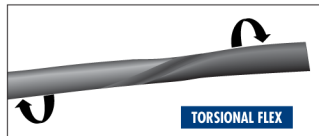
There are four common types of cable flexing movements to consider when designing and applying a high-flex cable. They are rolling flex, bending flex or "tic-toc", torsional flex and variable/random motion flex (see illustrations at right).

Different cable construction methods and materials are used depending on the cable flexing movement. For example: torsional cables will have a different lay length and cabling method than a rolling flex cable. Cable performance is evaluated using physical test data and statistical analysis to produce flex life and overall system reliability.

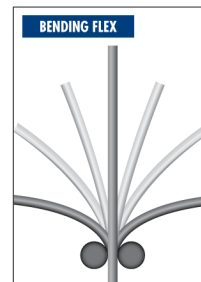
An understanding of the cables' application will allow the designer to choose the correct cable and reliably predict the products' lifetime and performance.



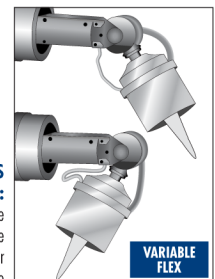
**For ROLLING FLEX APPLICATIONS SPECIFY AND CHOOSE:**  
**XTRA•GUARD® High-Flex Control Cable**  
**XTRA•GUARD® High-Flex Mini Diameter Data Cable**



**For TORSIONAL FLEX APPLICATIONS SPECIFY AND CHOOSE:**  
**XTRA•GUARD® High-Flex Torsion Robotic Cable**



**For BENDING FLEX APPLICATIONS SPECIFY AND CHOOSE:**  
**XTRA•GUARD® Standard-Flex Control Cable**  
**XTRA•GUARD® High-Flex Control Cable**  
**XTRA•GUARD® High-Flex Mini Diameter Data Cable**



**For VARIABLE FLEX APPLICATIONS SPECIFY AND CHOOSE:**  
**XTRA•GUARD® Standard-Flex Control Cable**  
**XTRA•GUARD® High-Flex Control Cable**  
**XTRA•GUARD® High-Flex Mini Diameter Data Cable**

### APPLICATIONS

- Applications Requiring Increased Flexibility
- Machine Tools
- CNC Machine Centers
- Data Processing Equipment
- Automation Equipment
- Material Handling Equipment
- Applications Requiring Continuous Flexing
- Robotics
- Installation in Cable Track
- Assembly Lines
- Industrial Electronic Processing Equipment
- DataComm Connections
- Connecting Sensors & Actuators to Controllers
- Sensor & I/O Interconnects
- Automation Networking
- PLC, Microprocessor & Computer Interconnects
- Twisting & Random Robotic Flexing Applications
- Power Supply to Welding, Painting & Articulating Robots

UL AWM STYLE 2587  
CSA AWM II A/B FT1  
RoHS Compliant  
600 VOLT

# XTRA•GUARD® Flexible Cables

## HIGH-FLEX CONTROL CABLE

CONTINUOUS FLEXING, OIL RESISTANT, MULTICONDUCTOR, SHIELDED

### CHOOSE XTRA•GUARD HIGH-FLEX CONTROL CABLES FOR:

- Extra Flexibility and Durability for Continuous Motion
- Extended Cycle Life 13.8 Million (Test Report Available)
- Outstanding Oil and Chemical Resistance
- Jacket Meets VDE 0472, Section 803 Oil Test
- UL Recognized and CSA Certified, CE Marked

### XTRA•GUARD HIGH-FLEX CONTROL CABLE APPLICATIONS:

- Applications Requiring Continuous Flexing
- Robotics
- Installation in Cable Track
- Assembly Lines
- Automation Equipment
- Material Handling Equipment

### CHARACTERISTICS

#### OPERATING TEMPERATURE:

- -5°C to 90°C (Flexing)
- -40°C to 90°C (Stationary)

#### VOLTAGE RATING:

- 600 Volt

#### COLOR DESCRIPTION:

- Color Code: Numerically Numbered (Alternate and Inverted) Red Conductors with One Green/Yellow Conductor on Outside Layer
- Jacket Color: Black

