

## **Xtra-Guard® Performance Cable**

Ultimate performance in extreme environments



# Xtra-Guard® Performance Cable

Ultimate performance in extreme environments

**A**lpha 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.

## Applications

- Automotive
- Industrial
- Machine tools
- Marine
- Medical/biotechnology
- Military
- Mining
- Petrochemical
- Semiconductor
- Solar
- Wind power

## Key features

- 2 to 80 conductors, configured as single conductors or pairs
- 28 – 14 AWG
- Stranded conductors for flexibility
- Choice of shielding options:
  - Unshielded
  - Aluminum/polyester for moderate EMC performance
  - Supra-Shield® foil/braid for exceptional EMC performance

## Choose the right Xtra-Guard cable for your application

### Xtra-Guard 1

High Performance  
High performance in a tough PVC cable

### Xtra-Guard 2

Oil and Abrasion Resistant  
Abrasion resistant to withstand mechanical abuse

### Xtra-Guard 3

Direct Burial  
Direct burial—no conduit needed

### Xtra-Guard 4

Advanced Temperature and Chemical Performance  
Extreme temperature handles hot, cold, spills

### Xtra-Guard 5

Maximum Chemical and Temperature Performance  
Chemical and temperature resistant to withstand the most hazardous environments

### Xtra-Guard Flex

Flexible/Flexing  
Wide variety of flexing applications

| 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



# Xtra-Guard® 1

## High Performance



### Features

- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- Premium-grade PVC insulation and jacket for easier cable routing in small spaces
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- 105°C temperature rating
- UL VW-1, UL 1685, and CSA FT-4 flammability rating
- Nylon ripcord for easy jacket stripping

### Applications

- EIA RS-232 interface
- High technology applications in controlled environments
- Medical electronics
- Point-of-sale equipment
- Computer peripherals
- Industrial process controls

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

|       |        |        |
|-------|--------|--------|
| SLATE | BEIGE  | WHITE  |
| RED   | BLACK  | BLUE   |
| GREEN | YELLOW | ORANGE |

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.



# Xtra-Guard® 1

## High performance 300 V Unshielded, Multiconductor



**UL CM**  
**UL AWM 2464 VW-1**  
**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.127 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-------------|------------|------------------|------|------------------|------|
|             |            | Inch             | mm   | Inch             | mm   |
| <b>5920</b> | 2          | 0.138            | 3.51 | 0.032            | 0.81 |
| <b>5921</b> | 3          | 0.144            | 3.66 | 0.032            | 0.81 |
| <b>5922</b> | 4          | 0.153            | 3.89 | 0.032            | 0.81 |
| <b>5923</b> | 6          | 0.174            | 4.42 | 0.032            | 0.81 |
| <b>5924</b> | 7          | 0.174            | 4.42 | 0.032            | 0.81 |
| <b>5925</b> | 8          | 0.185            | 4.70 | 0.032            | 0.81 |

#### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-------------|------------|------------------|------|------------------|------|
|             |            | Inch             | mm   | Inch             | mm   |
| <b>5666</b> | 2          | 0.146            | 3.71 | 0.032            | 0.81 |
| <b>5667</b> | 3          | 0.152            | 3.86 | 0.032            | 0.81 |
| <b>5668</b> | 4          | 0.162            | 4.11 | 0.032            | 0.81 |
| <b>5669</b> | 6          | 0.186            | 4.72 | 0.032            | 0.81 |
| <b>5670</b> | 7          | 0.186            | 4.72 | 0.032            | 0.81 |
| <b>5671</b> | 8          | 0.198            | 5.03 | 0.032            | 0.81 |
| <b>5672</b> | 10         | 0.224            | 5.69 | 0.032            | 0.81 |
| <b>5673</b> | 15         | 0.248            | 6.30 | 0.032            | 0.81 |

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>5012C</b>    | 2          | 0.156            | 3.96  | 0.032            | 0.81 |
| <b>5013C</b>    | 3          | 0.163            | 4.14  | 0.032            | 0.81 |
| <b>5014C</b>    | 4          | 0.175            | 4.45  | 0.032            | 0.81 |
| <b>5016C</b>    | 6          | 0.201            | 5.11  | 0.032            | 0.81 |
| <b>5018C</b>    | 8          | 0.215            | 5.46  | 0.032            | 0.81 |
| <b>5020C</b>    | 10         | 0.244            | 6.20  | 0.032            | 0.81 |
| <b>5020/15C</b> | 15         | 0.271            | 6.88  | 0.032            | 0.81 |
| <b>5020/20C</b> | 20         | 0.300            | 7.62  | 0.032            | 0.81 |
| <b>5020/25C</b> | 25         | 0.332            | 8.43  | 0.032            | 0.81 |
| <b>5020/30C</b> | 30         | 0.350            | 8.89  | 0.032            | 0.81 |
| <b>5020/40C</b> | 40         | 0.390            | 9.91  | 0.032            | 0.81 |
| <b>5020/50C</b> | 50         | 0.429            | 10.90 | 0.032            | 0.81 |





# Xtra-Guard® 1

High Performance  
300 V Unshielded, Multiconductor



**UL CM**

**UL AWM 2464 VW-1**

**CSA CMG FT4**

## Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

## Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5002C       | 2          | 0.168            | 4.27  | 0.032            | 0.81 |
| 5003C       | 3          | 0.176            | 4.47  | 0.032            | 0.81 |
| 5004C       | 4          | 0.189            | 4.80  | 0.032            | 0.81 |
| 5006C       | 6          | 0.219            | 5.56  | 0.032            | 0.81 |
| 5008C       | 8          | 0.235            | 5.97  | 0.032            | 0.81 |
| 5010C       | 10         | 0.268            | 6.81  | 0.032            | 0.81 |
| 5010/15C    | 15         | 0.299            | 7.59  | 0.032            | 0.81 |
| 5010/20C    | 20         | 0.331            | 8.41  | 0.032            | 0.81 |
| 5010/25C    | 25         | 0.368            | 9.35  | 0.032            | 0.81 |
| 5010/30C    | 30         | 0.389            | 9.88  | 0.032            | 0.81 |
| 5010/40C    | 40         | 0.434            | 11.02 | 0.032            | 0.81 |
| 5010/50C    | 50         | 0.478            | 12.14 | 0.032            | 0.81 |
| 5010/60C    | 60         | 0.518            | 13.16 | 0.032            | 0.81 |

### 20 AWG (0.56 mm²)

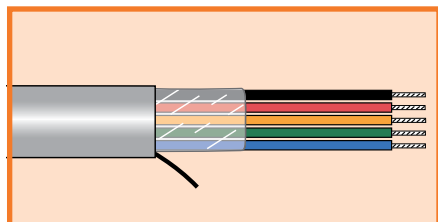
Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5052C       | 2          | 0.208            | 5.28  | 0.032            | 0.81 |
| 5053C       | 3          | 0.219            | 5.56  | 0.032            | 0.81 |
| 5054C       | 4          | 0.238            | 6.05  | 0.032            | 0.81 |
| 5056C       | 6          | 0.280            | 7.11  | 0.032            | 0.81 |
| 5058C       | 8          | 0.302            | 7.67  | 0.032            | 0.81 |
| 5060C       | 10         | 0.348            | 8.84  | 0.032            | 0.81 |
| 5060/15C    | 15         | 0.391            | 9.93  | 0.032            | 0.81 |
| 5060/20C    | 20         | 0.437            | 11.10 | 0.032            | 0.81 |
| 5060/25C    | 25         | 0.488            | 12.40 | 0.032            | 0.81 |
| 5060/30C    | 30         | 0.517            | 13.13 | 0.032            | 0.81 |
| 5060/40C    | 40         | 0.622            | 15.80 | 0.053            | 1.35 |
| 5060/50C    | 50         | 0.684            | 17.37 | 0.053            | 1.35 |



# Xtra-Guard® 1

## High Performance 300 V Unshielded, Multiconductor

**UL CM****UL AWM 2464 VW-1****CSA CMG FT4****Operating Temperature**

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

**Conductor Color Coding**

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

**Materials**

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

**Availability**

100 ft (30.5 m)

500 ft (152 m)

1000 ft (305 m)

Bulk, cut to length

**FIT® Tubing Recommendations**

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

**18 AWG (0.81 mm²)**Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5062/1C*    | 2          | 0.226            | 5.74  | 0.032            | 0.81 |
| 5062C       | 2          | 0.226            | 5.74  | 0.032            | 0.81 |
| 5063/1C*    | 3          | 0.238            | 6.05  | 0.032            | 0.81 |
| 5063C       | 3          | 0.238            | 6.05  | 0.032            | 0.81 |
| 5064C       | 4          | 0.259            | 6.58  | 0.032            | 0.81 |
| 5066C       | 6          | 0.307            | 7.80  | 0.032            | 0.81 |
| 5068C       | 8          | 0.332            | 8.43  | 0.032            | 0.81 |
| 5070C       | 10         | 0.384            | 9.75  | 0.032            | 0.81 |
| 5070/15C    | 15         | 0.433            | 11.00 | 0.032            | 0.81 |
| 5070/20C    | 20         | 0.484            | 12.29 | 0.032            | 0.81 |
| 5070/25C    | 25         | 0.542            | 13.77 | 0.032            | 0.81 |
| 5070/30C    | 30         | 0.617            | 15.67 | 0.053            | 1.35 |
| 5070/40C    | 40         | 0.688            | 17.48 | 0.053            | 1.35 |
| 5070/50C    | 50         | 0.758            | 19.25 | 0.053            | 1.35 |
| 5070/60C    | 60         | 0.881            | 22.38 | 0.083            | 2.11 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

**16 AWG (1.23 mm²)**Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5072/1C*    | 2          | 0.250            | 6.35  | 0.032            | 0.81 |
| 5072C       | 2          | 0.250            | 6.35  | 0.032            | 0.81 |
| 5073/1C*    | 3          | 0.264            | 6.71  | 0.032            | 0.81 |
| 5073C       | 3          | 0.264            | 6.71  | 0.032            | 0.81 |
| 5074C       | 4          | 0.288            | 7.32  | 0.032            | 0.81 |
| 5076C       | 6          | 0.343            | 8.71  | 0.032            | 0.81 |
| 5078C       | 8          | 0.372            | 9.45  | 0.032            | 0.81 |
| 5080C       | 10         | 0.432            | 10.97 | 0.032            | 0.81 |
| 5080/15C    | 15         | 0.488            | 12.40 | 0.032            | 0.81 |
| 5080/20C    | 20         | 0.547            | 13.89 | 0.053            | 0.81 |
| 5080/25C    | 25         | 0.656            | 16.66 | 0.053            | 0.81 |
| 5080/30C    | 30         | 0.694            | 17.63 | 0.053            | 0.81 |
| 5080/40C    | 40         | 0.775            | 19.69 | 0.083            | 2.11 |
| 5080/50C    | 50         | 0.917            | 23.29 | 0.083            | 2.11 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.





# Xtra-Guard® 1

## High Performance 300 V Unshielded, Multiconductor



**UL CM**  
**UL AWM 2343 VW-1**  
**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
 500 ft (152 m)  
 1000 ft (305 m)  
 Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 24 AWG (0.23 mm<sup>2</sup>)

Stranding: 7/32 (7 x 0.20 mm)  
 Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5201C       | 7          | 0.263            | 6.68  | 0.063            | 1.60 |
| 5202C       | 12         | 0.313            | 7.95  | 0.063            | 1.60 |
| 5203C       | 15         | 0.333            | 8.46  | 0.063            | 1.60 |
| 5204C       | 19         | 0.350            | 8.89  | 0.063            | 1.60 |
| 5206C       | 37         | 0.438            | 11.13 | 0.063            | 1.60 |

#### 22 AWG (0.35 mm<sup>2</sup>)

Stranding: 7/30 (7 x 0.25 mm)  
 Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5210/2C     | 2          | 0.230            | 5.84  | 0.063            | 1.60 |
| 5211C       | 7          | 0.281            | 7.14  | 0.063            | 1.60 |
| 5212C       | 12         | 0.338            | 8.59  | 0.063            | 1.60 |
| 5213C       | 15         | 0.361            | 9.17  | 0.063            | 1.60 |
| 5214C       | 19         | 0.380            | 9.65  | 0.063            | 1.60 |
| 5214/25C    | 25         | 0.430            | 10.92 | 0.063            | 1.60 |
| 5215C       | 27         | 0.438            | 11.13 | 0.063            | 1.60 |
| 5216C       | 37         | 0.480            | 12.19 | 0.063            | 1.60 |

#### 20 AWG (0.56 mm<sup>2</sup>)

Stranding: 7/28 (7 x 0.32 mm)  
 Insulation thickness: 0.010 (0.25 mm)

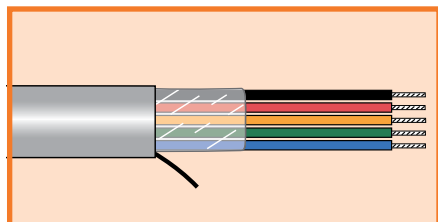
| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5220/2C     | 2          | 0.246            | 6.25  | 0.063            | 1.60 |
| 5220C       | 5          | 0.288            | 7.32  | 0.063            | 1.60 |
| 5221C       | 7          | 0.305            | 7.75  | 0.063            | 1.60 |
| 5222C       | 12         | 0.371            | 9.42  | 0.063            | 1.60 |
| 5223C       | 15         | 0.398            | 10.11 | 0.063            | 1.60 |
| 5224C       | 19         | 0.420            | 10.67 | 0.063            | 1.60 |
| 5224/25C    | 25         | 0.478            | 12.14 | 0.063            | 1.60 |
| 5225C       | 27         | 0.487            | 12.37 | 0.063            | 1.60 |
| 5226C       | 37         | 0.536            | 13.61 | 0.063            | 1.60 |





# Xtra-Guard® 1

## High Performance 600 V Unshielded, Multiconductor



UL CM  
UL AWM 2501 VW-1  
UL MTW  
CSA AWM I/II A/B FT4

### Operating Temperature

- -30°C to +105°C
- -30°C to +90°C (MTW)

### Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5402        | 2          | 0.318            | 8.08  | 0.063            | 1.60 |
| 5404        | 4          | 0.358            | 9.09  | 0.063            | 1.60 |
| 5405        | 5          | 0.385            | 9.78  | 0.063            | 1.60 |
| 5409        | 9          | 0.473            | 12.01 | 0.063            | 1.60 |
| 5409/19     | 19         | 0.601            | 15.27 | 0.063            | 1.60 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5413        | 3          | 0.350            | 8.89  | 0.063            | 1.60 |
| 5414        | 4          | 0.377            | 9.58  | 0.063            | 1.60 |
| 5419        | 9          | 0.503            | 12.78 | 0.063            | 1.60 |
| 5419/12     | 12         | 0.554            | 14.07 | 0.063            | 1.60 |
| 5419/15     | 15         | 0.601            | 15.27 | 0.063            | 1.60 |
| 5419/19     | 19         | 0.641            | 16.28 | 0.063            | 1.60 |
| 5419/25     | 25         | 0.742            | 18.85 | 0.063            | 1.60 |

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5422        | 2          | 0.352            | 8.94  | 0.063            | 1.60 |
| 5423        | 3          | 0.369            | 9.37  | 0.063            | 1.60 |
| 5424        | 4          | 0.399            | 10.13 | 0.063            | 1.60 |
| 5425        | 5          | 0.432            | 10.97 | 0.063            | 1.60 |
| 5427        | 7          | 0.466            | 11.84 | 0.063            | 1.60 |
| 5429        | 9          | 0.535            | 13.59 | 0.063            | 1.60 |
| 5429/15     | 15         | 0.643            | 16.33 | 0.063            | 1.60 |
| 5429/19     | 19         | 0.686            | 17.42 | 0.063            | 1.60 |
| 5429/25     | 25         | 0.796            | 20.22 | 0.063            | 1.60 |





# Xtra-Guard® 1

High Performance  
600 V Unshielded, Multiconductor



**UL CM**  
**UL AWM 2501 VW-1**  
**UL MTW**  
**CSA AWM I/II A/B FT4**  
**Operating Temperature**

- -30°C to +105°C
- -30°C to +90°C (MTW)

## Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number    | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------------|------------|------------------|-------|------------------|------|
|                |            | Inch             | mm    | Inch             | mm   |
| <b>5434</b>    | 4          | 0.428            | 10.87 | 0.063            | 1.60 |
| <b>5435</b>    | 5          | 0.464            | 11.79 | 0.063            | 1.60 |
| <b>5437</b>    | 7          | 0.502            | 12.75 | 0.063            | 1.60 |
| <b>5439</b>    | 9          | 0.579            | 14.71 | 0.063            | 1.60 |
| <b>5439/12</b> | 12         | 0.641            | 16.28 | 0.063            | 1.60 |
| <b>5439/15</b> | 15         | 0.698            | 17.73 | 0.063            | 1.60 |
| <b>5439/19</b> | 19         | 0.746            | 18.95 | 0.083            | 2.11 |
| <b>5439/25</b> | 25         | 0.908            | 23.06 | 0.083            | 2.11 |

### 14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number    | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------------|------------|------------------|-------|------------------|------|
|                |            | Inch             | mm    | Inch             | mm   |
| <b>5442</b>    | 2          | 0.406            | 10.31 | 0.063            | 1.60 |
| <b>5443</b>    | 3          | 0.428            | 10.87 | 0.063            | 1.60 |
| <b>5444</b>    | 4          | 0.464            | 11.79 | 0.063            | 1.60 |
| <b>5445</b>    | 5          | 0.505            | 12.83 | 0.063            | 1.60 |
| <b>5447</b>    | 7          | 0.547            | 13.89 | 0.063            | 1.60 |
| <b>5449</b>    | 9          | 0.634            | 16.10 | 0.063            | 1.60 |
| <b>5449/12</b> | 12         | 0.703            | 17.86 | 0.063            | 1.60 |
| <b>5449/15</b> | 15         | 0.767            | 19.48 | 0.063            | 1.60 |
| <b>5449/25</b> | 25         | 0.998            | 25.35 | 0.083            | 2.11 |





# Xtra-Guard® 1

## High Performance 300 V Foil Shielded, Multiconductor



**UL CM**  
**UL AWM 2464 VW-1**  
**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)



#### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.127 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-------------|------------|------------------|------|------------------|------|
|             |            | Inch             | mm   | Inch             | mm   |
| <b>5926</b> | 2          | 0.142            | 3.61 | 0.032            | 0.81 |
| <b>5927</b> | 3          | 0.148            | 3.76 | 0.032            | 0.81 |
| <b>5928</b> | 4          | 0.157            | 3.99 | 0.032            | 0.81 |
| <b>5929</b> | 6          | 0.178            | 4.52 | 0.032            | 0.81 |
| <b>5930</b> | 7          | 0.178            | 4.52 | 0.032            | 0.81 |
| <b>5931</b> | 8          | 0.189            | 4.80 | 0.032            | 0.81 |

#### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-------------|------------|------------------|------|------------------|------|
|             |            | Inch             | mm   | Inch             | mm   |
| <b>5674</b> | 2          | 0.150            | 3.81 | 0.032            | 0.81 |
| <b>5675</b> | 3          | 0.156            | 3.96 | 0.032            | 0.81 |
| <b>5676</b> | 4          | 0.166            | 4.22 | 0.032            | 0.81 |
| <b>5677</b> | 6          | 0.190            | 4.83 | 0.032            | 0.81 |
| <b>5678</b> | 7          | 0.190            | 4.83 | 0.032            | 0.81 |
| <b>5679</b> | 8          | 0.202            | 5.13 | 0.032            | 0.81 |
| <b>5680</b> | 10         | 0.228            | 5.79 | 0.032            | 0.81 |
| <b>5681</b> | 15         | 0.252            | 6.40 | 0.032            | 0.81 |

#### 24 AWG (0.23 mm²)

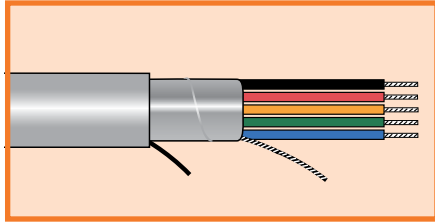
Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>5092C</b>    | 2          | 0.160            | 4.06  | 0.032            | 0.81 |
| <b>5093C</b>    | 3          | 0.167            | 4.24  | 0.032            | 0.81 |
| <b>5094C</b>    | 4          | 0.179            | 4.55  | 0.032            | 0.81 |
| <b>5096C</b>    | 6          | 0.205            | 5.21  | 0.032            | 0.81 |
| <b>5098C</b>    | 8          | 0.219            | 5.56  | 0.032            | 0.81 |
| <b>5100C</b>    | 10         | 0.248            | 6.30  | 0.032            | 0.81 |
| <b>5100/15C</b> | 15         | 0.275            | 6.99  | 0.032            | 0.81 |
| <b>5100/20C</b> | 20         | 0.304            | 7.72  | 0.032            | 0.81 |
| <b>5100/25C</b> | 25         | 0.336            | 8.53  | 0.032            | 0.81 |
| <b>5100/30C</b> | 30         | 0.354            | 8.99  | 0.032            | 0.81 |
| <b>5100/40C</b> | 40         | 0.394            | 10.01 | 0.032            | 0.81 |
| <b>5100/50C</b> | 50         | 0.433            | 11.00 | 0.032            | 0.81 |
| <b>5100/60C</b> | 60         | 0.468            | 11.89 | 0.032            | 0.81 |
| <b>5100/70C</b> | 70         | 0.505            | 12.83 | 0.032            | 0.81 |



# Xtra-Guard® 1

High Performance  
300 V Foil Shielded, Multiconductor



**UL CM**  
**UL AWM 2464 VW-1**  
**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)



#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5192C       | 2          | 0.172            | 4.37  | 0.032            | 0.81 |
| 5193C       | 3          | 0.180            | 4.57  | 0.032            | 0.81 |
| 5194C       | 4          | 0.193            | 4.90  | 0.032            | 0.81 |
| 5196C       | 6          | 0.223            | 5.66  | 0.032            | 0.81 |
| 5198C       | 8          | 0.239            | 6.07  | 0.032            | 0.81 |
| 5199/10C    | 10         | 0.272            | 6.91  | 0.032            | 0.81 |
| 5199/15C    | 15         | 0.303            | 7.70  | 0.032            | 0.81 |
| 5199/20C    | 20         | 0.335            | 8.51  | 0.032            | 0.81 |
| 5199/25C    | 25         | 0.372            | 9.45  | 0.032            | 0.81 |
| 5199/30C    | 30         | 0.393            | 9.98  | 0.032            | 0.81 |
| 5199/40C    | 40         | 0.438            | 11.13 | 0.032            | 0.81 |
| 5199/50C    | 50         | 0.482            | 12.24 | 0.032            | 0.81 |
| 5199/60C    | 60         | 0.522            | 13.26 | 0.032            | 0.81 |
| 5199/70C    | 70         | 0.606            | 15.39 | 0.053            | 1.35 |

#### 20 AWG (0.56 mm²)

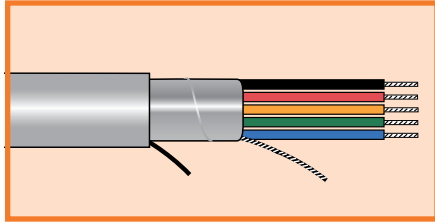
Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5462C       | 2          | 0.212            | 5.38  | 0.032            | 0.81 |
| 5463C       | 3          | 0.223            | 5.66  | 0.032            | 0.81 |
| 5464C       | 4          | 0.242            | 6.15  | 0.032            | 0.81 |
| 5466C       | 6          | 0.284            | 7.21  | 0.032            | 0.81 |
| 5468C       | 8          | 0.306            | 7.77  | 0.032            | 0.81 |
| 5470C       | 10         | 0.352            | 8.94  | 0.032            | 0.81 |
| 5470/15C    | 15         | 0.395            | 10.03 | 0.032            | 0.81 |
| 5470/20C    | 20         | 0.441            | 11.20 | 0.032            | 0.81 |
| 5470/25C    | 25         | 0.492            | 12.50 | 0.032            | 0.81 |
| 5470/30C    | 30         | 0.521            | 13.23 | 0.032            | 0.81 |
| 5470/40C    | 40         | 0.626            | 15.90 | 0.053            | 1.35 |
| 5470/50C    | 50         | 0.688            | 17.48 | 0.053            | 1.35 |



# Xtra-Guard® 1

## High Performance 300 V Foil Shielded, Multiconductor



**UL CM**

**UL AWM 2464 VW-1**

**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)



| 18 AWG (0.81 mm²)                                                        |            |                  |       |                  |      |
|--------------------------------------------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 16/30 (16 x 0.25 mm)<br>Insulation thickness: 0.016 (0.41 mm) |            |                  |       |                  |      |
| Part Number                                                              | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                                                          |            | Inch             | mm    | Inch             | mm   |
| 5382C                                                                    | 2          | 0.230            | 5.84  | 0.032            | 0.81 |
| 5382/1C*                                                                 | 2          | 0.230            | 5.84  | 0.032            | 0.81 |
| 5383C                                                                    | 3          | 0.242            | 6.15  | 0.032            | 0.81 |
| 5383/1C*                                                                 | 3          | 0.242            | 6.15  | 0.032            | 0.81 |
| 5384C                                                                    | 4          | 0.263            | 6.68  | 0.032            | 0.81 |
| 5386C                                                                    | 6          | 0.311            | 7.90  | 0.032            | 0.81 |
| 5388C                                                                    | 8          | 0.336            | 8.53  | 0.032            | 0.81 |
| 5390C                                                                    | 10         | 0.388            | 9.86  | 0.032            | 0.81 |
| 5390/15C                                                                 | 15         | 0.437            | 11.10 | 0.032            | 0.81 |
| 5390/20C                                                                 | 20         | 0.488            | 12.40 | 0.032            | 0.81 |
| 5390/25C                                                                 | 25         | 0.588            | 14.94 | 0.053            | 1.35 |
| 5390/30C                                                                 | 30         | 0.621            | 15.77 | 0.053            | 1.35 |
| 5390/40C                                                                 | 40         | 0.692            | 17.58 | 0.053            | 1.35 |
| 5390/50C                                                                 | 50         | 0.762            | 19.35 | 0.053            | 1.35 |
| 5390/60C                                                                 | 60         | 0.885            | 22.48 | 0.083            | 2.11 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

| 16 AWG (1.23 mm²)                                                            |            |                  |       |                  |      |
|------------------------------------------------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 19/0.0117 (19 x 0.29 mm)<br>Insulation thickness: 0.016 (0.41 mm) |            |                  |       |                  |      |
| Part Number                                                                  | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                                                              |            | Inch             | mm    | Inch             | mm   |
| 5362C                                                                        | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| 5362/1C*                                                                     | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| 5363C                                                                        | 3          | 0.268            | 6.81  | 0.032            | 0.81 |
| 5363/1C*                                                                     | 3          | 0.268            | 6.81  | 0.032            | 0.81 |
| 5364C                                                                        | 4          | 0.292            | 7.42  | 0.032            | 0.81 |
| 5366C                                                                        | 6          | 0.347            | 8.81  | 0.032            | 0.81 |
| 5368C                                                                        | 8          | 0.376            | 9.55  | 0.032            | 0.81 |
| 5370C                                                                        | 10         | 0.436            | 11.07 | 0.032            | 0.81 |
| 5370/15C                                                                     | 15         | 0.492            | 12.50 | 0.032            | 0.81 |
| 5370/20C                                                                     | 20         | 0.593            | 15.06 | 0.053            | 1.35 |
| 5370/25C                                                                     | 25         | 0.660            | 16.76 | 0.053            | 1.35 |
| 5370/30C                                                                     | 30         | 0.698            | 17.73 | 0.053            | 1.35 |
| 5370/40C                                                                     | 40         | 0.779            | 19.79 | 0.083            | 2.11 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.



