

# Xtra-Guard® Performance Cable



 AlphaWire  
*Cables you trust. Service you deserve.*

# Performance as tough as your application



**F**rom the frozen tundra to the desert heat, in petrochemical plants where protection against chemicals is crucial, in motion control applications requiring continuous flexing, for outdoor applications requiring protection from UV exposure, and where direct burial without conduit is required, Xtra-Guard cable lives up to its name.

Alpha Wire's Xtra-Guard cable brings performance and reliability to the biggest challenges in the toughest environments. No matter what

extremes your application faces, you'll find an Xtra-Guard cable that excels in meeting your requirements. Downtime is costly—whether caused by a complete cable failure or from the little glitches that occur when a cable doesn't live up to the demands of the application. Xtra-Guard

means peace of mind.

Hazard-matched to survive in the most demanding operating conditions, Xtra-Guard cable is the longest-lasting, highest-performing cable available. Field-proven application performance year after year has made Xtra-Guard cable the first choice of engineers for more than three decades.

## Superior by design

Xtra-Guard performance cable is designed to meet your needs. Its round construction makes it easier to install, seal, and route. With nearly 5000 standard constructions and the industry's broadest range of gauges, conductor counts, shielding options, and jacket color choices, Xtra-Guard cable sets the global standard for reliable performance.

## Your standards are our standards

We rigorously test our cables to prevailing industry standards. Our cables are



approved by such major agencies as UL, CSA, CE, and VDE.

- High Temperature
- Low Temperature
- Ultraviolet Light
- Oil, Chemicals, Solvents, Fuels
- Abrasion
- Direct Burial
- EMI Noise
- Flexing



| Main Need                                     | Typical Applications  | Xtra-Guard Family                | Insulation/Jacket Material |              | Temperature Range                                 |
|---|---|----------------------------------|----------------------------|--------------|---|
|   |   |                                  | Insulation                 | Jacket       |   |
| High performance                              | High technology controlled environments<br>Medical electronics<br>Point-of-sale equipment<br>Computer peripherals<br>Industrial process controls  | Xtra-Guard 1                     | SR-PVC/<br>PVC             | PVC          | -30°C to +105°C                                   |
| Abrasion resistance                           | CNC machine centers<br>Automotive assembly plant operations<br>Military ground support systems<br>Packaging machinery<br>Petrochemical plant operations<br>Geophysical exploration equipment  | Xtra-Guard 2                     | SR-PVC                     | Polyurethane | -20°C to +105°C<br>-20°C to +90°C                 |
| Direct burial                                 | Interbuilding communications<br>Satellite communications equipment<br>Land irrigation systems<br>Outdoor security systems<br>Outdoor scoreboards and displays<br>Pipeline sensor controls   | Xtra-Guard 3                     | SR-PVC                     | Polyethylene | -20°C to +80°C                                    |
| Advanced temperature and chemical performance | Wood, paper, pulp, plant operations<br>Mining instruments and controls<br>Mass transit systems<br>Military electronic applications<br>Food and beverage plants<br>Petrochemical process controls<br>Arctic pipeline controls  | Xtra-Guard 4                     | TPE                        | TPE          | -50°C to +125°C                                   |
| Maximum temperature and chemical performance  | Food and beverage wash-down<br>Cleanroom environments<br>Food/medical-grade applications<br>Turbine generators<br>Chemical processing<br>Military electronics<br>Mining instrumentation   | Xtra-Guard 5                     | FEP                        | FEP          | -80°C to +200°C                                   |
| Flexing/flexible                              | Cartesian robots<br>Articulated multi-axis robots<br>Automation networking<br>Machine tools<br>Automotive assembly equipment<br>Conveyor systems<br>Control panels<br>Flex and static track<br>Transfer shuttles<br>Sensor/actuator-to-controller connections<br>Motor supplies | Xtra-Guard Flex (Control, 600 V) | PVC                        | PVC          | -5°C to +90°C: Flexing<br>-40°C to +90°C: Static  |
|   |   | Xtra-Guard Flex (Data, 300V)     | SR-PVC                     | PVC          | 5°C to +105°C: Flexing<br>-10°C to +105°C: Static |
|   |   | Xtra-Guard Flex (Torsion, 600 V) | TPE                        | Polyurethane | -10°C to +80°C: Flexing<br>-30°C to +80°C: Static |