#### PRODUCT DESCRIPTION:

- Conductor: Super Finely Stranded Bare Copper
- Insulation: Lubricated PVC
- Fillers: Non-Wicking, Solid PVC Rod
- Wrap: Non-Wicking Fabric
- Inner Jacket: PVC
- Shield: Tinned Copper Braid (85% Coverage)
- Outer Jacket: Oil Resistant PVC

### SPECIFICATIONS

- Bend Radius: 10X Cable Diameter
- UL AWM Style 2587
- CSA AWM II A/B FT1
- Jacket Meets VDE 0472, Section 803 Oil Test
- Passes MIL-C-13777G Flexlife Test
- CE LVD-CD 73/23/EEC Modified by CD 93/68/EEC
- RoHS Compliant



Underwriters Laboratories Inc.



Canadian Standards Association



### AVAILABILITY

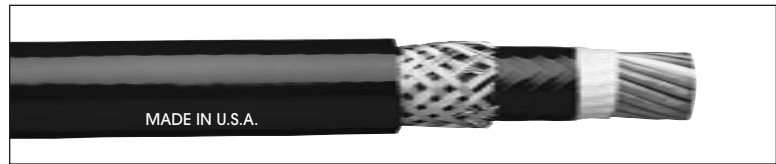
- In Stock: Bulk, Cut to Length

#### FIT® TUBING RECOMMENDATION

**FIT® FLEX** – Highly Flexible, Irradiated Silicone Rubber  
(See Page 134 for Product Specifications)

**FIT®-650** – Chemical and Temperature Resistant Irradiated Viton®  
(See Page 132 for Product Specifications)

Viton® is a registered trademark of DuPont Dow Elastomers



**20 AWG (0,5mm<sup>2</sup>), 65/38 (65/0,1mm), Insulation Thickness: 0.022" (0,56mm)**

Alpha Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
85003CY	3	0.035	0,89	0.353	9,0
85004CY	4	0.035	0,89	0.374	9,5
85005CY	5	0.040	1,00	0.416	10,6
85007CY	7	0.040	1,00	0.471	12,0
85010CY	10	0.040	1,00	0.551	14,0
85012CY	12	0.050	1,30	0.567	14,4
85018CY	18	0.060	1,50	0.658	16,7
85025CY	25	0.070	1,80	0.791	20,1

**18 AWG (1,0mm<sup>2</sup>), 105/38 (105/0,1mm), Insulation Thickness: 0.022" (0,56mm)**

Alpha Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
85803CY	3	0.035	0,89	0.373	9,5
85804CY	4	0.040	1,00	0.407	10,3
85805CY	5	0.040	1,00	0.444	11,3
85807CY	7	0.050	1,30	0.520	13,2
85812CY	12	0.060	1,50	0.625	15,9
85818CY	18	0.060	1,50	0.708	18,0
85825CY	25	0.080	2,00	0.867	22,0

**16 AWG (1,5mm<sup>2</sup>), 168/38 (168/0,1mm), Insulation Thickness: 0.022" (0,56mm)**

Alpha Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
85603CY	3	0.035	0,89	0.422	10,7
85604CY	4	0.040	1,00	0.461	11,7
85605CY	5	0.040	1,00	0.500	12,7
85607CY	7	0.060	1,50	0.599	15,2
85612CY	12	0.060	1,50	0.702	17,8
85618CY	18	0.060	1,50	0.797	20,2
85625CY	25	0.065	1,70	0.962	24,4

**14 AWG (2,5mm<sup>2</sup>), 266/38 (266/0,10mm), Insulation Thickness: 0.022" (0,56mm)**

Alpha Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
85404CY	4	0.050	1,30	0.538	13,7
85407CY	7	0.065	1,70	0.676	17,2

**12 AWG (4,0mm<sup>2</sup>), 413/38 (413/0,1mm), Insulation Thickness: 0.022" (0,56mm)**

Alpha Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
85204CY	4	0.075	1,9	0.646	16,4
85207CY	7	0.100	2,5	0.814	20,7

**10 AWG (6,0mm<sup>2</sup>), 658/38 (658/0,10mm), Insulation Thickness: 0.022" (0,56mm)**

Alpha Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
85104CY	4	0.070	1,80	0.706	17,9
85107CY	7	0.100	2,50	0.934	23,7