# Xtra-Guard® 1

High Performance  
300 V Foil Shielded, Multiconductor



**UL CM**  
**UL AWM 2343 VW-1**  
**CSA CMG FT4**

## Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

## Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5599/3C     | 3          | 0.229            | 5.82  | 0.063            | 1.60 |
| 5599/5C     | 5          | 0.254            | 6.45  | 0.063            | 1.60 |
| 5599/7C     | 7          | 0.267            | 6.78  | 0.063            | 1.60 |
| 5599/12C    | 12         | 0.317            | 8.05  | 0.063            | 1.60 |
| 5599/15C    | 15         | 0.337            | 8.56  | 0.063            | 1.60 |
| 5599/19C    | 19         | 0.354            | 8.99  | 0.063            | 1.60 |
| 5599/27C    | 27         | 0.405            | 10.29 | 0.063            | 1.60 |

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5580/2C     | 2          | 0.234            | 5.94  | 0.063            | 1.60 |
| 5580C       | 5          | 0.270            | 6.86  | 0.063            | 1.60 |
| 5581C       | 7          | 0.285            | 7.24  | 0.063            | 1.60 |
| 5582C       | 12         | 0.342            | 8.69  | 0.063            | 1.60 |
| 5583C       | 15         | 0.365            | 9.27  | 0.063            | 1.60 |
| 5584C       | 19         | 0.384            | 9.75  | 0.063            | 1.60 |
| 5586C       | 37         | 0.484            | 12.29 | 0.063            | 1.60 |

### 20 AWG (0.56 mm²)

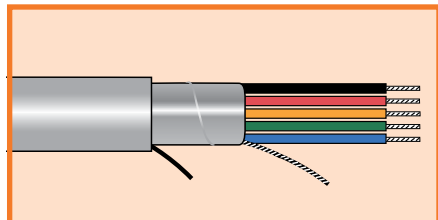
Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5560/2C     | 2          | 0.250            | 6.35  | 0.063            | 1.60 |
| 5560C       | 5          | 0.292            | 7.42  | 0.063            | 1.60 |
| 5561C       | 7          | 0.309            | 7.85  | 0.063            | 1.60 |
| 5562C       | 12         | 0.375            | 9.53  | 0.063            | 1.60 |
| 5563C       | 15         | 0.402            | 10.21 | 0.063            | 1.60 |
| 5564C       | 19         | 0.424            | 10.77 | 0.063            | 1.60 |



# Xtra-Guard® 1

## High Performance 600 V Foil Shielded, Multiconductor



**UL AWM 2501 VW-1**  
**CSA AWM I/II A/B FT4**  
**UL MTW**

### Operating Temperature

- -30°C to +105°C (AWM)
- -30°C to +90°C (MTW)

### Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)



#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5410/2      | 2          | 0.322            | 8.18  | 0.063            | 1.60 |
| 5410/3      | 3          | 0.337            | 8.56  | 0.063            | 1.60 |
| 5410/4      | 4          | 0.362            | 9.19  | 0.063            | 1.60 |
| 5410/5      | 5          | 0.389            | 9.88  | 0.063            | 1.60 |
| 5410/9      | 9          | 0.477            | 12.12 | 0.063            | 1.60 |
| 5410/12     | 12         | 0.525            | 13.34 | 0.063            | 1.60 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5420/3      | 3          | 0.354            | 8.99  | 0.063            | 1.60 |
| 5420/4      | 4          | 0.381            | 9.68  | 0.063            | 1.60 |
| 5420/5      | 5          | 0.411            | 10.44 | 0.063            | 1.60 |
| 5420/7      | 7          | 0.442            | 11.23 | 0.063            | 1.60 |
| 5420/9      | 9          | 0.507            | 12.88 | 0.063            | 1.60 |
| 5420/12     | 12         | 0.558            | 14.17 | 0.063            | 1.60 |

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5430/2      | 2          | 0.356            | 9.04  | 0.063            | 1.60 |
| 5430/3      | 3          | 0.373            | 9.47  | 0.063            | 1.60 |
| 5430/4      | 4          | 0.403            | 10.24 | 0.063            | 1.60 |
| 5430/5      | 5          | 0.436            | 11.07 | 0.063            | 1.60 |
| 5430/7      | 7          | 0.470            | 11.94 | 0.063            | 1.60 |
| 5430/9      | 9          | 0.539            | 13.69 | 0.063            | 1.60 |
| 5430/12     | 12         | 0.595            | 15.11 | 0.063            | 1.60 |
| 5430/15     | 15         | 0.647            | 16.43 | 0.063            | 1.60 |
| 5430/19     | 19         | 0.690            | 17.53 | 0.063            | 1.60 |
| 5430/25     | 25         | 0.800            | 20.32 | 0.063            | 1.60 |



# Xtra-Guard® 1

High Performance  
600 V Foil Shielded, Multiconductor



**UL AWM 2501 VW-1**  
**CSA AWM I/II A/B FT4**  
**UL MTW**

## Operating Temperature

- -30°C to +105°C (AWM)
- -30°C to +90°C (MTW)

## Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)



| 16 AWG (1.23 mm <sup>2</sup> )        |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 19/0.0117 (19 x 0.29 mm)   |            |                  |       |                  |      |
| Insulation thickness: 0.032 (0.81 mm) |            |                  |       |                  |      |
| Part Number                           | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 5440/2                                | 2          | 0.380            | 9.65  | 0.063            | 1.60 |
| 5440/3                                | 3          | 0.399            | 10.13 | 0.063            | 1.60 |
| 5440/4                                | 4          | 0.432            | 10.97 | 0.063            | 1.60 |
| 5440/5                                | 5          | 0.468            | 11.89 | 0.063            | 1.60 |
| 5440/7                                | 7          | 0.506            | 12.85 | 0.063            | 1.60 |
| 5440/9                                | 9          | 0.583            | 14.81 | 0.063            | 1.60 |
| 5440/12                               | 12         | 0.645            | 16.38 | 0.063            | 1.60 |
| 5440/15                               | 15         | 0.702            | 17.83 | 0.063            | 1.60 |

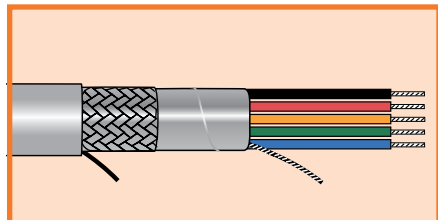
| 14 AWG (2.08 mm <sup>2</sup> )        |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 41/30 (41 x 0.25 mm)       |            |                  |       |                  |      |
| Insulation thickness: 0.032 (0.81 mm) |            |                  |       |                  |      |
| Part Number                           | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 5450/2                                | 2          | 0.410            | 10.41 | 0.063            | 1.60 |
| 5450/3                                | 3          | 0.432            | 10.97 | 0.063            | 1.60 |
| 5450/4                                | 4          | 0.468            | 11.89 | 0.063            | 1.60 |
| 5450/5                                | 5          | 0.509            | 12.93 | 0.063            | 1.60 |
| 5450/7                                | 7          | 0.551            | 14.00 | 0.063            | 1.60 |
| 5450/12                               | 12         | 0.707            | 17.96 | 0.063            | 1.60 |



# Xtra-Guard® 1

## High Performance

## 300 V Supra-Shield® Foil/Braid, Multiconductor



**UL CM**

**UL AWM 2464 VW-1**

**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.127 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-------------|------------|------------------|------|------------------|------|
|             |            | Inch             | mm   | Inch             | mm   |
| <b>5932</b> | 2          | 0.166            | 4.22 | 0.032            | 0.81 |
| <b>5933</b> | 3          | 0.172            | 4.37 | 0.032            | 0.81 |
| <b>5934</b> | 4          | 0.181            | 4.60 | 0.032            | 0.81 |
| <b>5935</b> | 6          | 0.202            | 5.13 | 0.032            | 0.81 |
| <b>5936</b> | 7          | 0.202            | 5.13 | 0.032            | 0.81 |
| <b>5937</b> | 8          | 0.213            | 5.41 | 0.032            | 0.81 |

#### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-------------|------------|------------------|------|------------------|------|
|             |            | Inch             | mm   | Inch             | mm   |
| <b>5682</b> | 2          | 0.174            | 4.42 | 0.032            | 0.81 |
| <b>5683</b> | 3          | 0.180            | 4.57 | 0.032            | 0.81 |
| <b>5684</b> | 4          | 0.190            | 4.83 | 0.032            | 0.81 |
| <b>5685</b> | 6          | 0.214            | 5.44 | 0.032            | 0.81 |
| <b>5686</b> | 7          | 0.214            | 5.44 | 0.032            | 0.81 |
| <b>5687</b> | 8          | 0.226            | 5.74 | 0.032            | 0.81 |
| <b>5688</b> | 10         | 0.252            | 6.40 | 0.032            | 0.81 |
| <b>5689</b> | 15         | 0.276            | 7.01 | 0.032            | 0.81 |

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>5112C</b>    | 2          | 0.184            | 4.67  | 0.032            | 0.81 |
| <b>5113C</b>    | 3          | 0.191            | 4.85  | 0.032            | 0.81 |
| <b>5114C</b>    | 4          | 0.203            | 5.16  | 0.032            | 0.81 |
| <b>5116C</b>    | 6          | 0.229            | 5.82  | 0.032            | 0.81 |
| <b>5118C</b>    | 8          | 0.243            | 6.17  | 0.032            | 0.81 |
| <b>5120C</b>    | 10         | 0.272            | 6.91  | 0.032            | 0.81 |
| <b>5120/15C</b> | 15         | 0.299            | 7.59  | 0.032            | 0.81 |
| <b>5120/20C</b> | 20         | 0.328            | 8.33  | 0.032            | 0.81 |
| <b>5120/25C</b> | 25         | 0.360            | 9.14  | 0.032            | 0.81 |
| <b>5120/30C</b> | 30         | 0.378            | 9.60  | 0.032            | 0.81 |
| <b>5120/40C</b> | 40         | 0.418            | 10.62 | 0.032            | 0.81 |
| <b>5120/50C</b> | 50         | 0.457            | 11.61 | 0.032            | 0.81 |

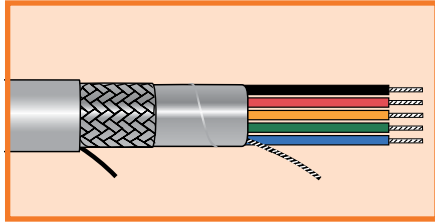




# Xtra-Guard® 1

High Performance

300 V Supra-Shield® Foil/Braid, Multiconductor



## UL CM

UL AWM 2464 VW-1

CSA CMG FT4

## Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

## Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5102C       | 2          | 0.196            | 4.98  | 0.032            | 0.81 |
| 5103C       | 3          | 0.204            | 5.18  | 0.032            | 0.81 |
| 5104C       | 4          | 0.217            | 5.51  | 0.032            | 0.81 |
| 5106C       | 6          | 0.247            | 6.27  | 0.032            | 0.81 |
| 5108C       | 8          | 0.263            | 6.68  | 0.032            | 0.81 |
| 5110C       | 10         | 0.296            | 7.52  | 0.032            | 0.81 |
| 5110/15C    | 15         | 0.327            | 8.31  | 0.032            | 0.81 |
| 5110/20C    | 20         | 0.359            | 9.12  | 0.032            | 0.81 |
| 5110/25C    | 25         | 0.396            | 10.06 | 0.032            | 0.81 |
| 5110/30C    | 30         | 0.417            | 10.59 | 0.032            | 0.81 |
| 5110/40C    | 40         | 0.462            | 11.73 | 0.032            | 0.81 |
| 5110/50C    | 50         | 0.506            | 12.85 | 0.032            | 0.81 |
| 5110/60C    | 60         | 0.588            | 14.94 | 0.053            | 1.35 |
| 5110/70C    | 70         | 0.630            | 16.00 | 0.053            | 1.35 |
| 5110/80C    | 80         | 0.665            | 16.89 | 0.053            | 1.35 |

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5152C       | 2          | 0.236            | 5.99  | 0.032            | 0.81 |
| 5153C       | 3          | 0.247            | 6.27  | 0.032            | 0.81 |
| 5154C       | 4          | 0.266            | 6.76  | 0.032            | 0.81 |
| 5156C       | 6          | 0.308            | 7.82  | 0.032            | 0.81 |
| 5158C       | 8          | 0.330            | 8.38  | 0.032            | 0.81 |
| 5160C       | 10         | 0.376            | 9.55  | 0.032            | 0.81 |
| 5160/15C    | 15         | 0.419            | 10.64 | 0.032            | 0.81 |
| 5160/20C    | 20         | 0.465            | 11.81 | 0.032            | 0.81 |
| 5160/25C    | 25         | 0.516            | 13.11 | 0.032            | 0.81 |
| 5160/30C    | 30         | 0.545            | 13.84 | 0.032            | 0.81 |
| 5160/40C    | 40         | 0.656            | 16.66 | 0.053            | 1.35 |
| 5160/50C    | 50         | 0.718            | 18.24 | 0.053            | 1.35 |
| 5160/60C    | 60         | 0.774            | 19.66 | 0.053            | 1.35 |





# Xtra-Guard® 1

## High Performance

## 300 V Supra-Shield® Foil/Braid, Multiconductor



**UL CM**

**UL AWM 2464 VW-1**

**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

| 18 AWG (0.81 mm²)                                                        |            |                  |       |                  |      |
|--------------------------------------------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 16/30 (16 x 0.25 mm)<br>Insulation thickness: 0.016 (0.41 mm) |            |                  |       |                  |      |
| Part Number                                                              | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                                                          |            | Inch             | mm    | Inch             | mm   |
| 5162/1C*                                                                 | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| 5162C                                                                    | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| 5163/1C*                                                                 | 3          | 0.266            | 6.76  | 0.032            | 0.81 |
| 5163C                                                                    | 3          | 0.266            | 6.76  | 0.032            | 0.81 |
| 5164C                                                                    | 4          | 0.287            | 7.29  | 0.032            | 0.81 |
| 5166C                                                                    | 6          | 0.335            | 8.51  | 0.032            | 0.81 |
| 5168C                                                                    | 8          | 0.360            | 9.14  | 0.032            | 0.81 |
| 5170C                                                                    | 10         | 0.412            | 10.46 | 0.032            | 0.81 |
| 5170/15C                                                                 | 15         | 0.461            | 11.71 | 0.032            | 0.81 |
| 5170/20C                                                                 | 20         | 0.512            | 13.00 | 0.032            | 0.81 |
| 5170/25C                                                                 | 25         | 0.612            | 15.54 | 0.053            | 1.35 |
| 5170/30C                                                                 | 30         | 0.651            | 16.54 | 0.053            | 1.35 |
| 5170/40C                                                                 | 40         | 0.722            | 18.34 | 0.053            | 1.35 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

| 16 AWG (1.23 mm²)                                                            |            |                  |       |                  |      |
|------------------------------------------------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 19/0.0117 (19 x 0.29 mm)<br>Insulation thickness: 0.016 (0.41 mm) |            |                  |       |                  |      |
| Part Number                                                                  | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                                                              |            | Inch             | mm    | Inch             | mm   |
| 5172/1C*                                                                     | 2          | 0.278            | 7.06  | 0.032            | 0.81 |
| 5172C                                                                        | 2          | 0.278            | 7.06  | 0.032            | 0.81 |
| 5173/1C*                                                                     | 3          | 0.292            | 7.42  | 0.032            | 0.81 |
| 5173C                                                                        | 3          | 0.292            | 7.42  | 0.032            | 0.81 |
| 5174C                                                                        | 4          | 0.316            | 8.03  | 0.032            | 0.81 |
| 5176C                                                                        | 6          | 0.371            | 9.42  | 0.032            | 0.81 |
| 5178C                                                                        | 8          | 0.400            | 10.16 | 0.032            | 0.81 |
| 5180C                                                                        | 10         | 0.460            | 11.68 | 0.032            | 0.81 |
| 5180/15C                                                                     | 15         | 0.516            | 13.11 | 0.032            | 0.81 |
| 5180/20C                                                                     | 20         | 0.617            | 15.67 | 0.053            | 1.35 |
| 5180/25C                                                                     | 25         | 0.690            | 17.53 | 0.053            | 1.35 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.





# Xtra-Guard® 1

High Performance

300 V Supra-Shield® Foil/Braid, Multiconductor



**UL CM**

**UL AWM 2343 VW-1**

**CSA CMG FT4**

## Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

## Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)

500 ft (152 m)

1000 ft (305 m)

Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5300C       | 5          | 0.278            | 7.06  | 0.063            | 1.60 |
| 5301C       | 7          | 0.291            | 7.39  | 0.063            | 1.60 |
| 5302C       | 12         | 0.341            | 8.66  | 0.063            | 1.60 |
| 5303C       | 15         | 0.361            | 9.17  | 0.063            | 1.60 |
| 5304C       | 19         | 0.378            | 9.60  | 0.063            | 1.60 |
| 5305C       | 27         | 0.429            | 10.90 | 0.063            | 1.60 |
| 5306C       | 37         | 0.466            | 11.84 | 0.063            | 1.60 |
| 5307C       | 48         | 0.517            | 13.13 | 0.063            | 1.60 |

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | mm   |
| 5310C       | 5          | 0.294            | 7.47  | 0.063            | 1.60 |
| 5311C       | 7          | 0.309            | 7.85  | 0.063            | 1.60 |
| 5312C       | 12         | 0.366            | 9.30  | 0.063            | 1.60 |
| 5313C       | 15         | 0.389            | 9.88  | 0.063            | 1.60 |
| 5314C       | 19         | 0.408            | 10.36 | 0.063            | 1.60 |
| 5316C       | 37         | 0.508            | 12.90 | 0.063            | 1.60 |
| 5318C       | 60         | 0.608            | 15.44 | 0.063            | 1.60 |

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part Number | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-------------|------------|------------------|-------|------------------|------|
|             |            | Inch             | mm    | Inch             | Mm   |
| 5320/4C     | 4          | 0.299            | 7.59  | 0.063            | 1.60 |
| 5320C       | 5          | 0.316            | 8.03  | 0.063            | 1.60 |
| 5321C       | 7          | 0.333            | 8.46  | 0.063            | 1.60 |
| 5322C       | 12         | 0.399            | 10.13 | 0.063            | 1.60 |
| 5323C       | 15         | 0.426            | 10.82 | 0.063            | 1.60 |
| 5324C       | 19         | 0.448            | 11.38 | 0.063            | 1.60 |
| 5325C       | 27         | 0.515            | 13.08 | 0.063            | 1.60 |
| 5326C       | 37         | 0.564            | 14.33 | 0.063            | 1.60 |





# Xtra-Guard® 1

High Performance

600 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 2501 VW-1**  
**CSA AWM I/II A/B FT4**  
**UL MTW**

## Operating Temperature

- -30°C to +105°C (AWM)
- -30°C to +90°C (MTW)

## Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number    | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------------|------------|------------------|-------|------------------|------|
|                |            | Inch             | mm    | Inch             | mm   |
| <b>5504</b>    | 4          | 0.386            | 9.80  | 0.063            | 1.60 |
| <b>5507</b>    | 7          | 0.442            | 11.23 | 0.063            | 1.60 |
| <b>5509/12</b> | 12         | 0.549            | 13.94 | 0.063            | 1.60 |

### 20 AWG (0.56 mm²)

Stranding: 10/30 (10 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number    | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------------|------------|------------------|-------|------------------|------|
|                |            | Inch             | mm    | Inch             | mm   |
| <b>5514</b>    | 4          | 0.405            | 10.29 | 0.063            | 1.60 |
| <b>5517</b>    | 7          | 0.466            | 11.84 | 0.063            | 1.60 |
| <b>5519</b>    | 9          | 0.531            | 13.49 | 0.063            | 1.60 |
| <b>5519/12</b> | 12         | 0.582            | 14.78 | 0.063            | 1.60 |
| <b>5519/19</b> | 19         | 0.675            | 17.15 | 0.063            | 1.60 |

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part Number    | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------------|------------|------------------|-------|------------------|------|
|                |            | Inch             | mm    | Inch             | mm   |
| <b>5522</b>    | 2          | 0.380            | 9.65  | 0.063            | 1.60 |
| <b>5523</b>    | 3          | 0.397            | 10.08 | 0.063            | 1.60 |
| <b>5524</b>    | 4          | 0.427            | 10.85 | 0.063            | 1.60 |
| <b>5525</b>    | 5          | 0.460            | 11.68 | 0.063            | 1.60 |
| <b>5527</b>    | 7          | 0.494            | 12.55 | 0.063            | 1.60 |
| <b>5529</b>    | 9          | 0.563            | 14.30 | 0.063            | 1.60 |
| <b>5529/12</b> | 12         | 0.619            | 15.72 | 0.063            | 1.60 |
| <b>5529/15</b> | 15         | 0.677            | 17.20 | 0.063            | 1.60 |
| <b>5529/19</b> | 19         | 0.760            | 19.30 | 0.083            | 2.11 |





# Xtra-Guard® 1

High Performance

600 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 2501 VW-1**  
**CSA AWM I/II A/B FT4**  
**UL MTW**

## Operating Temperature

- -30°C to +105°C (AWM)
- -30°C to +90°C (MTW)

## Conductor Color Coding

- Chart E (page 532)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
 500 ft (152 m)  
 1000 ft (305 m)  
 Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

| 16 AWG (1.23 mm <sup>2</sup> )        |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 19/0.0117 (19 x 0.29 mm)   |            |                  |       |                  |      |
| Insulation thickness: 0.032 (0.81 mm) |            |                  |       |                  |      |
| Part Number                           | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 5532                                  | 2          | 0.404            | 10.26 | 0.063            | 1.60 |
| 5533                                  | 3          | 0.423            | 10.74 | 0.063            | 1.60 |
| 5534                                  | 4          | 0.456            | 11.58 | 0.063            | 1.60 |
| 5535                                  | 5          | 0.492            | 12.50 | 0.063            | 1.60 |
| 5537                                  | 7          | 0.530            | 13.46 | 0.063            | 1.60 |
| 5539                                  | 9          | 0.607            | 15.42 | 0.063            | 1.60 |
| 5539/12                               | 12         | 0.675            | 17.15 | 0.063            | 1.60 |
| 5539/15                               | 15         | 0.772            | 19.61 | 0.063            | 1.60 |
| 5539/19                               | 19         | 0.820            | 20.83 | 0.083            | 2.11 |

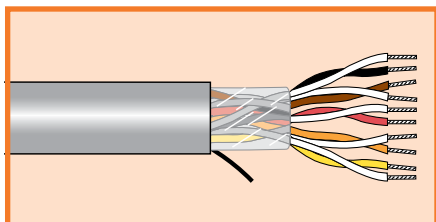
| 14 AWG (2.08 mm <sup>2</sup> )        |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 41/30 (41 x 0.25 mm)       |            |                  |       |                  |      |
| Insulation thickness: 0.032 (0.81 mm) |            |                  |       |                  |      |
| Part Number                           | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 5542                                  | 2          | 0.434            | 11.02 | 0.063            | 1.60 |
| 5543                                  | 3          | 0.456            | 11.58 | 0.063            | 1.60 |
| 5544                                  | 4          | 0.492            | 12.50 | 0.063            | 1.60 |
| 5547                                  | 7          | 0.575            | 14.61 | 0.063            | 1.60 |
| 5549                                  | 9          | 0.668            | 16.97 | 0.063            | 1.60 |
| 5549/12                               | 12         | 0.777            | 19.74 | 0.083            | 2.11 |
| 5549/15                               | 15         | 0.841            | 21.36 | 0.083            | 2.11 |





# Xtra-Guard® 1

## High Performance 300 V Unshielded, Multipair



**UL CM**  
**UL AWM 2464 VW-1**  
**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>5261C</b>    | 1     | 0.156            | 3.96  | 0.032            | 0.81 |
| <b>5262C</b>    | 2     | 0.212            | 5.38  | 0.032            | 0.81 |
| <b>5263C</b>    | 3     | 0.224            | 5.69  | 0.032            | 0.81 |
| <b>5264C</b>    | 4     | 0.243            | 6.17  | 0.032            | 0.81 |
| <b>5265C</b>    | 5     | 0.264            | 6.71  | 0.032            | 0.81 |
| <b>5266C</b>    | 6     | 0.286            | 7.26  | 0.032            | 0.81 |
| <b>5269C</b>    | 9     | 0.332            | 8.43  | 0.032            | 0.81 |
| <b>5269/11C</b> | 11    | 0.357            | 9.07  | 0.032            | 0.81 |
| <b>5269/15C</b> | 15    | 0.401            | 10.19 | 0.032            | 0.81 |
| <b>5269/27C</b> | 27    | 0.512            | 13.00 | 0.032            | 0.81 |
| <b>5269/77C</b> | 77    | 0.904            | 22.96 | 0.083            | 0.81 |