| Xtra-Guard      | Application |          |     |                    |           |               |                                  |                           |
|-----------------|-------------|----------|-----|--------------------|-----------|---------------|----------------------------------|---------------------------|
|                 | High Temp   | Low Temp | UV  | Oil/Water/Chemical | Abrasion  | Direct Burial | EMI Protection with Supra-Shield | High Flex/Continuous Flex |
| Xtra-Guard 1    | ●○○         | ●○○      | ●●○ | ●○○                | ●○○       | NR            | ●●●                              | NR                        |
| Xtra-Guard 2    | ●○○         | ●○○      | ●●○ | ●●○                | ●●●       | NR            | ●●●                              | NR                        |
| Xtra-Guard 3    | ●○○         | ●○○      | ●●○ | ●●○                | ●○○       | ●●●           | ●●●                              | NR                        |
| Xtra-Guard 4    | ●●○         | ●●○      | ●●○ | ●●○                | ●○○       | ●○○           | ●●●                              | NR                        |
| Xtra-Guard 5    | ●●●         | ●●●      | ●●● | ●●●                | ●○○       | ●●○           | ●●●                              | NR                        |
| Xtra-Guard Flex | ●○○         | ●○○      | ●○○ | ●○○ - ●●○          | ●○○ - ●●○ | NR            | ●●●                              | ●●○ - ●●●                 |

●○○ = Good; ●●○ = Very Good; ●●● = Excellent; NR = Not Recommended

# Ultimate performance in extreme environments



Known for exceptional quality and performance, the extensive Alpha Wire Xtra-Guard cable line is available to meet the widest variety of application requirements. With a comprehensive range of conductor counts and shielding options, Xtra-Guard is manufactured in several performance grades to give you the best match between cost, environmental, and mechanical performance.

Xtra-Guard cables are generally available with

- **2 to 80 conductors, configured as single conductors or pairs**
- **28 - 14 AWG**
- **Stranded conductors for flexibility**

Plus, we can create custom cable configured to special needs.

## Xtra-Guard 1 High performance in a tough PVC cable



- High-performance cable for general-purpose applications
- Features a unique, premium-grade PVC insulation and jacket for easier routing of cable in small spaces
- Provides resistance to oils per UL Oil Res I and Class 43
- Designed for use in ambient temperatures up to 105°C
- Provides exceptional protection against EMI interference when Supra-Shield® is specified

## Xtra-Guard 2 Abrasion resistant to withstand mechanical abuse



- Heavy-duty cable for use in industrial applications where abrasion and mechanical abuse is common
- Features a specially formulated, rugged polyurethane jacket offering three times the tear and abrasion resistance of ordinary PVC
- Provides extreme resistance to cut-through and physical damage
- Designed with moderate to high resistance to most oils, solvents, chemicals, and fuels
- Offers outstanding ultraviolet light stability in all jacket colors
- Provides exceptional protection against EMI interference when Supra-Shield is specified

## Xtra-Guard 3

### Direct burial—no conduit needed



- The preferred outdoor cable for direct burial
- 6 times the water resistance of PVC
- Features a specially formulated polyethylene jacket for outstanding service life and ultraviolet light stability in all jacket colors
- Resistant to the effects of weathering, moisture, and UV aging without the costly use of conduit
- Supra-Shield® provides exceptional protection against conducted or electrical noise in high and low frequency environments where EMI interference is pervasive

## Xtra-Guard 4

### Extreme temperature handles hot, cold, spills



- Extended-temperature cable with a temperature range from -50°C to +125°C
- Features a high-performance TPE insulation and jacket offering three times the low-temperature flexibility of ordinary PVC

- Moderate resistance to oils, solvents, chemicals, and fuels
- Outstanding ultraviolet light stability in all jacket colors
- UL Rated TC 600 V and PLTC 300 V for cable tray applications (except 24 AWG)
- Pennsylvania Bureau Deep Mining Safety approved for mine-wide monitoring systems (except 14 AWG)
- Provides exceptional protection against EMI interference when Supra-Shield is specified

## Xtra-Guard 5

### Chemical resistant to withstand the most hazardous environments



- Extreme-performance cable featuring FEP insulation and jacketing for reliable performance in temperatures from -80°C to +200°C
- Suitable for use in Class 1 cleanrooms
- Recognized by the FDA, when sterilized, for food- and medical-grade applications
- Impervious to oils, solvents, chemicals, fuels, and acids
- Provides exceptional protection against EMI when Supra-Shield is specified

## Xtra-Guard Flex

### Wide variety of flexing applications



- Long-lasting flexible cables designed to provide excellent performance in high-flex, high torsion, and continuous-flex applications, such as motion control and robotics
- Rated for up to 14 million flex cycles
- Available in a variety of configurations allowing exactly the right cable to be selected for the application
- Rounded geometry helps insure a liquid-tight installation per IP67 or NEMA 6
- Supra-Shield provides precise EMI interference resistance for your specific application is easily achievable with the available standard flex, torsional flex, and continuous flex applications
- Xtra-Guard flexible motor supply cables combine flexibility and shielding with a round, compact geometry for a perfect fit and easy installation in cable trays and exposed runs

