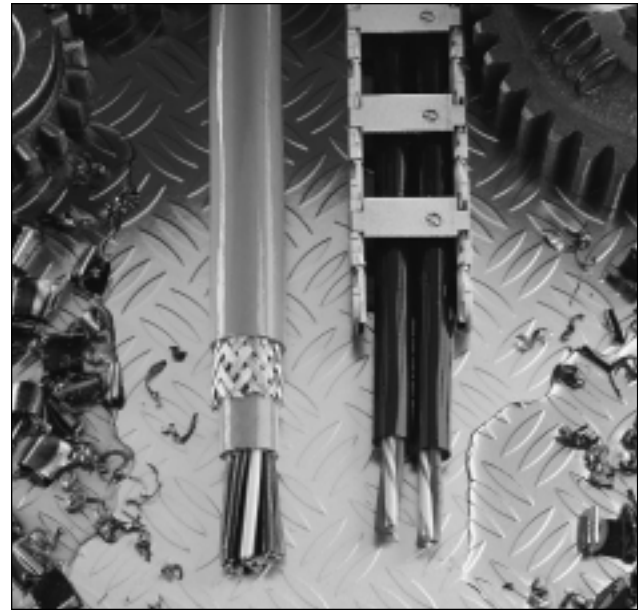


# XTRA•GUARD® Flexible Cables

## 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.



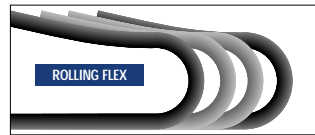
89

### COMMON FLEXING APPLICATIONS

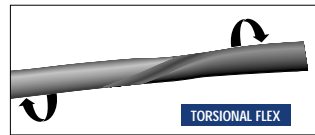
There are four common types of cable flexing movements to consider when designing and applying a high-flex cable. They are rolling flex, bending flex or "tic-toc", torsional flex and variable/random motion flex (see illustrations at right).

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.

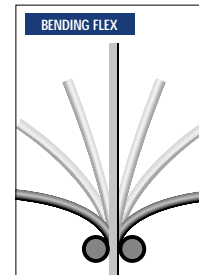
An understanding of the cables' application will allow the designer to choose the correct cable and reliably predict the products' lifetime and performance.



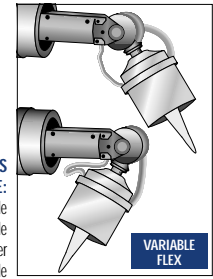
**For ROLLING FLEX APPLICATIONS SPECIFY AND CHOOSE:**  
**XTRA•GUARD® High-Flex Control Cable**  
**XTRA•GUARD® High-Flex Mini Diameter Data Cable**



**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

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