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

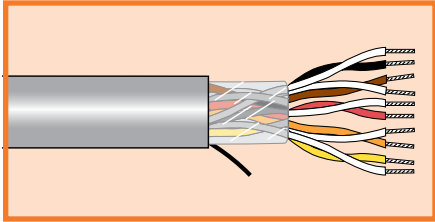
| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>5021C</b>    | 1     | 0.168            | 4.27  | 0.032            | 0.81 |
| <b>5022C</b>    | 2     | 0.232            | 5.89  | 0.032            | 0.81 |
| <b>5023C</b>    | 3     | 0.245            | 6.22  | 0.032            | 0.81 |
| <b>5024C</b>    | 4     | 0.267            | 6.78  | 0.032            | 0.81 |
| <b>5025C</b>    | 5     | 0.291            | 7.39  | 0.032            | 0.81 |
| <b>5026C</b>    | 6     | 0.316            | 8.03  | 0.032            | 0.81 |
| <b>5029/15C</b> | 15    | 0.447            | 11.35 | 0.032            | 0.81 |





# Xtra-Guard® 1

High Performance  
300 V Unshielded, Multipair



**UL CM**  
**UL AWM 2464 VW-1**  
**CSA CMG FT4**

## Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

## Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>5282C</b>    | 2     | 0.298            | 7.57  | 0.032            | 0.81 |
| <b>5283C</b>    | 3     | 0.316            | 8.03  | 0.032            | 0.81 |
| <b>5286C</b>    | 6     | 0.415            | 10.54 | 0.032            | 0.81 |
| <b>5289C</b>    | 9     | 0.487            | 12.37 | 0.032            | 0.81 |
| <b>5289/12C</b> | 12    | 0.545            | 13.84 | 0.032            | 0.81 |

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>5032C</b>    | 2     | 0.327            | 8.31  | 0.032            | 0.81 |
| <b>5033C</b>    | 3     | 0.348            | 8.84  | 0.032            | 0.81 |
| <b>5036C</b>    | 6     | 0.460            | 11.68 | 0.032            | 0.81 |
| <b>5039C</b>    | 9     | 0.541            | 13.74 | 0.053            | 1.35 |
| <b>5039/12C</b> | 12    | 0.648            | 16.46 | 0.053            | 1.35 |



# Xtra-Guard® 1

## High Performance 300 V Foil Shield, Multipair



**UL CM**  
**UL AWM 2464 VW-1**  
**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.12 mm)  
Insulation Thickness: 0.010 (0.25 mm)

| Part No.    | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|-------------|-------|------------------|------|------------------|------|
|             |       | Inch             | mm   | Inch             | mm   |
| <b>5938</b> | 2     | 0.187            | 4.75 | 0.032            | 0.81 |
| <b>5939</b> | 3     | 0.196            | 4.98 | 0.032            | 0.81 |
| <b>5940</b> | 4     | 0.211            | 5.36 | 0.032            | 0.81 |
| <b>5941</b> | 5     | 0.228            | 5.79 | 0.032            | 0.81 |
| <b>5942</b> | 6     | 0.246            | 6.25 | 0.032            | 0.81 |

#### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.    | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|-------------|-------|------------------|------|------------------|------|
|             |       | Inch             | mm   | Inch             | mm   |
| <b>5690</b> | 2     | 0.200            | 5.08 | 0.032            | 0.81 |
| <b>5691</b> | 3     | 0.210            | 5.33 | 0.032            | 0.81 |
| <b>5692</b> | 4     | 0.227            | 5.77 | 0.032            | 0.81 |
| <b>5693</b> | 5     | 0.246            | 6.25 | 0.032            | 0.81 |
| <b>5694</b> | 6     | 0.265            | 6.73 | 0.032            | 0.81 |

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>5491C</b>    | 1     | 0.160            | 4.06  | 0.032            | 0.81 |
| <b>5492C</b>    | 2     | 0.216            | 5.49  | 0.032            | 0.81 |
| <b>5493C</b>    | 3     | 0.228            | 5.79  | 0.032            | 0.81 |
| <b>5494C</b>    | 4     | 0.247            | 6.27  | 0.032            | 0.81 |
| <b>5495C</b>    | 5     | 0.268            | 6.81  | 0.032            | 0.81 |
| <b>5496C</b>    | 6     | 0.290            | 7.37  | 0.032            | 0.81 |
| <b>5499C</b>    | 9     | 0.336            | 8.53  | 0.032            | 0.81 |
| <b>5499/11C</b> | 11    | 0.361            | 9.17  | 0.032            | 0.81 |
| <b>5499/15C</b> | 15    | 0.405            | 10.29 | 0.032            | 0.81 |
| <b>5499/19C</b> | 19    | 0.433            | 11.00 | 0.032            | 0.81 |
| <b>5499/27C</b> | 27    | 0.516            | 13.11 | 0.32             | 0.81 |





# Xtra-Guard® 1

High Performance  
300 V Foil Shield, Multipair



**UL CM**  
**UL AWM 2464 VW-1**  
**CSA CMG FT4**

## Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

## Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord
- Premium PVC jacket
- UV resistant

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

| 22 AWG (0.35 mm²)                                                      |       |                  |       |                  |      |
|------------------------------------------------------------------------|-------|------------------|-------|------------------|------|
| Stranding: 7/30 (7 x 0.25 mm)<br>Insulation thickness: 0.010 (0.25 mm) |       |                  |       |                  |      |
| Part No.                                                               | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|                                                                        |       | Inch             | mm    | Inch             | mm   |
| 5481C                                                                  | 1     | 0.172            | 4.37  | 0.032            | 0.81 |
| 5482C                                                                  | 2     | 0.236            | 5.99  | 0.032            | 0.81 |
| 5483C                                                                  | 3     | 0.249            | 6.32  | 0.032            | 0.81 |
| 5484C                                                                  | 4     | 0.271            | 6.88  | 0.032            | 0.81 |
| 5485C                                                                  | 5     | 0.295            | 7.49  | 0.032            | 0.81 |
| 5486C                                                                  | 6     | 0.320            | 8.13  | 0.032            | 0.81 |
| 5489C                                                                  | 9     | 0.372            | 9.45  | 0.032            | 0.81 |
| 5489/11C                                                               | 11    | 0.400            | 10.16 | 0.032            | 0.81 |
| 5489/15C                                                               | 15    | 0.451            | 11.46 | 0.032            | 0.81 |
| 5489/19C                                                               | 19    | 0.483            | 12.27 | 0.032            | 0.81 |
| 5489/27C                                                               | 27    | 0.619            | 15.72 | 0.053            | 1.35 |

| 20 AWG (0.56 mm²)                                                      |       |                  |       |                  |      |
|------------------------------------------------------------------------|-------|------------------|-------|------------------|------|
| Stranding: 7/28 (7 x 0.32 mm)<br>Insulation thickness: 0.016 (0.41 mm) |       |                  |       |                  |      |
| Part No.                                                               | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|                                                                        |       | Inch             | mm    | Inch             | mm   |
| 5452C                                                                  | 2     | 0.302            | 7.67  | 0.032            | 0.81 |
| 5453C                                                                  | 3     | 0.320            | 8.13  | 0.032            | 0.81 |
| 5456C                                                                  | 6     | 0.419            | 10.64 | 0.032            | 0.81 |
| 5459C                                                                  | 9     | 0.491            | 12.47 | 0.032            | 0.81 |
| 5459/12C                                                               | 12    | 0.549            | 13.94 | 0.032            | 0.81 |
| 5459/19C                                                               | 19    | 0.689            | 17.50 | 0.053            | 1.35 |

| 18 AWG (0.81 mm²)                                                        |       |                  |       |                  |      |
|--------------------------------------------------------------------------|-------|------------------|-------|------------------|------|
| Stranding: 16/30 (16 x 0.25 mm)<br>Insulation thickness: 0.016 (0.41 mm) |       |                  |       |                  |      |
| Part No.                                                                 | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|                                                                          |       | Inch             | mm    | Inch             | mm   |
| 5373C                                                                    | 3     | 0.352            | 8.94  | 0.032            | 0.81 |
| 5376C                                                                    | 6     | 0.464            | 11.79 | 0.032            | 0.81 |





# Xtra-Guard® 1

## High Performance

## 300 V Supra-Shield® Foil/Braid, Multipair



**UL CM**

**UL AWM 2464 VW-1**

**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.12 mm)  
Insulation Thickness: 0.010 (0.25 mm)

| Part No.    | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|-------------|-------|------------------|------|------------------|------|
|             |       | Inch             | mm   | Inch             | mm   |
| <b>5943</b> | 2     | 0.211            | 5.36 | 0.032            | 0.81 |
| <b>5944</b> | 3     | 0.220            | 5.59 | 0.032            | 0.81 |
| <b>5945</b> | 4     | 0.235            | 5.97 | 0.032            | 0.81 |
| <b>5946</b> | 5     | 0.252            | 6.40 | 0.032            | 0.81 |
| <b>5947</b> | 6     | 0.270            | 6.86 | 0.032            | 0.81 |

#### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.    | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|-------------|-------|------------------|------|------------------|------|
|             |       | Inch             | mm   | Inch             | mm   |
| <b>5695</b> | 2     | 0.224            | 5.69 | 0.032            | 0.81 |
| <b>5696</b> | 3     | 0.234            | 5.94 | 0.032            | 0.81 |
| <b>5697</b> | 4     | 0.251            | 6.38 | 0.032            | 0.81 |
| <b>5698</b> | 5     | 0.270            | 6.86 | 0.032            | 0.81 |
| <b>5699</b> | 6     | 0.289            | 7.34 | 0.032            | 0.81 |

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>5271C</b>    | 1     | 0.184            | 4.67  | 0.032            | 0.81 |
| <b>5272C</b>    | 2     | 0.240            | 6.10  | 0.032            | 0.81 |
| <b>5273C</b>    | 3     | 0.252            | 6.40  | 0.032            | 0.81 |
| <b>5274C</b>    | 4     | 0.271            | 6.88  | 0.032            | 0.81 |
| <b>5275C</b>    | 5     | 0.292            | 7.42  | 0.032            | 0.81 |
| <b>5276C</b>    | 6     | 0.314            | 7.98  | 0.032            | 0.81 |
| <b>5279C</b>    | 9     | 0.360            | 9.14  | 0.032            | 0.81 |
| <b>5279/11C</b> | 11    | 0.385            | 9.78  | 0.032            | 0.81 |
| <b>5279/15C</b> | 15    | 0.429            | 10.90 | 0.032            | 0.81 |
| <b>5279/19C</b> | 19    | 0.457            | 11.61 | 0.032            | 0.81 |
| <b>5279/27C</b> | 27    | 0.540            | 13.72 | 0.032            | 0.81 |
| <b>5279/51C</b> | 51    | 0.739            | 18.77 | 0.053            | 1.35 |





# Xtra-Guard® 1

## High Performance

## 300 V Supra-Shield® Foil/Braid, Multipair



**UL CM**

**UL AWM 2464 VW-1**

**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- 28, 26, 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

| 22 AWG (0.35 mm²)                                                      |       |                  |       |                  |      |
|------------------------------------------------------------------------|-------|------------------|-------|------------------|------|
| Stranding: 7/30 (7 x 0.25 mm)<br>Insulation thickness: 0.010 (0.25 mm) |       |                  |       |                  |      |
| Part No.                                                               | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|                                                                        |       | Inch             | mm    | Inch             | mm   |
| 5121C                                                                  | 1     | 0.196            | 4.98  | 0.032            | 0.81 |
| 5122C                                                                  | 2     | 0.260            | 6.60  | 0.032            | 0.81 |
| 5123C                                                                  | 3     | 0.273            | 6.93  | 0.032            | 0.81 |
| 5124C                                                                  | 4     | 0.295            | 7.49  | 0.032            | 0.81 |
| 5125C                                                                  | 5     | 0.319            | 8.10  | 0.032            | 0.81 |
| 5126C                                                                  | 6     | 0.344            | 8.74  | 0.032            | 0.81 |
| 5129C                                                                  | 9     | 0.396            | 10.06 | 0.032            | 0.81 |
| 5129/11C                                                               | 11    | 0.424            | 10.77 | 0.032            | 0.81 |
| 5129/15C                                                               | 15    | 0.475            | 12.07 | 0.032            | 0.81 |
| 5129/19C                                                               | 19    | 0.507            | 12.88 | 0.032            | 0.81 |
| 5129/27C                                                               | 27    | 0.649            | 16.48 | 0.053            | 1.35 |

| 20 AWG (0.56 mm²)                                                      |       |                  |       |                  |      |
|------------------------------------------------------------------------|-------|------------------|-------|------------------|------|
| Stranding: 7/28 (7 x 0.32 mm)<br>Insulation thickness: 0.016 (0.41 mm) |       |                  |       |                  |      |
| Part No.                                                               | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|                                                                        |       | Inch             | mm    | Inch             | mm   |
| 5292C                                                                  | 2     | 0.326            | 8.28  | 0.032            | 0.81 |
| 5293C                                                                  | 3     | 0.344            | 8.74  | 0.032            | 0.81 |
| 5296C                                                                  | 6     | 0.443            | 11.25 | 0.032            | 0.81 |
| 5299C                                                                  | 9     | 0.515            | 13.08 | 0.032            | 0.81 |
| 5299/19C                                                               | 19    | 0.719            | 18.26 | 0.053            | 1.35 |

| 18 AWG (0.81 mm²)                                                        |       |                  |       |                  |      |
|--------------------------------------------------------------------------|-------|------------------|-------|------------------|------|
| Stranding: 16/30 (16 x 0.25 mm)<br>Insulation thickness: 0.016 (0.41 mm) |       |                  |       |                  |      |
| Part No.                                                                 | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|                                                                          |       | Inch             | mm    | Inch             | mm   |
| 5132C                                                                    | 2     | 0.355            | 9.02  | 0.032            | 0.81 |
| 5133C                                                                    | 3     | 0.376            | 9.55  | 0.032            | 0.81 |
| 5136C                                                                    | 6     | 0.488            | 12.40 | 0.032            | 0.81 |
| 5139C                                                                    | 9     | 0.611            | 15.52 | 0.053            | 1.35 |
| 5139/27C                                                                 | 27    | 1.004            | 25.50 | 0.083            | 2.11 |





# Xtra-Guard® 1

## High Performance

## 300 V Supra-Shield® Foil/Braid, Multipair



**UL CM**

**UL AWM 2343 VW-1**

**CSA CMG FT4**

### Operating Temperature

- -30°C to +80°C (AWM)
- -30°C to +105°C (CM)

### Conductor Color Coding

- Chart B (page 528)
- Jacket Colors
  - Put-ups: slate
  - Bulk: nine colors available (page 31, minimums may apply)

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord
- Premium PVC jacket
- UV resistant

### Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

### FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 5330C    | 5     | 0.354            | 8.99  | 0.063            | 1.60 |
| 5331C    | 7     | 0.376            | 9.55  | 0.063            | 1.60 |
| 5332C    | 12    | 0.458            | 11.63 | 0.063            | 1.60 |
| 5333C    | 15    | 0.491            | 12.47 | 0.063            | 1.60 |
| 5334C    | 19    | 0.519            | 13.18 | 0.063            | 1.60 |
| 5335C    | 27    | 0.602            | 15.29 | 0.063            | 1.60 |
| 5336C    | 37    | 0.669            | 16.99 | 0.063            | 1.60 |

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 5340/2C  | 2     | 0.322            | 8.18  | 0.063            | 1.60 |
| 5340C    | 5     | 0.381            | 9.68  | 0.063            | 1.60 |
| 5341C    | 7     | 0.406            | 10.31 | 0.063            | 1.60 |
| 5342C    | 12    | 0.499            | 12.67 | 0.063            | 1.60 |
| 5344C    | 19    | 0.569            | 14.45 | 0.063            | 1.60 |
| 5345C    | 27    | 0.669            | 16.99 | 0.063            | 1.60 |
| 5346C    | 37    | 0.738            | 18.75 | 0.063            | 1.60 |

#### 20 AWG (0.56 mm²)

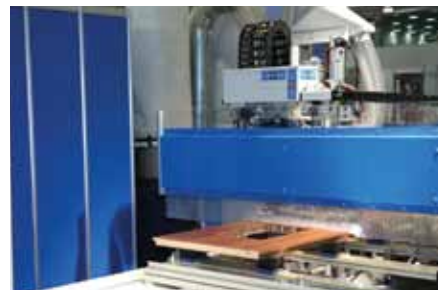
Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 5350/4C  | 4     | 0.388            | 9.86  | 0.063            | 1.60 |
| 5350C    | 5     | 0.416            | 10.57 | 0.063            | 1.60 |
| 5351C    | 7     | 0.446            | 11.33 | 0.063            | 1.60 |
| 5351/9C  | 9     | 0.505            | 12.83 | 0.063            | 1.60 |
| 5353C    | 15    | 0.597            | 15.16 | 0.063            | 1.60 |
| 5354C    | 19    | 0.634            | 16.10 | 0.063            | 1.60 |
| 5355C    | 27    | 0.749            | 19.02 | 0.063            | 1.60 |



# Xtra-Guard® 2

## Oil and Abrasion Resistant



### Features

- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- Specially formulated, rugged polyurethane jacket offering three times the tear and abrasion resistance of ordinary PVC
- Resistance to cut-through and physical damage
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Temperature ratings to 90°C (300 V) and 105°C (600 V)
- Superior low-temperature flexibility to -30°C
- Outstanding ultraviolet light stability in all jacket colors
- UL VW-1 and CSA FT-1 flammability ratings
- Nylon ripcord for easy jacket stripping

### Applications

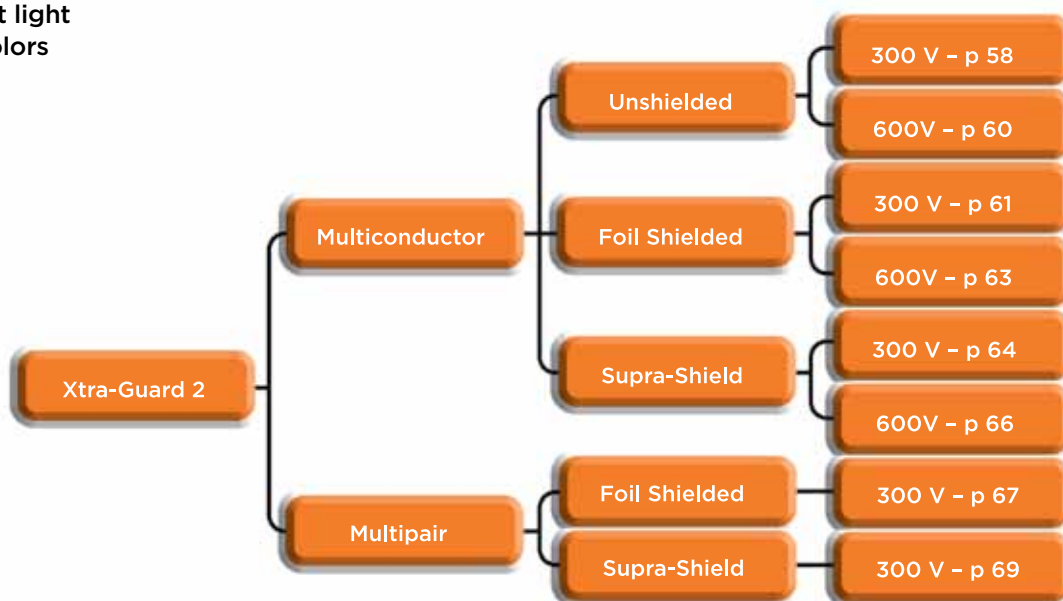
- CNC machine centers
- Automotive assembly plant operations
- Military ground support systems
- Packaging machinery
- Petrochemical plant operations
- Geophysical exploration equipment

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

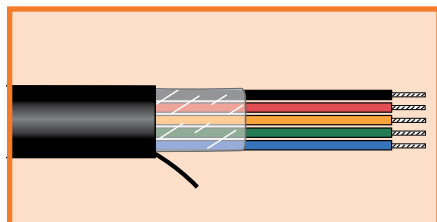
|       |        |        |
|-------|--------|--------|
| SLATE | BEIGE  | WHITE  |
| RED   | BLACK  | BLUE   |
| GREEN | YELLOW | ORANGE |

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.



# Xtra-Guard® 2

## Oil and Abrasion Resistant 300 V Unshielded, Multiconductor



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 25012    | 2          | 0.156            | 3.96 | 0.032            | 0.81 |
| 25013    | 3          | 0.163            | 4.14 | 0.032            | 0.81 |
| 25014    | 4          | 0.175            | 4.45 | 0.032            | 0.81 |
| 25016    | 6          | 0.201            | 5.11 | 0.032            | 0.81 |
| 25018    | 8          | 0.215            | 5.46 | 0.032            | 0.81 |
| 25020    | 10         | 0.244            | 6.20 | 0.032            | 0.81 |
| 25020/15 | 15         | 0.271            | 6.88 | 0.032            | 0.81 |
| 25020/20 | 20         | 0.300            | 7.62 | 0.032            | 0.81 |
| 25020/25 | 25         | 0.332            | 8.43 | 0.032            | 0.81 |

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 25002    | 2          | 0.168            | 4.27 | 0.032            | 0.81 |
| 25003    | 3          | 0.176            | 4.47 | 0.032            | 0.81 |
| 25004    | 4          | 0.189            | 4.80 | 0.032            | 0.81 |
| 25006    | 6          | 0.219            | 5.56 | 0.032            | 0.81 |
| 25008    | 8          | 0.235            | 5.97 | 0.032            | 0.81 |
| 25010    | 10         | 0.268            | 6.81 | 0.032            | 0.81 |
| 25010/15 | 15         | 0.299            | 7.59 | 0.032            | 0.81 |
| 25010/20 | 20         | 0.331            | 8.41 | 0.032            | 0.81 |
| 25010/25 | 25         | 0.368            | 9.35 | 0.032            | 0.81 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

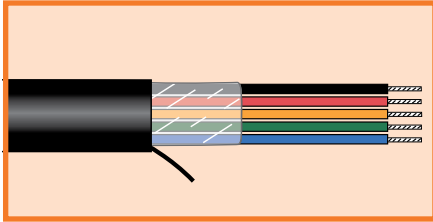
| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25052    | 2          | 0.208            | 5.28  | 0.032            | 0.81 |
| 25053    | 3          | 0.219            | 5.56  | 0.032            | 0.81 |
| 25054    | 4          | 0.238            | 6.05  | 0.032            | 0.81 |
| 25056    | 6          | 0.280            | 7.11  | 0.032            | 0.81 |
| 25058    | 8          | 0.302            | 7.67  | 0.032            | 0.81 |
| 25060    | 10         | 0.348            | 8.84  | 0.032            | 0.81 |
| 25060/15 | 15         | 0.391            | 9.93  | 0.032            | 0.81 |
| 25060/20 | 20         | 0.437            | 11.10 | 0.032            | 0.81 |
| 25060/25 | 25         | 0.488            | 12.40 | 0.032            | 0.81 |
| 25060/30 | 30         | 0.517            | 13.13 | 0.032            | 0.81 |
| 25060/40 | 40         | 0.622            | 15.80 | 0.053            | 1.35 |
| 25060/50 | 50         | 0.684            | 17.37 | 0.053            | 1.35 |
| 25060/60 | 60         | 0.740            | 18.80 | 0.053            | 1.35 |
| 25060/70 | 70         | 0.859            | 21.82 | 0.053            | 1.35 |





# Xtra-Guard® 2

Oil and Abrasion Resistant  
300 V Unshielded, Multiconductor



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

## Operating Temperature

- -30°C to +90°C

## Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25062</b>    | 2          | 0.226            | 5.74  | 0.032            | 0.81 |
| <b>25062/1*</b> | 2          | 0.226            | 5.74  | 0.032            | 0.81 |
| <b>25063</b>    | 3          | 0.238            | 6.05  | 0.032            | 0.81 |
| <b>25063/1*</b> | 3          | 0.238            | 6.05  | 0.032            | 0.81 |
| <b>25064</b>    | 4          | 0.259            | 6.58  | 0.032            | 0.81 |
| <b>25066</b>    | 6          | 0.307            | 7.80  | 0.032            | 0.81 |
| <b>25068</b>    | 8          | 0.332            | 8.43  | 0.032            | 0.81 |
| <b>25070</b>    | 10         | 0.384            | 9.75  | 0.032            | 0.81 |
| <b>25070/15</b> | 15         | 0.433            | 11.00 | 0.032            | 0.81 |
| <b>25070/20</b> | 20         | 0.484            | 12.29 | 0.032            | 0.81 |
| <b>25070/25</b> | 25         | 0.542            | 13.77 | 0.032            | 0.81 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25072</b>    | 2          | 0.250            | 6.35  | 0.032            | 0.81 |
| <b>25072/1*</b> | 2          | 0.250            | 6.35  | 0.032            | 0.81 |
| <b>25073</b>    | 3          | 0.264            | 6.71  | 0.032            | 0.81 |
| <b>25073/1*</b> | 3          | 0.264            | 6.71  | 0.032            | 0.81 |
| <b>25074</b>    | 4          | 0.288            | 7.32  | 0.032            | 0.81 |
| <b>25076</b>    | 6          | 0.343            | 8.71  | 0.032            | 0.81 |
| <b>25078</b>    | 8          | 0.372            | 9.45  | 0.032            | 0.81 |
| <b>25080</b>    | 10         | 0.432            | 10.97 | 0.032            | 0.81 |
| <b>25080/15</b> | 15         | 0.488            | 12.40 | 0.032            | 0.81 |
| <b>25080/20</b> | 20         | 0.547            | 13.89 | 0.053            | 1.35 |
| <b>25080/25</b> | 25         | 0.656            | 16.66 | 0.053            | 1.35 |

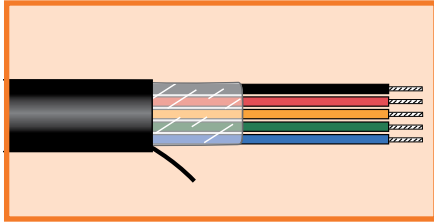
\*Conductors color-coded per international standards: brown, blue, green/yellow.