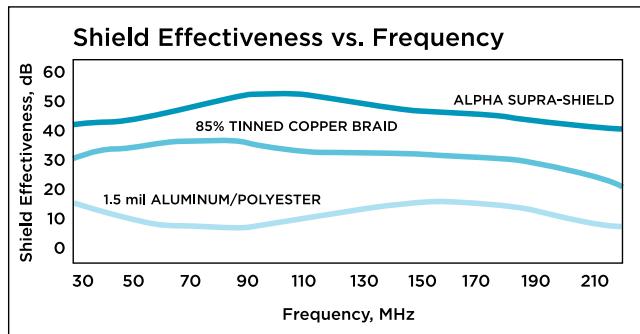
# The cables you trust

## The service you deserve



### Tame hostile EMI environments with Xtra-Guard shielding options

Alpha Wire offers Xtra-Guard cables in three shielding options to handle any electrical environment.



**Unshielded cables** provide the smallest cable diameter for use in low-noise controlled environments.

**Foil-shielded cables** use a sturdy aluminum/polyester shield for moderate EMI needs, especially at lower frequencies. A tinned copper drain wire

makes grounding the cable easy. Foil shields allow lighter weights and smaller cables.

**Alpha's exclusive Supra-Shield®** cables use a combination aluminum/polyester/aluminum foil and

a tinned copper braid shield with tight 75% coverage. Supra-Shield offers exceptional EMI performance and flexibility to protect

against noise and maintain overall system integrity. The combination of foil and braid offers better shielding effectiveness than either approach alone against both low- and high-frequency noise.

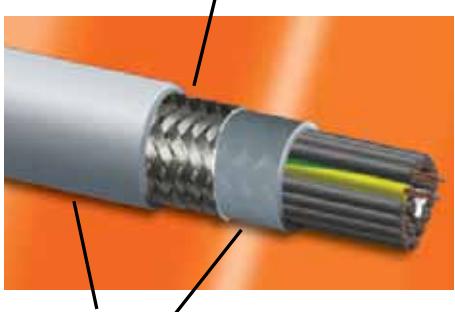
Easy-To-Terminate, Continuous Contact Drain Wire



Triple-Laminate Foil with 25% Overlap

Our high-flex shielding options include a double-jacket configuration with 85% braid coverage to achieve high shielding effectiveness while maintaining the desired flexibility. For torsional flex applications, we offer spiral wound shielding with 90% coverage.

85% - 90% Coverage Tinned Copper Braid

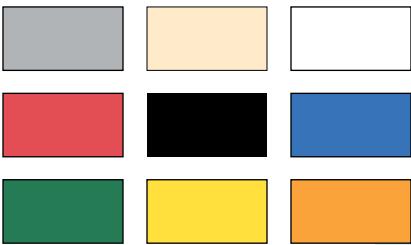


Double Jacket For Outstanding Flexing Performance



## Jacketing options

Xtra-Guard cables are available in a range of long-lasting colors for fast, easy identification, for safety reasons, and for matching the color of your system. Custom colors are also available.



## FIT® preferred heat shrink products

A perfect complement to Xtra-Guard premium cable, FIT preferred heat-shrink products are made from premium compounds under the tightest manufacturing controls. This means FIT will consistently have excellent physical characteristics such as low longitudinal shrinkage and wide temperature ranges while providing a clean and neat appearance when used alone or on OEM equipment.

The FIT line consists of 23 different tubing types, each designed with unique attributes that offer tubing solutions for the broadest possible range of applications and environments. FIT products are always in stock and come in an unprecedented variety of package sizes.

**The integrity of your system is only as robust as the electronic cable on which the control signals are communicated. Specify Xtra-Guard cable for the toughest, most reliable cable available for extreme environments and crucial applications.**

## Superior availability

Xtra-Guard cable is available from stock in most sizes and constructions, in small put-ups, so you can order it when you need it. Alpha Wire provides same-day shipment and next-day delivery to practically anywhere in the world, eliminating long lead times. Additionally, our distributor network is extensive and well stocked, with 1500 locations worldwide.

## Service and support, second-to-none

Selecting the correct cable for your critical application is essential to overall system reliability, performance, and safety. So we make it easy for you to choose the right Xtra-Guard cable for your specific application.

Our online resources include an Xtra-Guard selection guide, technical information, full product catalog, and a distributor locator to make it easy to select and get the cable you need.

Need a custom cable? The Alpha Cable Design Center® helps you quickly and easily to modify any standard Alpha product specifications to your own application requirements, or to design and create your own specialty cable. Should you need additional assistance, our sales and engineering staff is only a phone call away.

## Connect with Alpha Wire

For product specifications additional information, selection assistance, and evaluation samples, call 1-800-52-ALPHA or visit [www.alphawire.com](http://www.alphawire.com).

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