# Xtra-Guard® 2



Oil and Abrasion Resistant  
600 V Unshielded, Multiconductor



**UL AWM 20952 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +105°C

### Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25422</b>    | 2          | 0.352            | 8.94  | 0.063            | 1.60 |
| <b>25423</b>    | 3          | 0.369            | 9.37  | 0.063            | 1.60 |
| <b>25424</b>    | 4          | 0.399            | 10.13 | 0.063            | 1.60 |
| <b>25427</b>    | 7          | 0.466            | 11.84 | 0.063            | 1.60 |
| <b>25429</b>    | 9          | 0.535            | 13.59 | 0.063            | 1.60 |
| <b>25429/12</b> | 12         | 0.591            | 15.01 | 0.063            | 1.60 |

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25432</b>    | 2          | 0.376            | 9.55  | 0.063            | 1.60 |
| <b>25433</b>    | 3          | 0.395            | 10.03 | 0.063            | 1.60 |
| <b>25434</b>    | 4          | 0.428            | 10.87 | 0.063            | 1.60 |
| <b>25435</b>    | 5          | 0.464            | 11.79 | 0.063            | 1.60 |
| <b>25439</b>    | 9          | 0.579            | 14.71 | 0.063            | 1.60 |
| <b>25439/12</b> | 12         | 0.641            | 16.28 | 0.063            | 1.60 |
| <b>25439/19</b> | 19         | 0.746            | 18.95 | 0.083            | 2.11 |

#### 14 AWG (2.08 mm²)

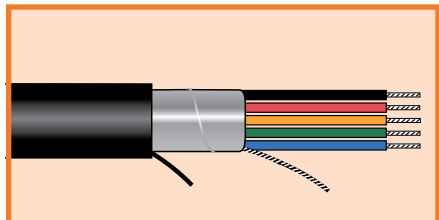
Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25442</b>    | 2          | 0.406            | 10.31 | 0.063            | 1.60 |
| <b>25443</b>    | 3          | 0.428            | 10.87 | 0.063            | 1.60 |
| <b>25444</b>    | 4          | 0.464            | 11.79 | 0.063            | 1.60 |
| <b>25445</b>    | 5          | 0.505            | 12.83 | 0.063            | 1.60 |
| <b>25449</b>    | 9          | 0.634            | 16.10 | 0.063            | 1.60 |
| <b>25449/12</b> | 12         | 0.703            | 17.86 | 0.063            | 1.60 |



## Xtra-Guard® 2

Oil and Abrasion Resistant  
300 V Foil Shielded, Multiconductor



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 24 AWG (0.23 mm<sup>2</sup>)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 25092    | 2          | 0.160            | 4.06 | 0.032            | 0.81 |
| 25093    | 3          | 0.167            | 4.24 | 0.032            | 0.81 |
| 25094    | 4          | 0.179            | 4.55 | 0.032            | 0.81 |
| 25096    | 6          | 0.205            | 5.21 | 0.032            | 0.81 |
| 25098    | 8          | 0.219            | 5.56 | 0.032            | 0.81 |
| 25100    | 10         | 0.248            | 6.30 | 0.032            | 0.81 |
| 25100/15 | 15         | 0.275            | 6.99 | 0.032            | 0.81 |
| 25100/20 | 20         | 0.304            | 7.72 | 0.032            | 0.81 |
| 25100/25 | 25         | 0.336            | 8.53 | 0.032            | 0.81 |

#### 22 AWG (0.35 mm<sup>2</sup>)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25192    | 2          | 0.172            | 4.37  | 0.032            | 0.81 |
| 25193    | 3          | 0.180            | 4.57  | 0.032            | 0.81 |
| 25194    | 4          | 0.193            | 4.90  | 0.032            | 0.81 |
| 25196    | 6          | 0.223            | 5.66  | 0.032            | 0.81 |
| 25198    | 8          | 0.239            | 6.07  | 0.032            | 0.81 |
| 25199/10 | 10         | 0.272            | 6.91  | 0.032            | 0.81 |
| 25199/15 | 15         | 0.303            | 7.70  | 0.032            | 0.81 |
| 25199/20 | 20         | 0.335            | 8.51  | 0.032            | 0.81 |
| 25199/25 | 25         | 0.372            | 9.45  | 0.032            | 0.81 |
| 25199/30 | 30         | 0.393            | 9.98  | 0.032            | 0.81 |
| 25199/40 | 40         | 0.438            | 11.13 | 0.032            | 0.81 |
| 25199/50 | 50         | 0.482            | 12.24 | 0.032            | 0.81 |

#### 20 AWG (0.56 mm<sup>2</sup>)

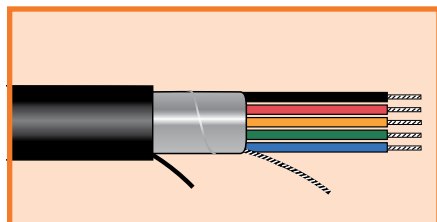
Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25462    | 2          | 0.212            | 5.38  | 0.032            | 0.81 |
| 25463    | 3          | 0.223            | 5.66  | 0.032            | 0.81 |
| 25464    | 4          | 0.242            | 6.15  | 0.032            | 0.81 |
| 25466    | 6          | 0.284            | 7.21  | 0.032            | 0.81 |
| 25468    | 8          | 0.306            | 7.77  | 0.032            | 0.81 |
| 25470    | 10         | 0.352            | 8.94  | 0.032            | 0.81 |
| 25470/15 | 15         | 0.395            | 10.03 | 0.032            | 0.81 |
| 25470/20 | 20         | 0.441            | 11.20 | 0.032            | 0.81 |
| 25470/25 | 25         | 0.492            | 12.50 | 0.032            | 0.81 |
| 25470/30 | 30         | 0.521            | 13.23 | 0.032            | 0.81 |
| 25470/40 | 40         | 0.626            | 15.90 | 0.053            | 1.35 |
| 25470/50 | 50         | 0.688            | 17.48 | 0.053            | 1.35 |



## Xtra-Guard® 2

Oil and Abrasion Resistant  
300 V Foil Shielded, Multiconductor



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25382</b>    | 2          | 0.230            | 5.84  | 0.032            | 0.81 |
| <b>25382/1*</b> | 2          | 0.230            | 5.84  | 0.032            | 0.81 |
| <b>25383</b>    | 3          | 0.242            | 6.14  | 0.032            | 0.81 |
| <b>25383/1*</b> | 3          | 0.242            | 6.14  | 0.032            | 0.81 |
| <b>25384</b>    | 4          | 0.263            | 6.68  | 0.032            | 0.81 |
| <b>25386</b>    | 6          | 0.311            | 7.90  | 0.032            | 0.81 |
| <b>25388</b>    | 8          | 0.336            | 8.53  | 0.032            | 0.81 |
| <b>25390</b>    | 10         | 0.388            | 9.86  | 0.032            | 0.81 |
| <b>25390/15</b> | 15         | 0.437            | 11.10 | 0.032            | 0.81 |
| <b>25390/20</b> | 20         | 0.488            | 12.40 | 0.032            | 0.81 |
| <b>25390/25</b> | 25         | 0.588            | 14.94 | 0.053            | 1.35 |
| <b>25390/30</b> | 30         | 0.621            | 15.77 | 0.053            | 1.35 |
| <b>25390/40</b> | 40         | 0.692            | 17.58 | 0.053            | 1.35 |
| <b>25390/50</b> | 50         | 0.762            | 19.35 | 0.053            | 1.35 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25362</b>    | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| <b>25362/1*</b> | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| <b>25363</b>    | 3          | 0.268            | 6.81  | 0.032            | 0.81 |
| <b>25363/1*</b> | 3          | 0.268            | 6.81  | 0.032            | 0.81 |
| <b>25364</b>    | 4          | 0.292            | 7.42  | 0.032            | 0.81 |
| <b>25366</b>    | 6          | 0.347            | 8.81  | 0.032            | 0.81 |
| <b>25368</b>    | 8          | 0.376            | 9.55  | 0.032            | 0.81 |
| <b>25370</b>    | 10         | 0.436            | 11.07 | 0.032            | 0.81 |
| <b>25370/15</b> | 15         | 0.492            | 12.50 | 0.032            | 0.81 |
| <b>25370/20</b> | 20         | 0.593            | 15.06 | 0.053            | 1.35 |
| <b>25370/25</b> | 25         | 0.660            | 16.76 | 0.053            | 1.35 |
| <b>25370/30</b> | 30         | 0.698            | 17.73 | 0.053            | 1.35 |
| <b>25370/40</b> | 40         | 0.779            | 19.79 | 0.083            | 2.11 |
| <b>25370/50</b> | 50         | 0.921            | 23.39 | 0.083            | 2.11 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.





## Xtra-Guard® 2

Oil and Abrasion Resistant  
600 V Foil Shielded, Multiconductor



**UL AWM 20952 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +105°C

### Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25430/2  | 2          | 0.356            | 9.04  | 0.063            | 1.60 |
| 25430/3  | 3          | 0.373            | 9.47  | 0.063            | 1.60 |
| 25430/4  | 4          | 0.403            | 10.24 | 0.063            | 1.60 |
| 25430/5  | 5          | 0.436            | 11.07 | 0.063            | 1.60 |
| 25430/7  | 7          | 0.470            | 11.94 | 0.063            | 1.60 |
| 25430/9  | 9          | 0.539            | 13.69 | 0.063            | 1.60 |
| 25430/12 | 12         | 0.595            | 15.11 | 0.063            | 1.60 |
| 25430/15 | 15         | 0.647            | 16.43 | 0.063            | 1.60 |
| 25430/19 | 19         | 0.690            | 17.53 | 0.063            | 1.60 |

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25440/2  | 2          | 0.380            | 9.65  | 0.063            | 1.60 |
| 25440/3  | 3          | 0.399            | 10.13 | 0.063            | 1.60 |
| 25440/4  | 4          | 0.432            | 10.97 | 0.063            | 1.60 |
| 25440/5  | 5          | 0.468            | 11.89 | 0.063            | 1.60 |
| 25440/7  | 7          | 0.506            | 12.85 | 0.063            | 1.60 |
| 25440/9  | 9          | 0.583            | 14.81 | 0.063            | 1.60 |
| 25440/12 | 12         | 0.645            | 16.38 | 0.063            | 1.60 |
| 25440/15 | 15         | 0.702            | 17.83 | 0.063            | 1.60 |

#### 14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25450/2  | 2          | 0.410            | 10.41 | 0.063            | 1.60 |
| 25450/3  | 3          | 0.432            | 10.97 | 0.063            | 1.60 |
| 25450/4  | 4          | 0.468            | 11.89 | 0.063            | 1.60 |
| 25450/5  | 5          | 0.509            | 12.93 | 0.063            | 1.60 |
| 25450/7  | 7          | 0.551            | 14.00 | 0.063            | 1.60 |
| 25450/9  | 9          | 0.638            | 16.21 | 0.063            | 1.60 |
| 25450/12 | 12         | 0.707            | 17.96 | 0.063            | 1.60 |
| 25450/15 | 15         | 0.771            | 19.58 | 0.063            | 1.60 |



# Xtra-Guard® 2

Oil and Abrasion Resistant

300 V Supra-Shield® Foil/Braid, Multiconductor

**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1****Operating Temperature**

- -30°C to +90°C

**Conductor Color Coding**

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

**Materials**

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

**Availability**

Made to order  
1000 ft (305 m) minimum

**FIT® Tubing Recommendations**

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

**24 AWG (0.23 mm²)**

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25112    | 2          | 0.184            | 4.67  | 0.032            | 0.81 |
| 25113    | 3          | 0.191            | 4.85  | 0.032            | 0.81 |
| 25114    | 4          | 0.203            | 5.16  | 0.032            | 0.81 |
| 25116    | 6          | 0.229            | 5.82  | 0.032            | 0.81 |
| 25118    | 8          | 0.243            | 6.17  | 0.032            | 0.81 |
| 25120    | 10         | 0.272            | 6.91  | 0.032            | 0.81 |
| 25120/15 | 15         | 0.299            | 7.59  | 0.032            | 0.81 |
| 25120/20 | 20         | 0.328            | 8.33  | 0.032            | 0.81 |
| 25120/25 | 25         | 0.360            | 9.14  | 0.032            | 0.81 |
| 25120/30 | 30         | 0.378            | 9.60  | 0.032            | 0.81 |
| 25120/40 | 40         | 0.418            | 10.62 | 0.032            | 0.81 |
| 25120/50 | 50         | 0.457            | 11.61 | 0.032            | 0.81 |

**22 AWG (0.35 mm²)**

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25102    | 2          | 0.196            | 4.97  | 0.032            | 0.81 |
| 25103    | 3          | 0.204            | 5.18  | 0.032            | 0.81 |
| 25104    | 4          | 0.217            | 5.51  | 0.032            | 0.81 |
| 25106    | 6          | 0.247            | 6.27  | 0.032            | 0.81 |
| 25108    | 8          | 0.263            | 6.68  | 0.032            | 0.81 |
| 25110    | 10         | 0.296            | 7.52  | 0.032            | 0.81 |
| 25110/15 | 15         | 0.327            | 8.31  | 0.032            | 0.81 |
| 25110/20 | 20         | 0.359            | 9.12  | 0.032            | 0.81 |
| 25110/25 | 25         | 0.396            | 10.06 | 0.032            | 0.81 |
| 25110/30 | 30         | 0.417            | 10.59 | 0.032            | 0.81 |
| 25110/40 | 40         | 0.462            | 11.73 | 0.032            | 0.81 |
| 25110/50 | 50         | 0.506            | 12.85 | 0.032            | 0.81 |

**20 AWG (0.56 mm²)**

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25152    | 2          | 0.236            | 5.99  | 0.032            | 0.81 |
| 25153    | 3          | 0.247            | 6.27  | 0.032            | 0.81 |
| 25154    | 4          | 0.266            | 6.76  | 0.032            | 0.81 |
| 25156    | 6          | 0.308            | 7.82  | 0.032            | 0.81 |
| 25158    | 8          | 0.330            | 8.38  | 0.032            | 0.81 |
| 25160    | 10         | 0.376            | 9.55  | 0.032            | 0.81 |
| 25160/15 | 15         | 0.419            | 10.64 | 0.032            | 0.81 |
| 25160/20 | 20         | 0.465            | 11.81 | 0.032            | 0.81 |
| 25160/25 | 25         | 0.516            | 13.11 | 0.032            | 0.81 |
| 25160/30 | 30         | 0.545            | 13.84 | 0.032            | 0.81 |
| 25160/40 | 40         | 0.656            | 16.66 | 0.053            | 1.35 |
| 25160/50 | 50         | 0.718            | 18.24 | 0.053            | 1.35 |





## Xtra-Guard® 2

Oil and Abrasion Resistant

300 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors Tinned copper braid, 70% coverage min.
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25162    | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| 25162/1* | 2          | 0.254            | 6.45  | 0.032            | 0.81 |
| 25163    | 3          | 0.266            | 6.76  | 0.032            | 0.81 |
| 25163/1* | 3          | 0.266            | 6.76  | 0.032            | 0.81 |
| 25164    | 4          | 0.287            | 7.29  | 0.032            | 0.81 |
| 25166    | 6          | 0.335            | 8.51  | 0.032            | 0.81 |
| 25168    | 8          | 0.360            | 9.14  | 0.032            | 0.81 |
| 25170    | 10         | 0.412            | 10.46 | 0.032            | 0.81 |
| 25170/15 | 15         | 0.461            | 11.71 | 0.032            | 0.81 |
| 25170/20 | 20         | 0.512            | 13.00 | 0.032            | 0.81 |
| 25170/25 | 25         | 0.612            | 15.54 | 0.053            | 1.35 |
| 25170/30 | 30         | 0.651            | 16.54 | 0.053            | 1.35 |
| 25170/40 | 40         | 0.722            | 18.34 | 0.053            | 1.35 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 25172    | 2          | 0.278            | 7.06  | 0.032            | 0.81 |
| 25172/1* | 2          | 0.278            | 7.06  | 0.032            | 0.81 |
| 25173    | 3          | 0.292            | 7.42  | 0.032            | 0.81 |
| 25173/1* | 3          | 0.292            | 7.42  | 0.032            | 0.81 |
| 25174    | 4          | 0.316            | 8.03  | 0.032            | 0.81 |
| 25176    | 6          | 0.371            | 9.42  | 0.032            | 0.81 |
| 25178    | 8          | 0.400            | 10.16 | 0.032            | 0.81 |
| 25180    | 10         | 0.460            | 11.68 | 0.032            | 0.81 |
| 25180/15 | 15         | 0.516            | 13.11 | 0.032            | 0.81 |
| 25180/20 | 20         | 0.617            | 15.67 | 0.053            | 1.35 |
| 25180/25 | 25         | 0.690            | 17.53 | 0.053            | 1.35 |
| 25180/30 | 30         | 0.728            | 18.49 | 0.053            | 1.35 |
| 25180/40 | 40         | 0.869            | 22.07 | 0.083            | 2.11 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.



## Xtra-Guard® 2

Oil and Abrasion Resistant

600 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 20952 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +105°C

### Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

### Availability

Made to order  
 1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
 Insulation thickness: 0.032 (0.81 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>25522</b> | 2          | 0.380            | 9.65  | 0.063            | 1.60 |
| <b>25523</b> | 3          | 0.397            | 10.08 | 0.063            | 1.60 |
| <b>25524</b> | 4          | 0.427            | 10.85 | 0.063            | 1.60 |
| <b>25525</b> | 5          | 0.460            | 11.68 | 0.063            | 1.60 |
| <b>25527</b> | 7          | 0.494            | 12.55 | 0.063            | 1.60 |
| <b>25529</b> | 9          | 0.563            | 14.30 | 0.063            | 1.60 |

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
 Insulation thickness: 0.032 (0.81 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25532</b>    | 2          | 0.404            | 10.26 | 0.063            | 1.60 |
| <b>25533</b>    | 3          | 0.423            | 10.74 | 0.063            | 1.60 |
| <b>25534</b>    | 4          | 0.456            | 11.58 | 0.063            | 1.60 |
| <b>25535</b>    | 5          | 0.492            | 12.50 | 0.063            | 1.60 |
| <b>25537</b>    | 7          | 0.530            | 13.46 | 0.063            | 1.60 |
| <b>25539</b>    | 9          | 0.607            | 15.42 | 0.063            | 1.60 |
| <b>25539/12</b> | 12         | 0.675            | 17.15 | 0.063            | 1.60 |
| <b>25539/15</b> | 15         | 0.772            | 19.61 | 0.083            | 2.11 |
| <b>25539/19</b> | 19         | 0.820            | 20.83 | 0.083            | 2.11 |

#### 14 AWG (2.08 mm²)

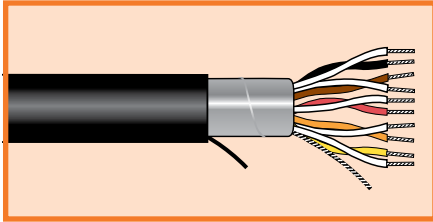
Stranding: 41/30 (41 x 0.25 mm)  
 Insulation thickness: 0.032 (0.81 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>25542</b>    | 2          | 0.434            | 11.02 | 0.063            | 1.60 |
| <b>25543</b>    | 3          | 0.456            | 11.58 | 0.063            | 1.60 |
| <b>25544</b>    | 4          | 0.492            | 12.50 | 0.063            | 1.60 |
| <b>25545</b>    | 5          | 0.533            | 13.54 | 0.063            | 1.60 |
| <b>25547</b>    | 7          | 0.575            | 14.61 | 0.063            | 1.60 |
| <b>25549</b>    | 9          | 0.668            | 16.97 | 0.063            | 1.60 |
| <b>25549/12</b> | 12         | 0.777            | 19.74 | 0.083            | 2.11 |



## Xtra-Guard® 2

Oil and Abrasion Resistant  
300 V Foil Shield, Multipair



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 24 AWG (0.23 mm<sup>2</sup>)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 25491    | 1     | 0.160            | 4.06  | 0.032            | 0.81 |
| 25492    | 2     | 0.216            | 5.48  | 0.032            | 0.81 |
| 25493    | 3     | 0.228            | 5.79  | 0.032            | 0.81 |
| 25494    | 4     | 0.247            | 6.27  | 0.032            | 0.81 |
| 25495    | 5     | 0.268            | 6.81  | 0.032            | 0.81 |
| 25496    | 6     | 0.290            | 7.37  | 0.032            | 0.81 |
| 25499    | 9     | 0.336            | 8.53  | 0.032            | 0.81 |
| 25499/11 | 11    | 0.361            | 9.17  | 0.032            | 0.81 |
| 25499/15 | 15    | 0.405            | 10.29 | 0.032            | 0.81 |
| 25499/19 | 19    | 0.433            | 11.00 | 0.032            | 0.81 |
| 25499/27 | 27    | 0.516            | 13.11 | 0.032            | 0.81 |

#### 22 AWG (0.35 mm<sup>2</sup>)

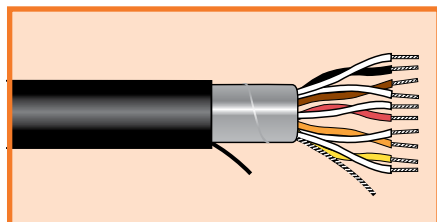
Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 25481    | 1     | 0.172            | 4.37  | 0.032            | 0.81 |
| 25482    | 2     | 0.236            | 5.99  | 0.032            | 0.81 |
| 25483    | 3     | 0.249            | 6.32  | 0.032            | 0.81 |
| 25484    | 4     | 0.271            | 6.88  | 0.032            | 0.81 |
| 25485    | 5     | 0.295            | 7.49  | 0.032            | 0.81 |
| 25486    | 6     | 0.320            | 8.13  | 0.032            | 0.81 |
| 25489    | 9     | 0.372            | 9.45  | 0.032            | 0.81 |
| 25489/11 | 11    | 0.400            | 10.16 | 0.032            | 0.81 |
| 25489/15 | 15    | 0.451            | 11.46 | 0.032            | 0.81 |
| 25489/19 | 19    | 0.483            | 12.27 | 0.032            | 0.81 |



## Xtra-Guard® 2

Oil and Abrasion Resistant  
300 V Foil Shield, Multipair



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Aluminum/polyester/aluminum foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>25452</b>    | 2     | 0.302            | 7.67  | 0.032            | 0.81 |
| <b>25453</b>    | 3     | 0.320            | 8.13  | 0.032            | 0.81 |
| <b>25456</b>    | 6     | 0.419            | 10.64 | 0.032            | 0.81 |
| <b>25459</b>    | 9     | 0.491            | 12.47 | 0.032            | 0.81 |
| <b>25459/12</b> | 12    | 0.549            | 13.94 | 0.032            | 0.81 |
| <b>25459/15</b> | 15    | 0.644            | 16.36 | 0.053            | 1.35 |

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>25372</b>    | 2     | 0.331            | 8.41  | 0.032            | 0.81 |
| <b>25373</b>    | 3     | 0.352            | 8.94  | 0.032            | 0.81 |
| <b>25376</b>    | 6     | 0.464            | 11.79 | 0.032            | 0.81 |
| <b>25379</b>    | 9     | 0.545            | 13.84 | 0.053            | 1.35 |
| <b>25379/12</b> | 12    | 0.652            | 16.56 | 0.053            | 1.35 |



## Xtra-Guard® 2

Oil and Abrasion Resistant

300 V Supra-Shield® Foil/Braid, Multipair



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 25271    | 1     | 0.184            | 4.67  | 0.032            | 0.81 |
| 25272    | 2     | 0.240            | 6.10  | 0.032            | 0.81 |
| 25273    | 3     | 0.252            | 6.40  | 0.032            | 0.81 |
| 25274    | 4     | 0.271            | 6.88  | 0.032            | 0.81 |
| 25275    | 5     | 0.292            | 7.42  | 0.032            | 0.81 |
| 25276    | 6     | 0.314            | 7.98  | 0.032            | 0.81 |
| 25279    | 9     | 0.360            | 9.14  | 0.032            | 0.81 |
| 25279/11 | 11    | 0.385            | 9.78  | 0.032            | 0.81 |
| 25279/15 | 15    | 0.429            | 10.90 | 0.032            | 0.81 |
| 25279/19 | 19    | 0.457            | 11.61 | 0.032            | 0.81 |

#### 22 AWG (0.35 mm²)

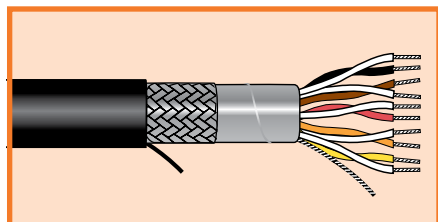
Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 25121    | 1     | 0.196            | 4.98  | 0.032            | 0.81 |
| 25122    | 2     | 0.260            | 6.60  | 0.032            | 0.81 |
| 25123    | 3     | 0.273            | 6.93  | 0.032            | 0.81 |
| 25124    | 4     | 0.295            | 7.49  | 0.032            | 0.81 |
| 25125    | 5     | 0.319            | 8.10  | 0.032            | 0.81 |
| 25126    | 6     | 0.344            | 8.74  | 0.032            | 0.81 |
| 25129    | 9     | 0.396            | 10.06 | 0.032            | 0.81 |
| 25129/11 | 11    | 0.424            | 10.77 | 0.032            | 0.81 |
| 25129/15 | 15    | 0.475            | 12.07 | 0.032            | 0.81 |



## Xtra-Guard® 2

Oil and Abrasion Resistant  
300 V Supra-Shield® Foil/Braid, Multipair



**UL AWM 20668 VW-1**  
**CSA AWM I/II A/B FT1**

### Operating Temperature

- -30°C to +90°C

### Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyurethane jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-750: Bonding adhesive lined, cross-linked polyolefin

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.     | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|--------------|-------|------------------|-------|------------------|------|
|              |       | Inch             | mm    | Inch             | mm   |
| <b>25292</b> | 2     | 0.326            | 8.28  | 0.032            | 0.81 |
| <b>25293</b> | 3     | 0.344            | 8.74  | 0.032            | 0.81 |
| <b>25296</b> | 6     | 0.443            | 11.25 | 0.032            | 0.81 |
| <b>25299</b> | 9     | 0.515            | 13.08 | 0.032            | 0.81 |

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>25132</b>    | 2     | 0.355            | 9.02  | 0.032            | 0.81 |
| <b>25133</b>    | 3     | 0.376            | 9.55  | 0.032            | 0.81 |
| <b>25136</b>    | 6     | 0.488            | 12.40 | 0.032            | 0.81 |
| <b>25139</b>    | 9     | 0.611            | 15.52 | 0.053            | 1.35 |
| <b>25139/12</b> | 12    | 0.682            | 17.32 | 0.053            | 1.35 |

# Xtra-Guard® 3

## Direct Burial



### Features

- The preferred outdoor cable for direct burial
- Resistant to the effects of weathering, moisture, and UV aging without the costly use of conduit
- 6 times the water resistance of PVC
- Specially formulated polyethylene jacket for outstanding service life and ultraviolet light stability in all jacket colors
- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Temperature ratings to 80°C
- Outstanding ultraviolet light stability in all jacket colors

### Applications

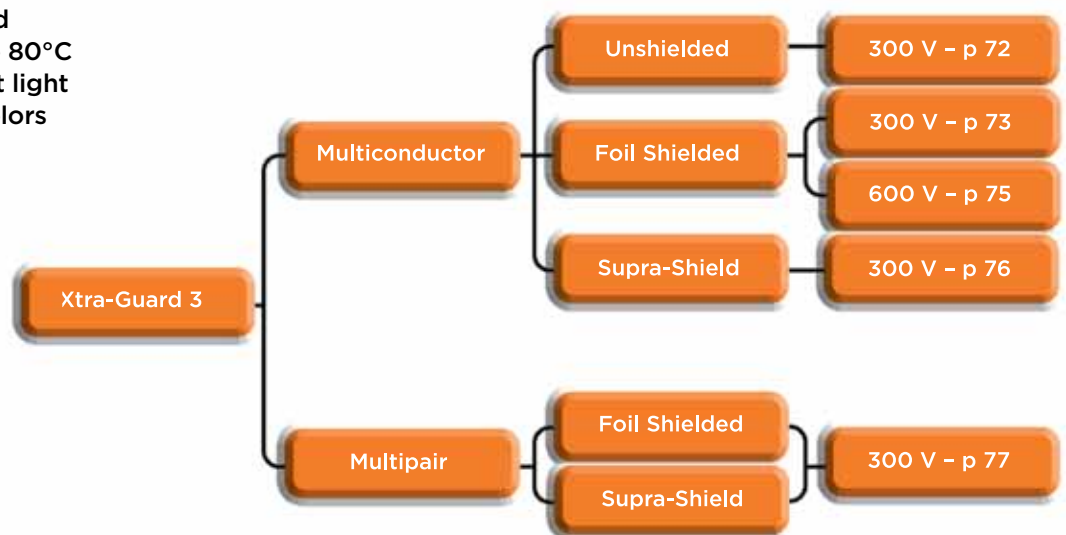
- Interbuilding communications
- Satellite communications equipment
- Land irrigation systems
- Outdoor security systems
- Outdoor scoreboards and displays
- Pipeline sensor controls

### FIT® Tubing Recommendations

- FIT-700: Bonding thermoplastic adhesive lined, cross-linked polyolefin

|       |        |        |
|-------|--------|--------|
| SLATE | BEIGE  | WHITE  |
| RED   | BLACK  | BLUE   |
| GREEN | YELLOW | ORANGE |

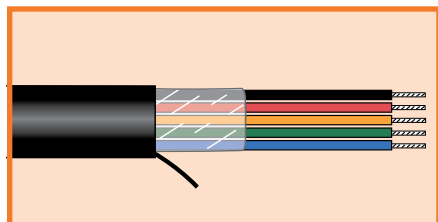
Xtra-Guard cables are available in a range of long-lasting colors for fast, easy identification, for safety reasons, and for matching the color of your system.



# Xtra-Guard® 3

Direct Burial

300 V Unshielded, Multiconductor



## Operating Temperature

- -30°C to +80°C

## Conductor Color Coding

- 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 35002    | 2          | 0.167            | 4.24 | 0.032            | 0.81 |
| 35003    | 3          | 0.175            | 4.45 | 0.032            | 0.81 |
| 35004    | 4          | 0.188            | 4.78 | 0.032            | 0.81 |
| 35006    | 6          | 0.218            | 5.54 | 0.032            | 0.81 |
| 35008    | 8          | 0.233            | 5.92 | 0.032            | 0.81 |
| 35010    | 10         | 0.267            | 6.78 | 0.032            | 0.81 |
| 35010/15 | 15         | 0.297            | 7.54 | 0.032            | 0.81 |

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 35052    | 2          | 0.207            | 5.26 | 0.032            | 0.81 |
| 35053    | 3          | 0.218            | 5.54 | 0.032            | 0.81 |
| 35054    | 4          | 0.236            | 5.99 | 0.032            | 0.81 |
| 35056    | 6          | 0.278            | 7.06 | 0.032            | 0.81 |
| 35058    | 8          | 0.300            | 7.62 | 0.032            | 0.81 |
| 35060    | 10         | 0.347            | 8.81 | 0.032            | 0.81 |
| 35060/15 | 15         | 0.389            | 9.88 | 0.032            | 0.81 |

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35062    | 2          | 0.225            | 5.72  | 0.032            | 0.81 |
| 35063    | 3          | 0.237            | 6.02  | 0.032            | 0.81 |
| 35064    | 4          | 0.258            | 6.55  | 0.032            | 0.81 |
| 35066    | 6          | 0.305            | 7.75  | 0.032            | 0.81 |
| 35068    | 8          | 0.330            | 8.38  | 0.032            | 0.81 |
| 35070    | 10         | 0.383            | 9.73  | 0.032            | 0.81 |
| 35070/15 | 15         | 0.430            | 10.92 | 0.032            | 0.81 |

### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35072    | 2          | 0.249            | 6.32  | 0.032            | 0.81 |
| 35073    | 3          | 0.263            | 6.68  | 0.032            | 0.81 |
| 35074    | 4          | 0.287            | 7.29  | 0.032            | 0.81 |
| 35076    | 6          | 0.341            | 8.66  | 0.032            | 0.81 |
| 35078    | 8          | 0.370            | 9.40  | 0.032            | 0.81 |
| 35080    | 10         | 0.431            | 10.95 | 0.032            | 0.81 |
| 35080/15 | 15         | 0.485            | 12.32 | 0.032            | 0.81 |





# Xtra-Guard® 3

Direct Burial

300 V Foil Shield, Multiconductor



## Operating Temperature

- -30°C to +80°C

## Conductor Color Coding

- 22 AWG: Chart E (page 532)
- 20 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35192    | 2          | 0.171            | 4.34  | 0.032            | 0.81 |
| 35193    | 3          | 0.179            | 4.55  | 0.032            | 0.81 |
| 35194    | 4          | 0.192            | 4.88  | 0.032            | 0.81 |
| 35196    | 6          | 0.222            | 5.64  | 0.032            | 0.81 |
| 35198    | 8          | 0.237            | 6.02  | 0.032            | 0.81 |
| 35199/10 | 10         | 0.271            | 6.88  | 0.032            | 0.81 |
| 35199/15 | 15         | 0.301            | 7.65  | 0.032            | 0.81 |
| 35199/20 | 20         | 0.333            | 8.46  | 0.032            | 0.81 |
| 35199/25 | 25         | 0.371            | 9.42  | 0.032            | 0.81 |
| 35199/30 | 30         | 0.392            | 9.96  | 0.032            | 0.81 |
| 35199/40 | 40         | 0.436            | 11.07 | 0.032            | 0.81 |
| 35199/50 | 50         | 0.479            | 12.17 | 0.032            | 0.81 |
| 35199/60 | 60         | 0.521            | 13.23 | 0.032            | 0.81 |

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35462    | 2          | 0.211            | 5.36  | 0.032            | 0.81 |
| 35463    | 3          | 0.222            | 5.64  | 0.032            | 0.81 |
| 35464    | 4          | 0.240            | 6.10  | 0.032            | 0.81 |
| 35466    | 6          | 0.282            | 7.16  | 0.032            | 0.81 |
| 35468    | 8          | 0.304            | 7.72  | 0.032            | 0.81 |
| 35470    | 10         | 0.351            | 8.92  | 0.032            | 0.81 |
| 35470/15 | 15         | 0.393            | 9.98  | 0.032            | 0.81 |
| 35470/20 | 20         | 0.437            | 11.10 | 0.032            | 0.81 |
| 35470/25 | 25         | 0.491            | 12.47 | 0.032            | 0.81 |



# Xtra-Guard® 3

Direct Burial

300 V Foil Shield, Multiconductor



## Operating Temperature

- -30°C to +80°C

## Conductor Color Coding

- Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

### 18 AWG (0.81 mm<sup>2</sup>)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>35382</b>    | 2          | 0.229            | 5.82  | 0.032            | 0.81 |
| <b>35383</b>    | 3          | 0.241            | 6.12  | 0.032            | 0.81 |
| <b>35384</b>    | 4          | 0.262            | 6.65  | 0.032            | 0.81 |
| <b>35386</b>    | 6          | 0.309            | 7.85  | 0.032            | 0.81 |
| <b>35388</b>    | 8          | 0.334            | 8.48  | 0.032            | 0.81 |
| <b>35390</b>    | 10         | 0.387            | 9.83  | 0.032            | 0.81 |
| <b>35390/15</b> | 15         | 0.434            | 11.02 | 0.032            | 0.81 |
| <b>35390/20</b> | 20         | 0.485            | 12.32 | 0.032            | 0.81 |
| <b>35390/25</b> | 25         | 0.587            | 14.91 | 0.053            | 1.35 |

### 16 AWG (1.23 mm<sup>2</sup>)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>35362</b>    | 2          | 0.253            | 6.43  | 0.032            | 0.81 |
| <b>35363</b>    | 3          | 0.267            | 6.78  | 0.032            | 0.81 |
| <b>35364</b>    | 4          | 0.291            | 7.39  | 0.032            | 0.81 |
| <b>35366</b>    | 6          | 0.345            | 8.76  | 0.032            | 0.81 |
| <b>35368</b>    | 8          | 0.374            | 9.50  | 0.032            | 0.81 |
| <b>35370</b>    | 10         | 0.435            | 11.05 | 0.032            | 0.81 |
| <b>35370/15</b> | 15         | 0.489            | 12.42 | 0.032            | 0.81 |
| <b>35370/20</b> | 20         | 0.589            | 14.96 | 0.053            | 1.35 |
| <b>35370/25</b> | 25         | 0.659            | 16.74 | 0.053            | 1.35 |





# Xtra-Guard® 3

Direct Burial

600 V Foil Shield, Multiconductor



## Operating Temperature

- -30°C to +80°C

## Conductor Color Coding

- Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35430/2  | 2          | 0.355            | 9.02  | 0.063            | 1.60 |
| 35430/3  | 3          | 0.372            | 9.45  | 0.063            | 1.60 |
| 35430/5  | 5          | 0.434            | 11.02 | 0.063            | 1.60 |
| 35430/7  | 7          | 0.468            | 11.89 | 0.063            | 1.60 |
| 35430/9  | 9          | 0.537            | 13.64 | 0.063            | 1.60 |
| 35430/12 | 12         | 0.594            | 15.09 | 0.063            | 1.60 |

### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35440/2  | 2          | 0.379            | 9.63  | 0.063            | 1.60 |
| 35440/3  | 3          | 0.398            | 10.11 | 0.063            | 1.60 |
| 35440/5  | 5          | 0.466            | 11.84 | 0.063            | 1.60 |
| 35440/7  | 7          | 0.504            | 12.80 | 0.063            | 1.60 |
| 35440/9  | 9          | 0.581            | 14.76 | 0.063            | 1.60 |
| 35440/12 | 12         | 0.644            | 16.36 | 0.063            | 1.60 |

### 14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35450/2  | 2          | 0.409            | 10.39 | 0.063            | 1.60 |
| 35450/3  | 3          | 0.431            | 10.95 | 0.063            | 1.60 |
| 35450/5  | 5          | 0.507            | 12.88 | 0.063            | 1.60 |
| 35450/7  | 7          | 0.549            | 13.94 | 0.063            | 1.60 |
| 35450/9  | 9          | 0.635            | 16.13 | 0.063            | 1.60 |
| 35450/12 | 12         | 0.706            | 17.93 | 0.063            | 1.60 |



# Xtra-Guard® 3

Direct Burial

300 V Supra-Shield® Foil/Braid, Multiconductor



## Operating Temperature

- -30°C to +80°C

## Conductor Color Coding

- 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin



### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 35102    | 2          | 0.195            | 4.95 | 0.032            | 0.81 |
| 35103    | 3          | 0.203            | 5.16 | 0.032            | 0.81 |
| 35104    | 4          | 0.216            | 5.49 | 0.032            | 0.81 |
| 35106    | 6          | 0.246            | 6.25 | 0.032            | 0.81 |
| 35108    | 8          | 0.261            | 6.63 | 0.032            | 0.81 |
| 35110    | 10         | 0.295            | 7.49 | 0.032            | 0.81 |
| 35110/15 | 15         | 0.325            | 8.26 | 0.032            | 0.81 |

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35152    | 2          | 0.235            | 5.97  | 0.032            | 0.81 |
| 35153    | 3          | 0.246            | 6.25  | 0.032            | 0.81 |
| 35154    | 4          | 0.264            | 6.71  | 0.032            | 0.81 |
| 35156    | 6          | 0.306            | 7.77  | 0.032            | 0.81 |
| 35158    | 8          | 0.328            | 8.33  | 0.032            | 0.81 |
| 35160    | 10         | 0.375            | 9.53  | 0.032            | 0.81 |
| 35160/15 | 15         | 0.417            | 10.59 | 0.032            | 0.81 |

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35162    | 2          | 0.253            | 6.43  | 0.032            | 0.81 |
| 35162/1* | 2          | 0.253            | 6.43  | 0.032            | 0.81 |
| 35163    | 3          | 0.265            | 6.73  | 0.032            | 0.81 |
| 35163/1* | 3          | 0.265            | 6.73  | 0.032            | 0.81 |
| 35164    | 4          | 0.286            | 7.26  | 0.032            | 0.81 |
| 35166    | 6          | 0.333            | 8.46  | 0.032            | 0.81 |
| 35168    | 8          | 0.358            | 9.09  | 0.032            | 0.81 |
| 35170    | 10         | 0.411            | 10.44 | 0.032            | 0.81 |
| 35170/15 | 15         | 0.458            | 11.63 | 0.032            | 0.81 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 35172    | 2          | 0.277            | 7.04  | 0.032            | 0.81 |
| 35172/1* | 2          | 0.277            | 7.04  | 0.032            | 0.81 |
| 35173    | 3          | 0.291            | 7.39  | 0.032            | 0.81 |
| 35173/1* | 3          | 0.291            | 7.39  | 0.032            | 0.81 |
| 35174    | 4          | 0.315            | 8.00  | 0.032            | 0.81 |
| 35176    | 6          | 0.369            | 9.37  | 0.032            | 0.81 |
| 35178    | 8          | 0.398            | 10.11 | 0.032            | 0.81 |
| 35180    | 10         | 0.459            | 11.66 | 0.032            | 0.81 |
| 35180/15 | 15         | 0.513            | 13.03 | 0.032            | 0.81 |

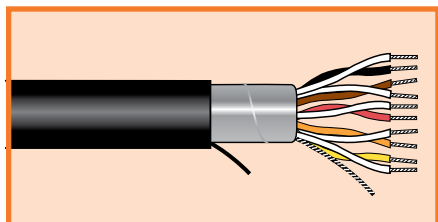
\*Conductors color-coded per international standards: brown, blue, green/yellow.



# Xtra-Guard® 3

Direct Burial

300 V Foil Shield, Multipair



## Operating Temperature

- -30°C to +80°C

## Conductor Color Coding

- 24, 22 AWG: Chart B (page 528)
- 20, 18 AWG: Chart A (page 528)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|----------|-------|------------------|------|------------------|------|
|          |       | Inch             | mm   | Inch             | mm   |
| 35491    | 1     | 0.159            | 4.04 | 0.032            | 0.81 |
| 35492    | 2     | 0.215            | 5.46 | 0.032            | 0.81 |
| 35493    | 3     | 0.227            | 5.77 | 0.032            | 0.81 |
| 35494    | 4     | 0.246            | 6.25 | 0.032            | 0.81 |

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|----------|-------|------------------|------|------------------|------|
|          |       | Inch             | mm   | Inch             | mm   |
| 35481    | 1     | 0.171            | 4.34 | 0.032            | 0.81 |
| 35482    | 2     | 0.235            | 5.97 | 0.032            | 0.81 |
| 35483    | 3     | 0.248            | 6.30 | 0.032            | 0.81 |
| 35484    | 4     | 0.269            | 6.83 | 0.032            | 0.81 |
| 35485    | 5     | 0.293            | 7.44 | 0.032            | 0.81 |

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|----------|-------|------------------|------|------------------|------|
|          |       | Inch             | mm   | Inch             | mm   |
| 35452    | 2     | 0.301            | 7.65 | 0.032            | 0.81 |
| 35453    | 3     | 0.319            | 8.10 | 0.032            | 0.81 |

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 35372    | 2     | 0.330            | 8.38  | 0.032            | 0.81 |
| 35373    | 3     | 0.350            | 8.89  | 0.032            | 0.81 |
| 35376    | 6     | 0.462            | 11.73 | 0.032            | 0.81 |



# Xtra-Guard® 3



Direct Burial

300 V Supra-Shield® Foil/Braid, Multipair



## Operating Temperature

- -30°C to +80°C

## Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- Premium PVC insulation
- Specially formulated polyethylene jacket
- UV resistant
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-700: Bonding, thermoplastic adhesive lined, cross-linked polyolefin

### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.     | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|--------------|-------|------------------|------|------------------|------|
|              |       | Inch             | mm   | Inch             | mm   |
| <b>35272</b> | 2     | 0.239            | 6.07 | 0.032            | 0.81 |

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.     | Pairs | Nominal Diameter |      | Jacket Thickness |       |
|--------------|-------|------------------|------|------------------|-------|
|              |       | Inch             | mm   | Inch             | mm    |
| <b>35121</b> | 1     | 0.195            | 4.95 | 0.032            | 0.081 |
| <b>35122</b> | 2     | 0.259            | 6.58 | 0.032            | 0.081 |
| <b>35123</b> | 3     | 0.272            | 6.91 | 0.032            | 0.081 |
| <b>35124</b> | 4     | 0.293            | 7.44 | 0.032            | 0.081 |
| <b>35125</b> | 5     | 0.317            | 8.05 | 0.032            | 0.081 |
| <b>35126</b> | 6     | 0.342            | 8.69 | 0.032            | 0.081 |
| <b>35129</b> | 9     | 0.393            | 9.98 | 0.032            | 0.081 |



# Xtra-Guard® 4

## Advanced Temperature and Chemical Performance



### Features

- The preferred outdoor cable for advanced temperature and chemical performance
- Temperature range from -50°C to +125°C
- High-performance TPE insulation and jacket offering 3 times the low-temperature flexibility of conventional PVC
- Solvent and water resistant
- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- 300 V and 600 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Outstanding ultraviolet light stability in all jacket colors
- Nylon ripcord for easy jacket stripping
- Approved by the US Mine Safety and Health Administration and The Pennsylvania Department of Environmental Protection
- Suitable for use in Class 1, Division 2 Locations under the applicable sections of the National Electric Code

- UL Types TC, PLTC, and WTTC
- CSA AWM I A/B II A/B FT1
- Passes UL 1685 Vertical Tray Flame Test

### Applications

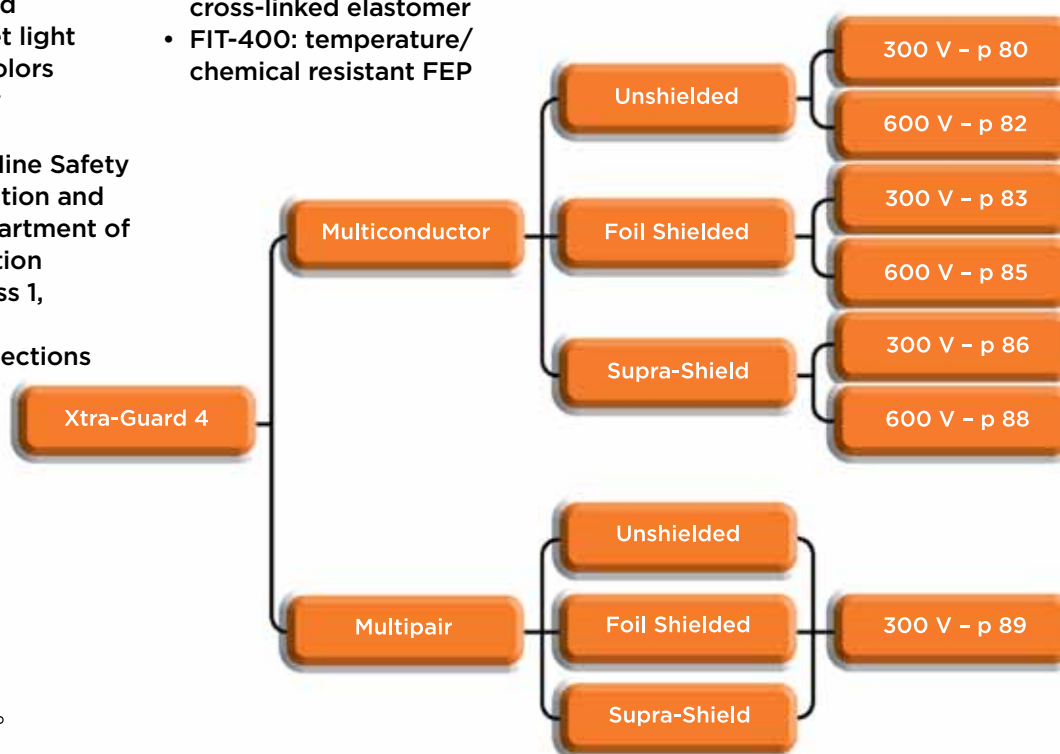
- Wood, paper, pulp, plant operations
- Mining instruments and controls
- Mass transit systems
- Military electronic applications
- Food and beverage plants
- Petrochemical process controls
- Arctic pipeline controls

|       |        |        |
|-------|--------|--------|
| SLATE | BEIGE  | WHITE  |
| RED   | BLACK  | BLUE   |
| GREEN | YELLOW | ORANGE |

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.

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP



# Xtra-Guard® 4



## Advanced Temperature and Chemical Performance 300 V Unshielded, Multiconductor



**UL AWM 20237**  
**UL PLTC\***  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2 (22 & 20 AWG)**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Nylon ripcord

### Availability

Made to order  
 1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 24 AWG (0.23 mm²)\*

Stranding: 7/32 (7 x 0.20 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45012    | 2          | 0.200            | 5.08  | 0.042            | 1.07 |
| 45013    | 3          | 0.209            | 5.31  | 0.042            | 1.07 |
| 45014    | 4          | 0.224            | 5.69  | 0.042            | 1.07 |
| 45016    | 6          | 0.257            | 6.53  | 0.042            | 1.07 |
| 45018    | 8          | 0.275            | 6.99  | 0.042            | 1.07 |
| 45020    | 10         | 0.312            | 7.92  | 0.042            | 1.07 |
| 45020/15 | 15         | 0.347            | 8.81  | 0.042            | 1.07 |
| 45020/20 | 20         | 0.383            | 9.73  | 0.042            | 1.07 |
| 45020/25 | 25         | 0.424            | 10.77 | 0.042            | 1.07 |

\* UL AWM 20237, CSA AWM I/II A/B FT1 only

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45002    | 2          | 0.218            | 5.54  | 0.045            | 1.14 |
| 45003    | 3          | 0.228            | 5.79  | 0.045            | 1.14 |
| 45004    | 4          | 0.244            | 6.20  | 0.045            | 1.14 |
| 45006    | 6          | 0.281            | 7.14  | 0.045            | 1.14 |
| 45008    | 8          | 0.301            | 7.65  | 0.045            | 1.14 |
| 45010    | 10         | 0.342            | 8.69  | 0.045            | 1.14 |
| 45010/15 | 15         | 0.380            | 9.65  | 0.045            | 1.14 |
| 45010/20 | 20         | 0.441            | 11.20 | 0.055            | 1.40 |
| 45010/25 | 25         | 0.486            | 12.34 | 0.055            | 1.40 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45052    | 2          | 0.234            | 5.94  | 0.045            | 1.14 |
| 45053    | 3          | 0.245            | 6.22  | 0.045            | 1.14 |
| 45054    | 4          | 0.264            | 6.71  | 0.045            | 1.14 |
| 45056    | 6          | 0.306            | 7.77  | 0.045            | 1.14 |
| 45058    | 8          | 0.328            | 8.33  | 0.045            | 1.14 |
| 45060    | 10         | 0.374            | 9.50  | 0.045            | 1.14 |
| 45060/15 | 15         | 0.437            | 11.10 | 0.055            | 1.40 |
| 45060/20 | 20         | 0.483            | 12.27 | 0.055            | 1.40 |
| 45060/25 | 25         | 0.534            | 13.56 | 0.055            | 1.40 |



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# Xtra-Guard® 4

## Advanced Temperature and Chemical Performance 300 V Unshielded, Multiconductor



**UL AWM 20237**  
**UL PLTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Nylon ripcord

### Availability

Made to order  
 1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>45062</b>    | 2          | 0.252            | 6.40  | 0.045            | 1.14 |
| <b>45062/1*</b> | 2          | 0.252            | 6.40  | 0.045            | 1.14 |
| <b>45063</b>    | 3          | 0.264            | 6.71  | 0.045            | 1.14 |
| <b>45063/1*</b> | 3          | 0.264            | 6.71  | 0.045            | 1.14 |
| <b>45064</b>    | 4          | 0.285            | 7.24  | 0.045            | 1.14 |
| <b>45066</b>    | 6          | 0.333            | 8.46  | 0.045            | 1.14 |
| <b>45068</b>    | 8          | 0.358            | 9.09  | 0.045            | 1.14 |
| <b>45070</b>    | 10         | 0.430            | 10.92 | 0.055            | 1.40 |
| <b>45070/15</b> | 15         | 0.479            | 12.17 | 0.055            | 1.40 |
| <b>45070/20</b> | 20         | 0.530            | 13.46 | 0.055            | 1.40 |
| <b>45070/25</b> | 25         | 0.588            | 14.94 | 0.055            | 1.40 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>45072</b>    | 2          | 0.276            | 7.01  | 0.045            | 1.14 |
| <b>45072/1*</b> | 2          | 0.276            | 7.01  | 0.045            | 1.14 |
| <b>45073</b>    | 3          | 0.290            | 7.37  | 0.045            | 1.14 |
| <b>45073/1*</b> | 3          | 0.290            | 7.37  | 0.045            | 1.14 |
| <b>45074</b>    | 4          | 0.314            | 7.98  | 0.045            | 1.14 |
| <b>45076</b>    | 6          | 0.369            | 9.37  | 0.045            | 1.14 |
| <b>45078</b>    | 8          | 0.418            | 10.62 | 0.055            | 1.40 |
| <b>45080</b>    | 10         | 0.478            | 12.14 | 0.055            | 1.40 |
| <b>45080/15</b> | 15         | 0.534            | 13.56 | 0.055            | 1.40 |
| <b>45080/20</b> | 20         | 0.593            | 15.06 | 0.055            | 1.40 |
| <b>45080/25</b> | 25         | 0.680            | 17.27 | 0.055            | 1.40 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.





A diagram of a cable cross-section. It features a black outer jacket, a grey braided shield, and four twisted pairs of wires. The twisted pairs are color-coded: red/white, orange/white, green/white, and blue/white. The shield is shown as a separate layer between the jacket and the twisted pairs.

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

| 14 AWG (2.08 mm <sup>2</sup> )                                           |            |                  |       |                  |      |
|--------------------------------------------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 41/30 (41 x 0.25 mm)<br>Insulation thickness: 0.032 (0.81 mm) |            |                  |       |                  |      |
| Part No.                                                                 | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                                                          |            | Inch             | mm    | Inch             | mm   |
| 45442                                                                    | 2          | 0.390            | 9.91  | 0.055            | 1.40 |
| 45443                                                                    | 3          | 0.412            | 10.46 | 0.055            | 1.40 |
| 45444                                                                    | 4          | 0.448            | 11.38 | 0.055            | 1.40 |
| 45445                                                                    | 5          | 0.489            | 12.42 | 0.055            | 1.40 |
| 45447                                                                    | 7          | 0.551            | 14.00 | 0.065            | 1.65 |



## Xtra-Guard® 4

Advanced Temperature and Chemical Performance  
300 V Foil Shielded, Multiconductor



**UL AWM 20237**  
**UL PLTC\***  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2 (22 & 20 AWG)**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45092    | 2          | 0.204            | 5.18  | 0.042            | 1.07 |
| 45093    | 3          | 0.213            | 5.41  | 0.042            | 1.07 |
| 45094    | 4          | 0.228            | 5.79  | 0.042            | 1.07 |
| 45096    | 6          | 0.261            | 6.63  | 0.042            | 1.07 |
| 45098    | 8          | 0.279            | 7.09  | 0.042            | 1.07 |
| 45100    | 10         | 0.316            | 8.03  | 0.042            | 1.07 |
| 45100/15 | 15         | 0.351            | 8.92  | 0.042            | 1.07 |
| 45100/20 | 20         | 0.387            | 9.83  | 0.042            | 1.07 |
| 45100/25 | 25         | 0.428            | 10.87 | 0.042            | 1.07 |

\* UL AWM 20237, CSA AWM I/II A/B FT1 only

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45192    | 2          | 0.222            | 5.64  | 0.045            | 1.14 |
| 45193    | 3          | 0.232            | 5.89  | 0.045            | 1.14 |
| 45194    | 4          | 0.248            | 6.30  | 0.045            | 1.14 |
| 45196    | 6          | 0.285            | 7.24  | 0.045            | 1.14 |
| 45198    | 8          | 0.305            | 7.75  | 0.045            | 1.14 |
| 45199/10 | 10         | 0.346            | 8.79  | 0.045            | 1.14 |
| 45199/15 | 15         | 0.404            | 10.26 | 0.055            | 1.40 |
| 45199/20 | 20         | 0.445            | 11.30 | 0.055            | 1.40 |
| 45199/25 | 25         | 0.490            | 12.45 | 0.055            | 1.40 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45462    | 2          | 0.238            | 6.05  | 0.045            | 1.14 |
| 45463    | 3          | 0.249            | 6.32  | 0.045            | 1.14 |
| 45464    | 4          | 0.268            | 6.81  | 0.045            | 1.14 |
| 45466    | 6          | 0.310            | 7.87  | 0.045            | 1.14 |
| 45468    | 8          | 0.332            | 8.43  | 0.045            | 1.14 |
| 45470    | 10         | 0.378            | 9.60  | 0.045            | 1.14 |
| 45470/15 | 15         | 0.441            | 11.20 | 0.055            | 1.40 |
| 45470/20 | 20         | 0.487            | 12.37 | 0.055            | 1.40 |
| 45470/25 | 25         | 0.538            | 13.67 | 0.055            | 1.40 |
| 45470/40 | 40         | 0.650            | 16.51 | 0.065            | 1.65 |



# Xtra-Guard® 4

## Advanced Temperature and Chemical Performance 300 V Foil Shielded, Multiconductor



**UL AWM 20237**  
**UL PLTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
 1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>45382</b>    | 2          | 0.256            | 6.50  | 0.045            | 1.14 |
| <b>45382/1*</b> | 2          | 0.256            | 6.50  | 0.045            | 1.14 |
| <b>45383</b>    | 3          | 0.268            | 6.81  | 0.045            | 1.14 |
| <b>45383/1*</b> | 3          | 0.268            | 6.81  | 0.045            | 1.14 |
| <b>45384</b>    | 4          | 0.289            | 7.34  | 0.045            | 1.14 |
| <b>45386</b>    | 6          | 0.337            | 8.56  | 0.045            | 1.14 |
| <b>45388</b>    | 8          | 0.362            | 9.19  | 0.045            | 1.14 |
| <b>45390</b>    | 10         | 0.434            | 11.02 | 0.055            | 1.40 |
| <b>45390/15</b> | 15         | 0.483            | 12.27 | 0.055            | 1.40 |
| <b>45390/20</b> | 20         | 0.534            | 13.56 | 0.055            | 1.40 |
| <b>45390/25</b> | 25         | 0.592            | 15.04 | 0.055            | 1.40 |
| <b>45390/30</b> | 30         | 0.645            | 16.38 | 0.065            | 1.65 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>45362</b>    | 2          | 0.280            | 7.11  | 0.045            | 1.14 |
| <b>45362/1*</b> | 2          | 0.280            | 7.11  | 0.045            | 1.14 |
| <b>45363</b>    | 3          | 0.294            | 7.47  | 0.045            | 1.14 |
| <b>45363/1*</b> | 3          | 0.294            | 7.47  | 0.045            | 1.14 |
| <b>45364</b>    | 4          | 0.318            | 8.08  | 0.045            | 1.14 |
| <b>45366</b>    | 6          | 0.373            | 9.47  | 0.045            | 1.14 |
| <b>45368</b>    | 8          | 0.422            | 10.72 | 0.045            | 1.14 |
| <b>45370</b>    | 10         | 0.482            | 12.24 | 0.055            | 1.40 |
| <b>45370/15</b> | 15         | 0.538            | 13.67 | 0.055            | 1.40 |
| <b>45370/20</b> | 20         | 0.597            | 15.16 | 0.055            | 1.40 |
| <b>45370/25</b> | 25         | 0.684            | 17.37 | 0.065            | 1.65 |

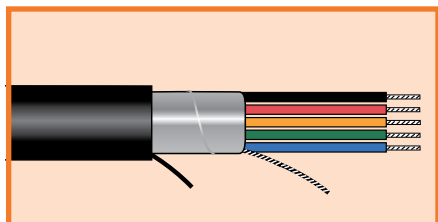
\*Conductors color-coded per international standards: brown, blue, green/yellow.





# Xtra-Guard® 4

Advanced Temperature and Chemical Performance  
600 V Foil Shielded, Multiconductor



**UL AWM 20238**  
**UL TC, WTTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2**

## Operating Temperature

- -50°C to +125°C

## Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45430/2  | 2          | 0.340            | 8.64  | 0.055            | 1.40 |
| 45430/3  | 3          | 0.357            | 9.07  | 0.055            | 1.40 |
| 45430/4  | 4          | 0.387            | 9.83  | 0.055            | 1.40 |
| 45430/5  | 5          | 0.420            | 10.67 | 0.055            | 1.40 |
| 45430/7  | 7          | 0.454            | 11.53 | 0.055            | 1.40 |
| 45430/9  | 9          | 0.543            | 13.79 | 0.055            | 1.40 |
| 45430/12 | 12         | 0.599            | 15.21 | 0.065            | 1.65 |

### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45440/2  | 2          | 0.364            | 9.25  | 0.055            | 1.40 |
| 45440/3  | 3          | 0.383            | 9.73  | 0.055            | 1.40 |
| 45440/5  | 5          | 0.452            | 11.48 | 0.055            | 1.40 |
| 45440/7  | 7          | 0.490            | 12.45 | 0.055            | 1.40 |
| 45440/9  | 9          | 0.587            | 14.91 | 0.065            | 1.65 |
| 45440/12 | 12         | 0.649            | 16.48 | 0.065            | 1.65 |

### 14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45450/2  | 2          | 0.394            | 10.01 | 0.055            | 1.40 |
| 45450/3  | 3          | 0.416            | 10.57 | 0.055            | 1.40 |
| 45450/5  | 5          | 0.493            | 12.52 | 0.055            | 1.40 |
| 45450/7  | 7          | 0.555            | 14.10 | 0.065            | 1.65 |
| 45450/15 | 15         | 0.775            | 19.69 | 0.065            | 1.65 |



# Xtra-Guard® 4



## Advanced Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 20237**  
**UL PLTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2 (22 & 20 AWG)**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

### Availability

Made to order  
 1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45112    | 2          | 0.228            | 5.79  | 0.042            | 1.07 |
| 45113    | 3          | 0.237            | 6.02  | 0.042            | 1.07 |
| 45114    | 4          | 0.252            | 6.40  | 0.042            | 1.07 |
| 45116    | 6          | 0.285            | 7.24  | 0.042            | 1.07 |
| 45118    | 8          | 0.303            | 7.70  | 0.042            | 1.07 |
| 45120    | 10         | 0.340            | 8.64  | 0.042            | 1.07 |
| 45120/15 | 15         | 0.375            | 9.53  | 0.042            | 1.07 |
| 45120/20 | 20         | 0.411            | 10.44 | 0.042            | 1.07 |
| 45120/25 | 25         | 0.452            | 11.48 | 0.042            | 1.07 |

\* UL AWM 20237, CSA AWM I/II A/B FT1 only

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45102    | 2          | 0.246            | 6.25  | 0.045            | 1.14 |
| 45103    | 3          | 0.256            | 6.50  | 0.045            | 1.14 |
| 45104    | 4          | 0.272            | 6.91  | 0.045            | 1.14 |
| 45106    | 6          | 0.309            | 7.85  | 0.045            | 1.14 |
| 45108    | 8          | 0.329            | 8.36  | 0.045            | 1.14 |
| 45110    | 10         | 0.370            | 9.40  | 0.045            | 1.14 |
| 45110/15 | 15         | 0.428            | 10.87 | 0.055            | 1.40 |
| 45110/20 | 20         | 0.469            | 11.91 | 0.055            | 1.40 |
| 45110/25 | 25         | 0.514            | 13.06 | 0.055            | 1.40 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
 Insulation thickness: 0.016 (0.41 mm)

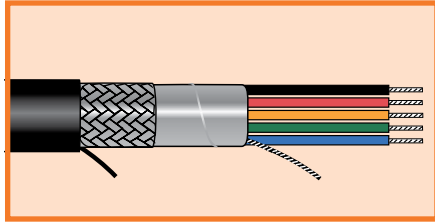
| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45152    | 2          | 0.262            | 6.65  | 0.045            | 1.14 |
| 45153    | 3          | 0.273            | 6.93  | 0.045            | 1.14 |
| 45154    | 4          | 0.292            | 7.42  | 0.045            | 1.14 |
| 45156    | 6          | 0.334            | 8.48  | 0.045            | 1.14 |
| 45158    | 8          | .0356            | 9.04  | 0.045            | 1.14 |
| 45160    | 10         | 0.422            | 10.72 | 0.055            | 1.40 |
| 45160/15 | 15         | 0.465            | 11.81 | 0.055            | 1.40 |
| 45160/20 | 20         | 0.511            | 12.98 | 0.055            | 1.40 |
| 45160/25 | 25         | 0.562            | 14.27 | 0.055            | 1.40 |





## Xtra-Guard® 4

### Advanced Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 20237**  
**UL PLTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2**

#### Operating Temperature

- -50°C to +125°C

#### Conductor Color Coding

- 24, 22 AWG: Chart E (page 532)
- 20, 18, 16 AWG: Chart D (page 531)
- Nine jacket colors (black standard)
- Custom colors available

#### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

#### Availability

Made to order  
 1000 ft (305 m) minimum

#### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>45162</b>    | 2          | 0.280            | 7.11  | 0.045            | 1.14 |
| <b>45162/1*</b> | 2          | 0.280            | 7.11  | 0.045            | 1.14 |
| <b>45163</b>    | 3          | 0.292            | 7.42  | 0.045            | 1.14 |
| <b>45163/1*</b> | 3          | 0.292            | 7.42  | 0.045            | 1.14 |
| <b>45164</b>    | 4          | 0.313            | 7.95  | 0.045            | 1.14 |
| <b>45166</b>    | 6          | 0.361            | 9.17  | 0.045            | 1.14 |
| <b>45168</b>    | 8          | 0.406            | 10.31 | 0.045            | 1.14 |
| <b>45170</b>    | 10         | 0.458            | 11.63 | 0.055            | 1.40 |
| <b>45170/15</b> | 15         | 0.507            | 12.88 | 0.055            | 1.40 |
| <b>45170/20</b> | 20         | 0.558            | 14.17 | 0.055            | 1.40 |
| <b>45170/25</b> | 25         | 0.636            | 16.15 | 0.065            | 1.65 |
| <b>45170/30</b> | 30         | 0.675            | 17.15 | 0.065            | 1.65 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>45172</b>    | 2          | 0.304            | 7.72  | 0.045            | 1.14 |
| <b>45172/1*</b> | 2          | 0.304            | 7.72  | 0.045            | 1.14 |
| <b>45173</b>    | 3          | 0.318            | 8.08  | 0.045            | 1.14 |
| <b>45173/1*</b> | 3          | 0.318            | 8.08  | 0.045            | 1.14 |
| <b>45174</b>    | 4          | 0.342            | 8.69  | 0.045            | 1.14 |
| <b>45176</b>    | 6          | 0.417            | 10.59 | 0.055            | 1.40 |
| <b>45178</b>    | 8          | 0.446            | 11.33 | 0.055            | 1.40 |
| <b>45180</b>    | 10         | 0.506            | 12.85 | 0.055            | 1.40 |
| <b>45180/15</b> | 15         | 0.562            | 14.27 | 0.055            | 1.40 |
| <b>45180/20</b> | 20         | 0.641            | 16.28 | 0.065            | 1.65 |
| <b>45180/25</b> | 25         | 0.714            | 18.14 | 0.065            | 1.65 |

\*Conductors color-coded per international standards: brown, blue, green/yellow.



# Xtra-Guard® 4



## Advanced Temperature and Chemical Performance 600 V Supra-Shield® Foil/Braid, Multiconductor



UL AWM 20238  
UL TC, WTTC  
CSA AWM I/II A/B FT1  
MSHA P-07-KA070017-MSHA  
NEC Class 1, Div 2

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- Chart E (page 532)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45522    | 2          | 0.364            | 9.25  | 0.055            | 1.40 |
| 45523    | 3          | 0.381            | 9.68  | 0.055            | 1.40 |
| 45524    | 4          | 0.411            | 10.44 | 0.055            | 1.40 |
| 45525    | 5          | 0.444            | 11.28 | 0.055            | 1.40 |
| 45527    | 7          | 0.478            | 12.14 | 0.055            | 1.40 |
| 45529    | 9          | 0.567            | 14.40 | 0.065            | 1.65 |
| 45529/12 | 12         | 0.623            | 15.82 | 0.065            | 1.65 |

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45532    | 2          | 0.388            | 9.86  | 0.055            | 1.40 |
| 45533    | 3          | 0.407            | 10.34 | 0.055            | 1.40 |
| 45534    | 4          | 0.440            | 11.18 | 0.055            | 1.40 |
| 45535    | 5          | 0.476            | 12.09 | 0.055            | 1.40 |
| 45537    | 7          | 0.514            | 13.06 | 0.055            | 1.40 |
| 45539    | 9          | 0.611            | 15.52 | 0.065            | 1.65 |
| 45539/12 | 12         | 0.679            | 17.25 | 0.065            | 1.65 |

#### 14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 45542    | 2          | 0.418            | 10.62 | 0.055            | 1.40 |
| 45543    | 3          | 0.440            | 11.18 | 0.055            | 1.40 |
| 45544    | 4          | 0.476            | 12.09 | 0.055            | 1.40 |
| 45545    | 5          | 0.517            | 13.13 | 0.055            | 1.40 |
| 45547    | 7          | 0.579            | 14.71 | 0.065            | 1.65 |
| 45549    | 9          | 0.672            | 17.07 | 0.065            | 1.65 |





## Xtra-Guard® 4

Advanced Temperature and Chemical Performance  
300 V Unshielded, Multipair



### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.     | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|--------------|-------|------------------|------|------------------|------|
|              |       | Inch             | mm   | Inch             | mm   |
| <b>45031</b> | 1     | 0.252            | 6.40 | 0.045            | 1.14 |
| <b>45032</b> | 2     | 0.353            | 8.97 | 0.045            | 1.14 |

**UL AWM 20237**

**UL PLTC**

**CSA AWM I/II A/B FT1**

**MSHA P-07-KA070017-MSHA**

**NEC Class 1, Div 2**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

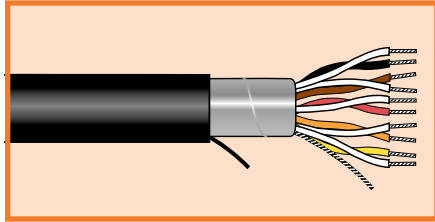
- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP



# Xtra-Guard® 4



## Advanced Temperature and Chemical Performance 300 V Foil Shield, Multipair



**UL AWM 20237**  
**UL PLTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2 (22 AWG)**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

### Availability

Made to order  
 1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>45491</b>    | 1     | 0.204            | 5.18  | 0.042            | 1.07 |
| <b>45492</b>    | 2     | 0.276            | 7.01  | 0.042            | 1.07 |
| <b>45493</b>    | 3     | 0.290            | 7.37  | 0.042            | 1.07 |
| <b>45494</b>    | 4     | 0.314            | 7.98  | 0.042            | 1.07 |
| <b>45495</b>    | 5     | 0.341            | 8.66  | 0.042            | 1.07 |
| <b>45496</b>    | 6     | 0.370            | 9.40  | 0.042            | 1.07 |
| <b>45499</b>    | 9     | 0.428            | 10.87 | 0.042            | 1.07 |
| <b>45499/11</b> | 11    | 0.459            | 11.66 | 0.042            | 1.07 |
| <b>45499/15</b> | 15    | 0.516            | 13.11 | 0.042            | 1.07 |
| <b>45499/27</b> | 27    | 0.679            | 17.25 | 0.053            | 1.35 |

\* UL AWM 20237, CSA AWM I/II A/B FT1 only

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
 Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>45481</b>    | 1     | 0.222            | 5.64  | 0.045            | 1.14 |
| <b>45482</b>    | 2     | 0.301            | 7.65  | 0.045            | 1.14 |
| <b>45483</b>    | 3     | 0.317            | 8.05  | 0.045            | 1.14 |
| <b>45484</b>    | 4     | 0.344            | 8.74  | 0.045            | 1.14 |
| <b>45485</b>    | 5     | 0.374            | 9.50  | 0.045            | 1.14 |
| <b>45486</b>    | 6     | 0.425            | 10.80 | 0.055            | 1.40 |
| <b>45489</b>    | 9     | 0.489            | 12.42 | 0.055            | 1.40 |
| <b>45489/11</b> | 11    | 0.525            | 13.34 | 0.055            | 1.40 |
| <b>45489/15</b> | 15    | 0.588            | 14.94 | 0.055            | 1.40 |





# Xtra-Guard® 4

Advanced Temperature and Chemical Performance  
300 V Foil Shield, Multipair



**UL AWM 20237**  
**UL PLTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2 (22 AWG)**

## Operating Temperature

- -50°C to +125°C

## Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Nylon ripcord

## Availability

Made to order  
1000 ft (305 m) minimum

## FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

### 20 AWG (0.56 mm<sup>2</sup>)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 45451    | 1     | 0.238            | 6.05  | 0.045            | 1.14 |
| 45452    | 2     | 0.328            | 8.33  | 0.045            | 1.14 |
| 45453    | 3     | 0.346            | 8.79  | 0.045            | 1.14 |
| 45454    | 4     | 0.376            | 9.55  | 0.045            | 1.14 |
| 45455    | 5     | 0.430            | 10.92 | 0.055            | 1.40 |
| 45456    | 6     | 0.465            | 11.81 | 0.055            | 1.40 |
| 45459    | 9     | 0.537            | 13.64 | 0.055            | 1.40 |
| 45459/11 | 11    | 0.577            | 14.66 | 0.055            | 1.40 |
| 45459/15 | 15    | 0.668            | 16.97 | 0.065            | 1.65 |
| 45459/19 | 19    | 0.713            | 18.11 | 0.065            | 1.65 |
| 45459/27 | 27    | 0.885            | 22.48 | 0.065            | 1.65 |

### 18 AWG (0.81 mm<sup>2</sup>)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 45371    | 1     | 0.256            | 6.50  | 0.045            | 1.14 |
| 45372    | 2     | 0.357            | 9.07  | 0.045            | 1.14 |
| 45373    | 3     | 0.378            | 9.60  | 0.045            | 1.14 |
| 45374    | 4     | 0.432            | 10.97 | 0.055            | 1.40 |
| 45375    | 5     | 0.470            | 11.94 | 0.055            | 1.40 |
| 45376    | 6     | 0.510            | 12.95 | 0.055            | 1.40 |
| 45379    | 9     | 0.591            | 15.01 | 0.055            | 1.40 |
| 45379/11 | 11    | 0.656            | 16.66 | 0.065            | 1.65 |
| 45379/15 | 15    | 0.736            | 18.69 | 0.065            | 1.65 |
| 45379/19 | 19    | 0.787            | 19.99 | 0.065            | 1.65 |



## Xtra-Guard® 4



### Advanced Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multipair



**UL AWM 20237**

**UL PLTC**

**CSA AWM I/II A/B FT1**

**MSHA P-07-KA070017-MSHA**

**NEC Class 1, Div 2 (22 AWG)**

#### Operating Temperature

- -50°C to +125°C

#### Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black jacket standard)
- Custom colors available

#### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

#### Availability

Made to order

1000 ft (305 m) minimum

#### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>45271</b>    | 1     | 0.228            | 5.79  | 0.042            | 1.07 |
| <b>45272</b>    | 2     | 0.300            | 7.62  | 0.042            | 1.07 |
| <b>45273</b>    | 3     | 0.314            | 7.98  | 0.042            | 1.07 |
| <b>45274</b>    | 4     | 0.338            | 8.59  | 0.042            | 1.07 |
| <b>45275</b>    | 5     | 0.365            | 9.27  | 0.042            | 1.07 |
| <b>45276</b>    | 6     | 0.394            | 10.01 | 0.042            | 1.07 |
| <b>45279</b>    | 9     | 0.452            | 11.48 | 0.042            | 1.07 |
| <b>45279/11</b> | 11    | 0.483            | 12.27 | 0.042            | 1.07 |
| <b>45279/15</b> | 15    | 0.540            | 13.72 | 0.042            | 1.07 |
| <b>45279/19</b> | 19    | 0.598            | 15.19 | 0.053            | 1.35 |

\* UL AWM 20237, CSA AWM I/II A/B FT1 only

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>45121</b>    | 1     | 0.246            | 6.25  | 0.045            | 1.14 |
| <b>45122</b>    | 2     | 0.325            | 8.26  | 0.045            | 1.14 |
| <b>45123</b>    | 3     | 0.341            | 8.66  | 0.045            | 1.14 |
| <b>45124</b>    | 4     | 0.368            | 9.35  | 0.045            | 1.14 |
| <b>45125</b>    | 5     | 0.418            | 10.62 | 0.055            | 1.40 |
| <b>45126</b>    | 6     | 0.449            | 11.40 | 0.055            | 1.40 |
| <b>45129</b>    | 9     | 0.513            | 13.03 | 0.055            | 1.40 |
| <b>45129/11</b> | 11    | 0.549            | 13.94 | 0.055            | 1.40 |
| <b>45129/15</b> | 15    | 0.632            | 16.05 | 0.065            | 1.65 |
| <b>45129/19</b> | 19    | 0.677            | 17.20 | 0.065            | 1.65 |



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## Xtra-Guard® 4

Advanced Temperature and Chemical Performance  
300 V Supra-Shield® Foil/Braid, Multipair



**UL AWM 20237**  
**UL PLTC**  
**CSA AWM I/II A/B FT1**  
**MSHA P-07-KA070017-MSHA**  
**NEC Class 1, Div 2 (22 AWG)**

### Operating Temperature

- -50°C to +125°C

### Conductor Color Coding

- Chart B (page 528)
- Nine jacket colors (black standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- TPE insulation
- TPE jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Nylon ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-600: highly flexible, cross-linked elastomer
- FIT-400: temperature/chemical resistant FEP

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>45291</b>    | 1     | 0.262            | 6.65  | 0.045            | 1.14 |
| <b>45292</b>    | 2     | 0.352            | 8.94  | 0.045            | 1.14 |
| <b>45293</b>    | 3     | 0.370            | 9.40  | 0.045            | 1.14 |
| <b>45294</b>    | 4     | 0.420            | 10.67 | 0.055            | 1.40 |
| <b>45295</b>    | 5     | 0.454            | 11.53 | 0.055            | 1.40 |
| <b>45296</b>    | 6     | 0.489            | 12.42 | 0.055            | 1.40 |
| <b>45299</b>    | 9     | 0.561            | 14.25 | 0.055            | 1.40 |
| <b>45299/11</b> | 11    | 0.621            | 15.77 | 0.065            | 1.65 |
| <b>45299/15</b> | 15    | 0.698            | 17.73 | 0.065            | 1.65 |

#### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>45131</b>    | 1     | 0.280            | 7.11  | 0.045            | 1.14 |
| <b>45132</b>    | 2     | 0.381            | 9.68  | 0.045            | 1.14 |
| <b>45133</b>    | 3     | 0.422            | 10.72 | 0.055            | 1.40 |
| <b>45134</b>    | 4     | 0.456            | 11.58 | 0.055            | 1.40 |
| <b>45135</b>    | 5     | 0.494            | 12.55 | 0.055            | 1.40 |
| <b>45136</b>    | 6     | 0.534            | 13.56 | 0.055            | 1.40 |
| <b>45139</b>    | 9     | 0.635            | 16.13 | 0.065            | 1.65 |
| <b>45139/11</b> | 11    | 0.686            | 17.42 | 0.065            | 1.65 |
| <b>45139/15</b> | 15    | 0.766            | 19.46 | 0.065            | 1.65 |



# Xtra-Guard® 5



## Maximum Temperature and Chemical Performance



### Features

- The preferred cable for unsurpassed maximum temperature and chemical performance
- Temperature range from -80°C to +200°C
- UL, CSA listed
- 100% impervious to all chemicals, solvents, acids, fuels, and water
- Suitable for Class 1 cleanrooms
- FDA food/medical grade (sterilizable)
- Low-friction FEP jacket for easy routing
- Fast, easy stripping of insulation and jacket
- Color-coded, tinned copper conductors
- 300 V
- Unshielded, foil shielded, or Supra-Shield® foil/braid
- Outstanding ultraviolet light stability in all jacket colors
- Aramid fiber ripcord for easy jacket stripping
- Excellent flame resistance and low smoke generation: Passes NFPA 262-2007

### Applications

- Food and beverage wash-down
- Cleanroom environments
- Food/medical-grade applications
- Turbine generators
- Chemical processing
- Military electronics
- Mining instrumentation

### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

|       |        |        |
|-------|--------|--------|
| TAN   | BEIGE  | WHITE  |
| RED   | BLACK  | BLUE   |
| GREEN | YELLOW | ORANGE |

Xtra-Guard 5 cables are available in a range of long-lasting tints for fast, easy identification, for safety reasons, and for matching the color of your system.





A diagram showing a cross-section of a cable. It features a central conductor (a single black line), surrounded by a layer of insulation (a grey cylinder). This is followed by a braided shield (a black cylinder with diagonal lines). The outermost layer is a thick, light brown jacket. A small black line points to the junction between the central conductor and the braided shield.

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

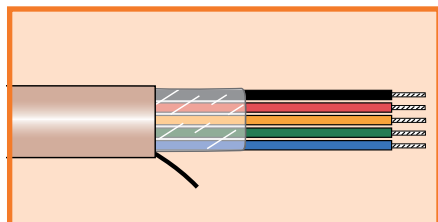
| 20 AWG (0.56 mm²)                     |            |                  |      |                  |      |
|---------------------------------------|------------|------------------|------|------------------|------|
| Stranding: 7/28 (7 x 0.32 mm)         |            |                  |      |                  |      |
| Insulation thickness: 0.010 (0.25 mm) |            |                  |      |                  |      |
| Part No.                              | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|                                       |            | Inch             | mm   | Inch             | mm   |
| 55052                                 | 2          | 0.176            | 4.47 | 0.027            | 0.69 |
| 55053                                 | 3          | 0.185            | 4.70 | 0.027            | 0.69 |
| 55054                                 | 4          | 0.200            | 5.08 | 0.027            | 0.69 |
| 55056                                 | 6          | 0.235            | 5.97 | 0.027            | 0.69 |
| 55059                                 | 9          | 0.271            | 6.88 | 0.027            | 0.69 |
| 55060/12                              | 12         | 0.301            | 7.65 | 0.027            | 0.69 |



# Xtra-Guard® 5



## Maximum Temperature and Chemical Performance 300 V Unshielded, Multiconductor



**UL AWM 20229**  
**UL CMP**  
**CSA CMP FT6**

### Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

### Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aramid fiber ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

#### 18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-----------------|------------|------------------|------|------------------|------|
|                 |            | Inch             | mm   | Inch             | mm   |
| <b>55062</b>    | 2          | 0.196            | 4.98 | 0.027            | 0.69 |
| <b>55063</b>    | 3          | 0.207            | 5.26 | 0.027            | 0.69 |
| <b>55064</b>    | 4          | 0.225            | 5.72 | 0.027            | 0.69 |
| <b>55066</b>    | 6          | 0.265            | 6.73 | 0.027            | 0.69 |
| <b>55069</b>    | 9          | 0.307            | 7.80 | 0.027            | 0.69 |
| <b>55070/12</b> | 12         | 0.343            | 8.71 | 0.027            | 0.69 |

#### 16 AWG (1.23 mm²)

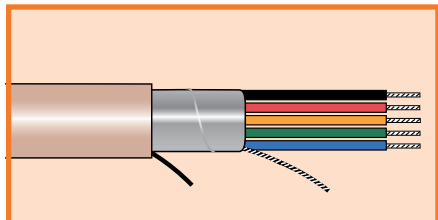
Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-----------------|------------|------------------|------|------------------|------|
|                 |            | Inch             | mm   | Inch             | mm   |
| <b>55072</b>    | 2          | 0.218            | 5.54 | 0.027            | 0.69 |
| <b>55073</b>    | 3          | 0.230            | 5.84 | 0.027            | 0.69 |
| <b>55074</b>    | 4          | 0.251            | 6.38 | 0.027            | 0.69 |
| <b>55076</b>    | 6          | 0.298            | 7.57 | 0.027            | 0.69 |
| <b>55079</b>    | 9          | 0.347            | 8.81 | 0.027            | 0.69 |
| <b>55080/12</b> | 12         | 0.388            | 9.86 | 0.027            | 0.69 |

# Xtra-Guard® 5



## Maximum Temperature and Chemical Performance



UL AWM 20229  
UL CMP  
CSA CMP FT6

## Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

## Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

## Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Aramid fiber ripcord

## Availability

**Made to order**  
**1000 ft (305 m) minimum**

## FIT® Tubing Recommendations

- **FIT-650:** Chemical/temperature resistant flexible fluoroelastomer
- **FIT-400:** Temperature/chemical resistant FEP

| 24 AWG (0.23 mm²)                     |            |                  |      |                  |      |
|---------------------------------------|------------|------------------|------|------------------|------|
| Stranding: 7/32 (7 x 0.20 mm)         |            |                  |      |                  |      |
| Insulation thickness: 0.010 (0.25 mm) |            |                  |      |                  |      |
| Part No.                              | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|                                       |            | Inch             | mm   | Inch             | mm   |
| 55092                                 | 2          | 0.154            | 3.91 | 0.027            | 0.69 |
| 55093                                 | 3          | 0.161            | 4.09 | 0.027            | 0.69 |
| 55094                                 | 4          | 0.172            | 4.37 | 0.027            | 0.69 |
| 55096                                 | 6          | 0.199            | 5.05 | 0.027            | 0.69 |
| 55099                                 | 9          | 0.226            | 5.74 | 0.027            | 0.69 |
| 55100/12                              | 12         | 0.249            | 6.32 | 0.027            | 0.69 |

| 22 AWG (0.35 mm²)                     |            |                  |      |                  |      |
|---------------------------------------|------------|------------------|------|------------------|------|
| Stranding: 7/30 (7 x 0.25 mm)         |            |                  |      |                  |      |
| Insulation thickness: 0.010 (0.25 mm) |            |                  |      |                  |      |
| Part No.                              | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|                                       |            | Inch             | mm   | Inch             | mm   |
| 55192                                 | 2          | 0.166            | 4.22 | 0.027            | 0.69 |
| 55193                                 | 3          | 0.174            | 4.42 | 0.027            | 0.69 |
| 55194                                 | 4          | 0.187            | 4.75 | 0.027            | 0.69 |
| 55196                                 | 6          | 0.217            | 5.51 | 0.027            | 0.69 |
| 55199                                 | 9          | 0.248            | 6.30 | 0.027            | 0.69 |
| 55199/12                              | 12         | 0.274            | 6.96 | 0.027            | 0.69 |

| 20 AWG (0.56 mm²)                                                      |            |                  |      |                  |      |
|------------------------------------------------------------------------|------------|------------------|------|------------------|------|
| Stranding: 7/28 (7 x 0.32 mm)<br>Insulation thickness: 0.010 (0.25 mm) |            |                  |      |                  |      |
| Part No.                                                               | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|                                                                        |            | Inch             | mm   | Inch             | mm   |
| 55462                                                                  | 2          | 0.182            | 4.62 | 0.027            | 0.69 |
| 55463                                                                  | 3          | 0.191            | 4.85 | 0.027            | 0.69 |
| 55464                                                                  | 4          | 0.206            | 5.23 | 0.027            | 0.69 |
| 55466                                                                  | 6          | 0.241            | 6.12 | 0.027            | 0.69 |
| 55469                                                                  | 9          | 0.277            | 7.04 | 0.027            | 0.69 |
| 55470/12                                                               | 12         | 0.307            | 7.80 | 0.027            | 0.69 |



## Xtra-Guard® 5

### Maximum Temperature and Chemical Performance 300 V Foil Shielded, Multiconductor



**UL AWM 20229**  
**UL CMP**  
**CSA CMP FT6**

#### Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

#### Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

#### Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Aramid fiber ripcord

#### Availability

Made to order  
1000 ft (305 m) minimum

#### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

#### 18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-----------------|------------|------------------|------|------------------|------|
|                 |            | Inch             | mm   | Inch             | mm   |
| <b>55382</b>    | 2          | 0.202            | 5.13 | 0.027            | 0.69 |
| <b>55383</b>    | 3          | 0.213            | 5.41 | 0.027            | 0.69 |
| <b>55384</b>    | 4          | 0.231            | 5.87 | 0.027            | 0.69 |
| <b>55386</b>    | 6          | 0.271            | 6.88 | 0.027            | 0.69 |
| <b>55389</b>    | 9          | 0.313            | 7.95 | 0.027            | 0.69 |
| <b>55390/12</b> | 12         | 0.349            | 8.86 | 0.027            | 0.69 |

#### 16 AWG (1.23 mm²)

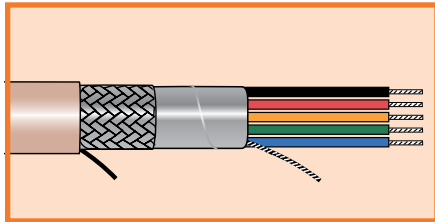
Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>55362</b>    | 2          | 0.224            | 5.69  | 0.027            | 0.69 |
| <b>55363</b>    | 3          | 0.236            | 5.99  | 0.027            | 0.69 |
| <b>55364</b>    | 4          | 0.257            | 6.53  | 0.027            | 0.69 |
| <b>55366</b>    | 6          | 0.304            | 7.72  | 0.027            | 0.69 |
| <b>55369</b>    | 9          | 0.353            | 8.97  | 0.027            | 0.69 |
| <b>55370/12</b> | 12         | 0.394            | 10.01 | 0.027            | 0.69 |

# Xtra-Guard® 5



## Maximum Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 20229**  
**UL CMP**  
**CSA CMP FT6**

### Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

### Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Aramid fiber ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 55112    | 2          | 0.176            | 4.47 | 0.027            | 0.69 |
| 55113    | 3          | 0.183            | 4.65 | 0.027            | 0.69 |
| 55114    | 4          | 0.194            | 4.93 | 0.027            | 0.69 |
| 55116    | 6          | 0.221            | 5.61 | 0.027            | 0.69 |
| 55119    | 9          | 0.248            | 6.30 | 0.027            | 0.69 |
| 55120/12 | 12         | 0.271            | 6.88 | 0.027            | 0.69 |

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 55102    | 2          | 0.188            | 4.78 | 0.027            | 0.69 |
| 55103    | 3          | 0.196            | 4.98 | 0.027            | 0.69 |
| 55104    | 4          | 0.209            | 5.31 | 0.027            | 0.69 |
| 55106    | 6          | 0.239            | 6.07 | 0.027            | 0.69 |
| 55109    | 9          | 0.270            | 6.86 | 0.027            | 0.69 |
| 55110/12 | 12         | 0.296            | 7.52 | 0.027            | 0.69 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 55152    | 2          | 0.204            | 5.18 | 0.027            | 0.69 |
| 55153    | 3          | 0.213            | 5.41 | 0.027            | 0.69 |
| 55154    | 4          | 0.228            | 5.79 | 0.027            | 0.69 |
| 55156    | 6          | 0.263            | 6.68 | 0.027            | 0.69 |
| 55159    | 9          | 0.299            | 7.59 | 0.027            | 0.69 |
| 55160/12 | 12         | 0.329            | 8.36 | 0.027            | 0.69 |



# Xtra-Guard® 5



## Maximum Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multiconductor



**UL AWM 20229**  
**UL CMP**  
**CSA CMP FT6**

### Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

### Conductor Color Coding

- Chart E (page 532)
- Nine jacket tints (tan standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Supra-Shield foil + braid shield:  
Aluminum/polyester/aluminum foil with 25% overlap min.  
Tinned copper drain wire sized the same as conductors  
Tinned copper braid, 70% coverage min.
- Aramid fiber ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

#### 18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|-----------------|------------|------------------|------|------------------|------|
|                 |            | Inch             | mm   | Inch             | mm   |
| <b>55162</b>    | 2          | 0.224            | 5.69 | 0.027            | 0.69 |
| <b>55163</b>    | 3          | 0.235            | 5.97 | 0.027            | 0.69 |
| <b>55164</b>    | 4          | 0.253            | 6.43 | 0.027            | 0.69 |
| <b>55166</b>    | 6          | 0.293            | 7.44 | 0.027            | 0.69 |
| <b>55169</b>    | 9          | 0.335            | 8.51 | 0.027            | 0.69 |
| <b>55170/12</b> | 12         | 0.371            | 9.42 | 0.027            | 0.69 |

#### 16 AWG (1.23 mm²)

Stranding: 19/0.0117 (19 x 0.29 mm)  
Insulation thickness: 0.010 (0.25 mm)

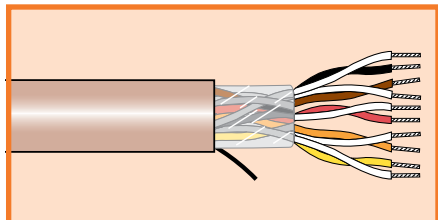
| Part No.        | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|------------|------------------|-------|------------------|------|
|                 |            | Inch             | mm    | Inch             | mm   |
| <b>55172</b>    | 2          | 0.246            | 6.25  | 0.027            | 0.69 |
| <b>55173</b>    | 3          | 0.258            | 6.55  | 0.027            | 0.69 |
| <b>55174</b>    | 4          | 0.279            | 7.09  | 0.027            | 0.69 |
| <b>55176</b>    | 6          | 0.326            | 8.28  | 0.027            | 0.69 |
| <b>55179</b>    | 9          | 0.375            | 9.53  | 0.027            | 0.69 |
| <b>55180/12</b> | 12         | 0.416            | 10.57 | 0.027            | 0.69 |



# Xtra-Guard® 5



## Maximum Temperature and Chemical Performance 300 V Unshielded, Multipair



**UL AWM 20229**  
**UL CMP**  
**CSA CMP FT6**

### Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

### Conductor Color Coding

- Chart A (page 528)
- Nine jacket tints (tan standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aramid fiber ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

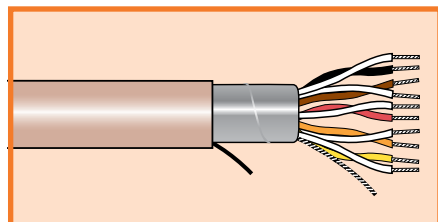
### 22 AWG (0.35 mm<sup>2</sup>)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>55021</b>    | 1     | 0.160            | 4.06  | 0.027            | 0.69 |
| <b>55022</b>    | 2     | 0.224            | 5.69  | 0.027            | 0.69 |
| <b>55023</b>    | 3     | 0.237            | 6.02  | 0.027            | 0.69 |
| <b>55026</b>    | 6     | 0.307            | 7.80  | 0.027            | 0.69 |
| <b>55029</b>    | 9     | 0.358            | 9.09  | 0.027            | 0.69 |
| <b>55029/12</b> | 12    | 0.401            | 10.19 | 0.027            | 0.69 |

# Xtra-Guard® 5

## Maximum Temperature and Chemical Performance 300 V Foil Shield, Multipair



**UL AWM 20229**  
**UL CMP**  
**CSA CMP FT6**

### Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

### Conductor Color Coding

- Chart A (page 528)
- Nine jacket tints (tan standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Aluminum/polyester foil shield, with 25% overlap and foil facing inward
- Tinned copper drain wire sized the same as cable conductors
- Aramid fiber ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|-----------------|-------|------------------|------|------------------|------|
|                 |       | Inch             | mm   | Inch             | mm   |
| <b>55491</b>    | 1     | 0.154            | 3.91 | 0.027            | 0.69 |
| <b>55492</b>    | 2     | 0.210            | 5.33 | 0.027            | 0.69 |
| <b>55493</b>    | 3     | 0.222            | 5.64 | 0.027            | 0.69 |
| <b>55496</b>    | 6     | 0.284            | 7.21 | 0.027            | 0.69 |
| <b>55499</b>    | 9     | 0.329            | 8.36 | 0.027            | 0.69 |
| <b>55499/11</b> | 11    | 0.355            | 9.02 | 0.027            | 0.69 |

### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>55481</b>    | 1     | 0.166            | 4.22  | 0.027            | 0.69 |
| <b>55482</b>    | 2     | 0.230            | 5.84  | 0.027            | 0.69 |
| <b>55483</b>    | 3     | 0.243            | 6.17  | 0.027            | 0.69 |
| <b>55486</b>    | 6     | 0.313            | 7.95  | 0.027            | 0.69 |
| <b>55489</b>    | 9     | 0.364            | 9.25  | 0.027            | 0.69 |
| <b>55489/12</b> | 12    | 0.407            | 10.34 | 0.027            | 0.69 |

### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.        | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|-----------------|-------|------------------|-------|------------------|------|
|                 |       | Inch             | mm    | Inch             | mm   |
| <b>55451</b>    | 1     | 0.182            | 4.62  | 0.027            | 0.69 |
| <b>55452</b>    | 2     | 0.256            | 6.50  | 0.027            | 0.69 |
| <b>55453</b>    | 3     | 0.271            | 6.88  | 0.027            | 0.69 |
| <b>55455</b>    | 5     | 0.324            | 8.23  | 0.027            | 0.69 |
| <b>55456</b>    | 6     | 0.353            | 8.97  | 0.027            | 0.69 |
| <b>55459</b>    | 9     | 0.412            | 10.46 | 0.027            | 0.69 |
| <b>55459/12</b> | 12    | 0.461            | 11.71 | 0.027            | 0.69 |

### 18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.     | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|--------------|-------|------------------|-------|------------------|------|
|              |       | Inch             | mm    | Inch             | mm   |
| <b>55371</b> | 1     | 0.202            | 5.13  | 0.027            | 0.69 |
| <b>55372</b> | 2     | 0.289            | 7.34  | 0.027            | 0.69 |
| <b>55373</b> | 3     | 0.306            | 7.77  | 0.027            | 0.69 |
| <b>55376</b> | 6     | 0.402            | 10.21 | 0.027            | 0.69 |
| <b>55379</b> | 9     | 0.472            | 11.99 | 0.027            | 0.69 |



# Xtra-Guard® 5



## Maximum Temperature and Chemical Performance 300 V Supra-Shield® Foil/Braid, Multipair



**UL AWM 20229**  
**UL CMP**  
**CSA CMP FT6**

### Operating Temperature

- -80°C to +200°C
- -80°C to +150°C (AWM, CMP)

### Conductor Color Coding

- Chart A (page 528)
- Nine jacket tints (tan standard)
- Custom colors available

### Materials

- Stranded tinned copper conductors
- FEP insulation
- FEP jacket
- Supra-Shield foil + braid shield: Aluminum/polyester/aluminum foil with 25% overlap min. Tinned copper drain wire sized the same as conductors
- Tinned copper braid, 70% coverage min.
- Aramid fiber ripcord

### Availability

Made to order  
1000 ft (305 m) minimum

### FIT® Tubing Recommendations

- FIT-650: Chemical/temperature resistant flexible fluoroelastomer
- FIT-400: Temperature/chemical resistant FEP

#### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|----------|-------|------------------|------|------------------|------|
|          |       | Inch             | mm   | Inch             | mm   |
| 55271    | 1     | 0.176            | 4.47 | 0.027            | 0.69 |
| 55272    | 2     | 0.232            | 5.89 | 0.027            | 0.69 |
| 55273    | 3     | 0.244            | 6.20 | 0.027            | 0.69 |
| 55276    | 6     | 0.306            | 7.77 | 0.027            | 0.69 |
| 55279    | 9     | 0.351            | 8.92 | 0.027            | 0.69 |
| 55279/12 | 12    | 0.388            | 9.86 | 0.027            | 0.69 |

#### 22 AWG (0.35 mm²)

Stranding: 7/30 (7 x 0.25 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 55121    | 1     | 0.188            | 4.78  | 0.027            | 0.69 |
| 55122    | 2     | 0.252            | 6.40  | 0.027            | 0.69 |
| 55123    | 3     | 0.265            | 6.73  | 0.027            | 0.69 |
| 55126    | 6     | 0.335            | 8.51  | 0.027            | 0.69 |
| 55129    | 9     | 0.386            | 9.80  | 0.027            | 0.69 |
| 55129/12 | 12    | 0.429            | 10.90 | 0.027            | 0.69 |

#### 20 AWG (0.56 mm²)

Stranding: 7/28 (7 x 0.32 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 55291    | 1     | 0.204            | 5.18  | 0.027            | 0.69 |
| 55292    | 2     | 0.278            | 7.06  | 0.027            | 0.69 |
| 55293    | 3     | 0.293            | 7.44  | 0.027            | 0.69 |
| 55296    | 6     | 0.375            | 9.53  | 0.027            | 0.69 |
| 55299    | 9     | 0.434            | 11.02 | 0.027            | 0.69 |
| 55299/12 | 12    | 0.483            | 12.27 | 0.027            | 0.69 |

#### 18 AWG (0.90 mm²)

Stranding: 7/26 (7 x 0.40 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 55131    | 1     | 0.224            | 5.69  | 0.027            | 0.69 |
| 55132    | 2     | 0.311            | 7.90  | 0.027            | 0.69 |
| 55133    | 3     | 0.328            | 8.33  | 0.027            | 0.69 |
| 55136    | 6     | 0.424            | 10.77 | 0.027            | 0.69 |
| 55139    | 9     | 0.504            | 12.80 | 0.032            | 0.81 |



# Xtra-Guard® Flex Cables

Flexible/Flexing



Meet a wide range of flexing needs with Xtra-Guard Flex cables, from light flexing to continuous multiaxis flexing. These long-lasting flexible cables are designed to provide excellent performance in high-flex, high torsion, and continuous flex applications, such as motion control and robotics.

| Application               | Xtra-Guard Cable                   | Voltage Rating | Flex Cycles |
|---------------------------|------------------------------------|----------------|-------------|
| Light to moderate flexing | Xtra-Guard Standard Flex Control   | 600            | 1 million   |
| Continuous flex control   | Xtra-Guard Continuous Flex Control | 600            | 14 million  |
| Continuous flex data      | Xtra-Guard Continuous Flex Data    | 300            | 6 million   |
| Torsional flex            | Xtra-Guard Torsional Flex          | 600            | 1 million   |



# Xtra-Guard® Flex Cables

## Flexible/Flexing

Xtra-Guard cables are available in a variety of configurations to allow exactly the right cable to be selected for your flexing application. There are four common types of cable flexing movements to consider when designing and applying a high-flexing cable and they are:

- **Rolling flex**, such as C-track or Cartesian motions
- **Bending flex** or “tic-toc,” such as hinged panels
- **Torsional flex**, such as twisting
- **Variable/random motion flex**

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 from a rolling flex cable. The performance of a cable is evaluated using physical test data and statistical analysis to produce what is known as “flex life” and overall system reliability.



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.



### Rolling Flex

- Xtra-Guard Continuous Flex Control Cable (600 V)
- Xtra-Guard Continuous Flex Data Cable (300 V)



### Variable/Random Flex

- Xtra-Guard Standard Flex Cable (600 V)
- Xtra-Guard Continuous Flex Control Cable (600 V)
- Xtra-Guard Continuous Flex Data Cable (300 V)



### Bending Flex

- Xtra-Guard Standard Flex Cable (600 V)
- Xtra-Guard Continuous Flex Control Cable (600 V)
- Xtra-Guard Continuous Flex Data Cable (300 V)



### Torsion Flex

- Xtra-Guard Torsional Flex Cable (600 V)

### Applications

- Cartesian robots
- Articulated multi-axis robots
- Automation networking
- Machine tools
- Automotive assembly equipment
- Conveyor systems
- Control panels
- Flex and static track
- Transfer shuttles
- Sensor/actuator-to-controller connections
- Material-handling equipment

# Xtra-Guard® Standard Flex Control Cable



Light to Moderate Flex Applications  
600 V Unshielded, Multiconductor



**UL AWM 2587**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor (3 conductor and greater)
- Jacket color: slate

## Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>65002</b> | 2          | 0.238            | 6.05  | 0.035            | 0.89 |
| <b>65003</b> | 3          | 0.251            | 6.38  | 0.035            | 0.89 |
| <b>65004</b> | 4          | 0.272            | 6.91  | 0.035            | 0.89 |
| <b>65005</b> | 5          | 0.305            | 7.75  | 0.038            | 0.97 |
| <b>65007</b> | 7          | 0.327            | 8.31  | 0.038            | 0.97 |
| <b>65009</b> | 9          | 0.416            | 10.57 | 0.040            | 1.02 |
| <b>65012</b> | 12         | 0.433            | 11.00 | 0.045            | 1.14 |
| <b>65018</b> | 18         | 0.527            | 13.39 | 0.055            | 1.40 |
| <b>65025</b> | 25         | 0.615            | 15.62 | 0.055            | 1.40 |

### 18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>65802</b> | 2          | 0.258            | 6.55  | 0.035            | 0.89 |
| <b>65803</b> | 3          | 0.272            | 6.91  | 0.035            | 0.89 |
| <b>65804</b> | 4          | 0.296            | 7.52  | 0.035            | 0.89 |
| <b>65805</b> | 5          | 0.326            | 8.28  | 0.035            | 0.89 |
| <b>65807</b> | 7          | 0.351            | 8.92  | 0.035            | 0.89 |
| <b>65809</b> | 9          | 0.445            | 11.30 | 0.035            | 0.89 |
| <b>65812</b> | 12         | 0.470            | 11.94 | 0.043            | 1.09 |
| <b>65818</b> | 18         | 0.567            | 14.40 | 0.050            | 1.27 |
| <b>65825</b> | 25         | 0.666            | 16.92 | 0.050            | 1.27 |
| <b>65834</b> | 34         | 0.769            | 19.53 | 0.060            | 1.52 |
| <b>65841</b> | 41         | 0.835            | 21.21 | 0.063            | 1.60 |
| <b>65850</b> | 50         | 0.967            | 24.56 | 0.083            | 2.11 |

### 16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>65602</b> | 2          | 0.284            | 7.21  | 0.035            | 0.89 |
| <b>65603</b> | 3          | 0.300            | 7.62  | 0.035            | 0.89 |
| <b>65604</b> | 4          | 0.328            | 8.33  | 0.035            | 0.89 |
| <b>65605</b> | 5          | 0.361            | 9.17  | 0.035            | 0.89 |
| <b>65607</b> | 7          | 0.390            | 9.91  | 0.035            | 0.89 |
| <b>65609</b> | 9          | 0.509            | 12.93 | 0.041            | 1.04 |
| <b>65612</b> | 12         | 0.536            | 13.61 | 0.049            | 1.24 |
| <b>65618</b> | 18         | 0.632            | 16.05 | 0.050            | 1.27 |
| <b>65625</b> | 25         | 0.756            | 19.20 | 0.055            | 1.40 |
| <b>65641</b> | 41         | 0.959            | 24.36 | 0.075            | 1.90 |
| <b>65650</b> | 50         | 1.079            | 27.41 | 0.083            | 2.11 |



# Xtra-Guard® Standard Flex Control Cable

Light to Moderate Flex Applications  
600 V Unshielded, Multiconductor



**UL AWM 2587**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor (3 conductor and greater)
- Jacket color: slate

## Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 14 AWG (2.08 mm<sup>2</sup>)

Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65402    | 2          | 0.330            | 8.38  | 0.044            | 1.12 |
| 65403    | 3          | 0.351            | 8.92  | 0.045            | 1.14 |
| 65404    | 4          | 0.404            | 10.26 | 0.055            | 1.40 |
| 65405    | 5          | 0.439            | 11.15 | 0.055            | 1.40 |
| 65407    | 7          | 0.479            | 12.17 | 0.058            | 1.47 |
| 65409    | 9          | 0.609            | 15.47 | 0.063            | 1.60 |
| 65412    | 12         | 0.667            | 16.94 | 0.085            | 2.16 |
| 65418    | 18         | 0.783            | 19.89 | 0.090            | 2.29 |
| 65425    | 25         | 0.953            | 24.21 | 0.110            | 2.79 |

### 12 AWG (3.29 mm<sup>2</sup>)

Stranding: 65/30 (65 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65203    | 3          | 0.436            | 11.07 | 0.067            | 1.70 |
| 65204    | 4          | 0.500            | 12.70 | 0.080            | 2.03 |
| 65205    | 5          | 0.553            | 14.05 | 0.086            | 2.18 |
| 65207    | 7          | 0.592            | 15.04 | 0.086            | 2.18 |

### 10 AWG (5.32 mm<sup>2</sup>)

Stranding: 105/30 (105 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65103    | 3          | 0.516            | 13.11 | 0.080            | 2.03 |
| 65104    | 4          | 0.568            | 14.43 | 0.084            | 2.13 |
| 65105    | 5          | 0.629            | 15.98 | 0.090            | 2.29 |

### 8 AWG (8.32 mm<sup>2</sup>)

Stranding: 65/26 (65 x 0.40 mm)  
Insulation thickness: 0.032 (0.81 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65904    | 4          | 0.691            | 17.55 | 0.085            | 2.16 |
| 65905    | 5          | 0.765            | 19.43 | 0.090            | 2.29 |



# Xtra-Guard® Standard Flex Control Cable



Light to Moderate Flex Applications  
600 V Unshielded, Multiconductor



UL AWM 2587  
CSA AWM I/II A/B FT1  
CE

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: slate

## Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 6 AWG (13.44 mm²)

Stranding: 105/26 (105 x 0.40 mm)  
Insulation thickness: 0.047 (1.19 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>65704</b> | 4          | 0.891            | 22.63 | 0.100            | 2.54 |
| <b>65705</b> | 5          | 0.985            | 25.02 | 0.105            | 2.67 |

### 4 AWG (21.5 mm²)

Stranding: 168/26 (168 x 0.40 mm)  
Insulation thickness: 0.047 (1.19 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>65504</b> | 4          | 1.080            | 27.43 | 0.100            | 2.54 |
| <b>65505</b> | 5          | 1.207            | 30.66 | 0.110            | 2.79 |

### 2 AWG (34.05 mm²)

Stranding: 266/26 (266 x 0.40 mm)  
Insulation thickness: 0.047 (1.19 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>65304</b> | 4          | 1.273            | 32.33 | 0.120            | 3.05 |
| <b>65305</b> | 5          | 1.428            | 36.27 | 0.135            | 3.43 |

# Xtra-Guard® Standard Flex Control Cable



Light to Moderate Flex Applications  
600 V Shielded, Multiconductor



**UL AWM 2587**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: slate

## Materials

- Finely stranded bare copper conductors
- Lubricated PVC Insulation
- Oil-resistant PVC jacket
- Tinned copper braid shield, 85% coverage

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 20 AWG (0.51 mm<sup>2</sup>)

Stranding: 10/30 (10 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65003CY  | 3          | 0.339            | 8.61  | 0.035            | 0.89 |
| 65007CY  | 7          | 0.409            | 10.39 | 0.035            | 0.89 |
| 65012CY  | 12         | 0.521            | 13.23 | 0.040            | 1.02 |
| 65025CY  | 25         | 0.712            | 18.08 | 0.050            | 1.27 |

### 18 AWG (0.81 mm<sup>2</sup>)

Stranding: 16/30 (16 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65803CY  | 3          | 0.360            | 9.14  | 0.035            | 0.89 |
| 65804CY  | 4          | 0.384            | 9.75  | 0.035            | 0.89 |
| 65805CY  | 5          | 0.414            | 10.52 | 0.035            | 0.89 |
| 65807CY  | 7          | 0.439            | 11.15 | 0.035            | 0.89 |
| 65812CY  | 12         | 0.568            | 14.43 | 0.045            | 1.14 |
| 65818CY  | 18         | 0.671            | 17.04 | 0.053            | 1.35 |
| 65825CY  | 25         | 0.776            | 19.71 | 0.053            | 1.35 |

### 16 AWG (1.32 mm<sup>2</sup>)

Stranding: 26/30 (26 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65603CY  | 3          | 0.388            | 9.86  | 0.035            | 0.89 |
| 65604CY  | 4          | 0.416            | 10.57 | 0.035            | 0.89 |
| 65605CY  | 5          | 0.449            | 11.40 | 0.035            | 0.89 |
| 65607CY  | 7          | 0.484            | 12.29 | 0.035            | 0.89 |
| 65612CY  | 12         | 0.640            | 16.26 | 0.052            | 1.32 |
| 65618CY  | 18         | 0.767            | 19.48 | 0.062            | 1.57 |
| 65625CY  | 25         | 0.901            | 22.89 | 0.067            | 1.70 |

### 14 AWG (2.08 mm<sup>2</sup>)

Stranding: 41/30 (41 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 65403CY  | 3          | 0.443            | 11.25 | 0.042            | 1.07 |
| 65404CY  | 4          | 0.486            | 12.34 | 0.047            | 1.19 |
| 65405CY  | 5          | 0.537            | 13.64 | 0.052            | 1.32 |
| 65407CY  | 7          | 0.581            | 14.76 | 0.057            | 1.45 |
| 65412CY  | 12         | 0.732            | 18.59 | 0.062            | 1.57 |
| 65418CY  | 18         | 0.890            | 22.61 | 0.083            | 2.11 |



# Xtra-Guard® Standard Flex Control Cable



Light to Moderate Flex Applications  
600 V Shielded, Multiconductor



**UL AWM 2587**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: slate

## Materials

- Finely stranded bare copper conductors
- Lubricated PVC Insulation
- PVC inner jacket
- Oil-resistant PVC jacket
- Tinned copper braid shield, 85% coverage

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No.       | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------------|------------|------------------|-------|------------------|------|
|                |            | Inch             | mm    | Inch             | mm   |
| <b>65203CY</b> | 3          | 0.530            | 13.46 | 0.060            | 1.52 |
| <b>65204CY</b> | 4          | 0.616            | 15.65 | 0.066            | 1.68 |
| <b>65205CY</b> | 5          | 0.671            | 17.04 | 0.073            | 1.85 |

### 10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No.       | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------------|------------|------------------|-------|------------------|------|
|                |            | Inch             | mm    | Inch             | mm   |
| <b>65103CY</b> | 3          | 0.630            | 16.00 | 0.070            | 1.78 |
| <b>65104CY</b> | 4          | 0.684            | 17.37 | 0.070            | 1.78 |
| <b>65105CY</b> | 5          | 0.757            | 19.23 | 0.077            | 1.96 |
| <b>65107CY</b> | 7          | 0.823            | 20.90 | 0.083            | 2.11 |

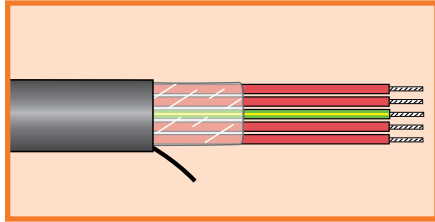
### 8 to 2 AWG (8.32 to 34.05 mm²)

| Part No.       | Conductors | Wire Size |       | Stranding |            | Nominal Diameter |       | Jacket Thickness |      | Insulation Thickness |      |
|----------------|------------|-----------|-------|-----------|------------|------------------|-------|------------------|------|----------------------|------|
|                |            | AWG       | mm²   | AWG       | mm         | Inch             | mm    | Inch             | mm   | Inch                 | mm   |
| <b>65904CY</b> | 4          | 8         | 8.32  | 65/26     | 65 x 0.40  | 0.822            | 20.88 | 0.075            | 1.90 | 0.032                | 0.81 |
| <b>65704CY</b> | 4          | 6         | 13.44 | 105/26    | 105 x 0.40 | 1.062            | 26.97 | 0.100            | 2.54 | 0.047                | 1.19 |
| <b>65504CY</b> | 4          | 4         | 21.55 | 168/26    | 168 x 0.40 | 1.251            | 31.78 | 0.100            | 2.54 | 0.047                | 1.19 |
| <b>65304CY</b> | 4          | 2         | 34.05 | 266/26    | 266 x 0.40 | 1.453            | 36.91 | 0.110            | 2.79 | 0.047                | 1.19 |



# Xtra-Guard® Continuous Flex Control

C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles  
600 V Unshielded, Multiconductor



**UL AWM 2587**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

## Materials

- Finely stranded tinned copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer



| 20 AWG (0.51 mm²)                     |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 63/38 (63 x 0.10 mm)       |            |                  |       |                  |      |
| Insulation thickness: 0.022 (0.56 mm) |            |                  |       |                  |      |
| Part No.                              | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 85003                                 | 3          | 0.272            | 6.91  | 0.035            | 0.89 |
| 85004                                 | 4          | 0.297            | 7.54  | 0.035            | 0.89 |
| 85005                                 | 5          | 0.323            | 8.20  | 0.035            | 0.89 |
| 85007                                 | 7          | 0.388            | 9.86  | 0.040            | 1.02 |
| 85012                                 | 12         | 0.460            | 11.68 | 0.045            | 1.14 |
| 85018                                 | 18         | 0.548            | 13.92 | 0.050            | 1.27 |
| 85025                                 | 25         | 0.691            | 17.55 | 0.065            | 1.65 |
| 85034                                 | 34         | 0.746            | 18.95 | 0.065            | 1.65 |

| 18 AWG (0.85 mm²)                     |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 105/38 (105 x 0.10 mm)     |            |                  |       |                  |      |
| Insulation thickness: 0.022 (0.56 mm) |            |                  |       |                  |      |
| Part No.                              | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 85803                                 | 3          | 0.298            | 7.57  | 0.035            | 0.89 |
| 85804                                 | 4          | 0.326            | 8.28  | 0.035            | 0.89 |
| 85805                                 | 5          | 0.355            | 9.02  | 0.035            | 0.89 |
| 85807                                 | 7          | 0.438            | 11.13 | 0.045            | 1.14 |
| 85812                                 | 12         | 0.520            | 13.21 | 0.050            | 1.27 |
| 85815                                 | 15         | 0.577            | 14.66 | 0.050            | 1.27 |
| 85818                                 | 18         | 0.608            | 15.44 | 0.050            | 1.27 |
| 85825                                 | 25         | 0.767            | 19.48 | 0.065            | 1.65 |
| 85834                                 | 34         | 0.830            | 21.08 | 0.065            | 1.65 |

| 16 AWG (1.36 mm²)                     |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 168/38 (168 x 0.10 mm)     |            |                  |       |                  |      |
| Insulation thickness: 0.022 (0.56 mm) |            |                  |       |                  |      |
| Part No.                              | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 85603                                 | 3          | 0.331            | 8.41  | 0.035            | 0.89 |
| 85604                                 | 4          | 0.362            | 9.19  | 0.035            | 0.89 |
| 85605                                 | 5          | 0.396            | 10.06 | 0.035            | 0.89 |
| 85607                                 | 7          | 0.478            | 12.14 | 0.040            | 1.02 |
| 85612                                 | 12         | 0.573            | 14.55 | 0.045            | 1.14 |
| 85618                                 | 18         | 0.674            | 17.12 | 0.045            | 1.14 |
| 85625                                 | 25         | 0.862            | 21.89 | 0.065            | 1.65 |
| 85634                                 | 34         | 0.936            | 23.77 | 0.065            | 1.65 |
| 85650                                 | 50         | 1.161            | 29.49 | 0.085            | 2.16 |

| 14 AWG (2.16 mm²)                     |            |                  |       |                  |      |
|---------------------------------------|------------|------------------|-------|------------------|------|
| Stranding: 266/38 (266 x 0.10 mm)     |            |                  |       |                  |      |
| Insulation thickness: 0.022 (0.56 mm) |            |                  |       |                  |      |
| Part No.                              | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|                                       |            | Inch             | mm    | Inch             | mm   |
| 85404                                 | 4          | 0.424            | 10.77 | 0.050            | 1.27 |
| 85407                                 | 7          | 0.582            | 14.78 | 0.070            | 1.78 |

# Xtra-Guard® Continuous Flex Control



C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles  
600 V Unshielded, Multiconductor



## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

**UL AWM 2587**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

## Materials

- Finely stranded tinned copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

### 12 AWG (3.35 mm²)

Stranding: 413/38 (413 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>85204</b> | 4          | 0.527            | 13.39 | 0.070            | 1.78 |
| <b>85207</b> | 7          | 0.729            | 18.52 | 0.100            | 2.54 |

### 10 AWG (5.34 mm²)

Stranding: 658/38 (658 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>85104</b> | 4          | 0.590            | 14.99 | 0.070            | 1.78 |
| <b>85107</b> | 7          | 0.816            | 20.73 | 0.100            | 2.54 |

### 8 to 2 AWG (8.62 to 33.86 mm²)

| Part No.     | Conductors | Wire Size |       | Stranding |             | Nominal Diameter |       | Jacket Thickness |      | Insulation Thickness |      |
|--------------|------------|-----------|-------|-----------|-------------|------------------|-------|------------------|------|----------------------|------|
|              |            | AWG       | mm²   | AWG       | mm          | Inch             | mm    | Inch             | mm   | Inch                 | mm   |
| <b>85904</b> | 4          | 8         | 8.62  | 266/32    | 266 x 0.20  | 0.721            | 18.31 | 0.070            | 1.78 | 0.032                | 0.81 |
| <b>85704</b> | 4          | 6         | 13.38 | 413/32    | 413 x 0.20  | 0.935            | 23.75 | 0.085            | 2.16 | 0.047                | 1.19 |
| <b>85504</b> | 4          | 4         | 21.55 | 665/32    | 665 x 0.20  | 1.076            | 27.33 | 0.085            | 2.16 | 0.047                | 1.19 |
| <b>85304</b> | 4          | 2         | 33.86 | 1045/32   | 1045 x 0.20 | 1.250            | 31.75 | 0.085            | 2.16 | 0.047                | 1.19 |

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600 V Shielded, Multiconductor



**UL AWM 2587**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

## Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Tinned copper braid shield, 85% coverage
- PVC inner jacket
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 20 AWG (0.51 mm²)

Stranding: 63/38 (63 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 85003CY  | 3          | 0.350            | 8.89  | 0.035            | 0.89 |
| 85004CY  | 4          | 0.375            | 9.53  | 0.035            | 0.89 |
| 85005CY  | 5          | 0.411            | 10.44 | 0.040            | 1.02 |
| 85007CY  | 7          | 0.482            | 12.24 | 0.040            | 1.02 |
| 85010CY  | 10         | 0.545            | 13.84 | 0.040            | 1.02 |
| 85012CY  | 12         | 0.564            | 14.33 | 0.050            | 1.27 |
| 85018CY  | 18         | 0.662            | 16.81 | 0.060            | 1.52 |
| 85025CY  | 25         | 0.812            | 20.62 | 0.070            | 1.78 |

### 18 AWG (0.85 mm²)

Stranding: 105/38 (105 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 85803CY  | 3          | 0.376            | 9.55  | 0.035            | 0.89 |
| 85804CY  | 4          | 0.414            | 10.52 | 0.040            | 1.02 |
| 85805CY  | 5          | 0.453            | 11.51 | 0.040            | 1.02 |
| 85807CY  | 7          | 0.532            | 13.51 | 0.045            | 1.14 |
| 85812CY  | 12         | 0.634            | 16.10 | 0.060            | 1.52 |
| 85818CY  | 18         | 0.725            | 18.42 | 0.060            | 1.52 |
| 85825CY  | 25         | 0.908            | 23.06 | 0.080            | 2.03 |

### 16 AWG (1.36 mm²)

Stranding: 168/38 (168 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 85603CY  | 3          | 0.419            | 10.64 | 0.035            | 0.89 |
| 85604CY  | 4          | 0.460            | 11.68 | 0.040            | 1.02 |
| 85605CY  | 5          | 0.500            | 12.70 | 0.040            | 1.02 |
| 85607CY  | 7          | 0.602            | 15.29 | 0.055            | 1.40 |
| 85612CY  | 12         | 0.700            | 17.78 | 0.060            | 1.52 |
| 85615CY  | 15         | 0.769            | 19.53 | 0.060            | 1.52 |
| 85618CY  | 18         | 0.805            | 20.45 | 0.060            | 1.52 |
| 85625CY  | 25         | 0.973            | 24.71 | 0.065            | 1.65 |
| 85634CY  | 34         | 1.087            | 27.61 | 0.085            | 2.16 |

### 14 AWG (2.16 mm²)

Stranding: 266/38 (266 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 85404CY  | 4          | 0.528            | 13.41 | 0.050            | 1.27 |
| 85407CY  | 7          | 0.676            | 17.17 | 0.065            | 1.65 |



# Xtra-Guard® Continuous Flex Control



C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles  
600 V Shielded, Multiconductor



## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

UL AWM 2587  
CSA AWM I/II A/B FT1  
CE

## Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

## Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

## Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Tinned copper braid shield, 85% coverage
- PVC inner jacket
- Oil-resistant PVC jacket

### 12 AWG (3.35 mm²)

Stranding: 413/38 (413 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 85204CY  | 4          | 0.641            | 16.28 | 0.075            | 1.90 |
| 85207CY  | 7          | 0.836            | 21.23 | 0.100            | 2.54 |

### 10 AWG (5.34 mm²)

Stranding: 658/38 (658 x 0.10 mm)  
Insulation thickness: 0.022 (0.56 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 85104CY  | 4          | 0.707            | 17.96 | 0.070            | 1.78 |
| 85107CY  | 7          | 0.947            | 24.05 | 0.100            | 2.54 |

### 8 to 2 AWG (8.62 to 33.86 mm²)

| Part No. | Conductors | Wire Size |       | Stranding |             | Nominal Diameter |       | Jacket Thickness |      | Insulation Thickness |      |
|----------|------------|-----------|-------|-----------|-------------|------------------|-------|------------------|------|----------------------|------|
|          |            | AWG       | mm²   | AWG       | mm          | Inch             | mm    | Inch             | mm   | Inch                 | mm   |
| 85904CY  | 4          | 8         | 8.62  | 266/32    | 266 x 0.20  | 0.882            | 22.40 | 0.085            | 2.16 | 0.032                | 0.81 |
| 85704CY  | 4          | 6         | 13.38 | 413/32    | 413 x 0.20  | 1.066            | 27.08 | 0.085            | 2.16 | 0.047                | 1.19 |
| 85504CY  | 4          | 4         | 21.55 | 665/32    | 665 x 0.20  | 1.227            | 31.17 | 0.085            | 2.16 | 0.047                | 1.19 |
| 85304CY  | 4          | 2         | 33.86 | 1045/32   | 1045 x 0.20 | 1.431            | 36.35 | 0.095            | 2.41 | 0.047                | 1.19 |



# Xtra-Guard® Continuous Flex Data

C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles  
300 V Unshielded, Multiconductor



**UL CM**  
**UL AWM 2661**  
**CSA AWM I/II A/B FT4**  
**CSA CMG**  
**CE**

## Operating Temperature

- +5°C to +105°C (flexing)
- -10°C to +105°C (stationary)

## Conductor Color Coding

- Chart D (page 531)
- Jacket color: slate

## Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.     | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|--------------|------------|------------------|------|------------------|------|
|              |            | Inch             | mm   | Inch             | mm   |
| <b>86002</b> | 2          | 0.154            | 3.91 | 0.040            | 1.02 |
| <b>86003</b> | 3          | 0.160            | 4.06 | 0.040            | 1.02 |
| <b>86004</b> | 4          | 0.170            | 4.32 | 0.040            | 1.02 |
| <b>86005</b> | 5          | 0.180            | 4.57 | 0.040            | 1.02 |
| <b>86007</b> | 7          | 0.203            | 5.16 | 0.040            | 1.02 |
| <b>86012</b> | 12         | 0.263            | 6.68 | 0.040            | 1.02 |
| <b>86018</b> | 18         | 0.262            | 6.65 | 0.040            | 1.02 |
| <b>86025</b> | 25         | 0.309            | 7.85 | 0.040            | 1.02 |

### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.     | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|--------------|------------|------------------|------|------------------|------|
|              |            | Inch             | mm   | Inch             | mm   |
| <b>86102</b> | 2          | 0.162            | 4.11 | 0.040            | 1.02 |
| <b>86103</b> | 3          | 0.168            | 4.27 | 0.040            | 1.02 |
| <b>86104</b> | 4          | 0.179            | 4.55 | 0.040            | 1.02 |
| <b>86105</b> | 5          | 0.191            | 4.85 | 0.040            | 1.02 |
| <b>86107</b> | 7          | 0.217            | 5.51 | 0.040            | 1.02 |
| <b>86112</b> | 12         | 0.283            | 7.19 | 0.040            | 1.02 |
| <b>86118</b> | 18         | 0.282            | 7.16 | 0.040            | 1.02 |
| <b>86125</b> | 25         | 0.335            | 8.51 | 0.040            | 1.02 |

### 24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.     | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|--------------|------------|------------------|------|------------------|------|
|              |            | Inch             | mm   | Inch             | mm   |
| <b>86202</b> | 2          | 0.172            | 4.37 | 0.040            | 1.02 |
| <b>86203</b> | 3          | 0.179            | 4.55 | 0.040            | 1.02 |
| <b>86204</b> | 4          | 0.191            | 4.85 | 0.040            | 1.02 |
| <b>86205</b> | 5          | 0.205            | 5.21 | 0.040            | 1.02 |
| <b>86207</b> | 7          | 0.233            | 5.92 | 0.040            | 1.02 |
| <b>86212</b> | 12         | 0.307            | 7.80 | 0.040            | 1.02 |
| <b>86218</b> | 18         | 0.307            | 7.80 | 0.040            | 1.02 |
| <b>86225</b> | 25         | 0.376            | 9.55 | 0.045            | 1.14 |

### 22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.     | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|--------------|------------|------------------|-------|------------------|------|
|              |            | Inch             | mm    | Inch             | mm   |
| <b>86302</b> | 2          | 0.188            | 4.78  | 0.040            | 1.02 |
| <b>86303</b> | 3          | 0.197            | 5.00  | 0.040            | 1.02 |
| <b>86304</b> | 4          | 0.211            | 5.36  | 0.040            | 1.02 |
| <b>86305</b> | 5          | 0.227            | 5.77  | 0.040            | 1.02 |
| <b>86307</b> | 7          | 0.260            | 6.60  | 0.040            | 1.02 |
| <b>86312</b> | 12         | 0.347            | 8.81  | 0.040            | 1.02 |
| <b>86318</b> | 18         | 0.347            | 8.81  | 0.040            | 1.02 |
| <b>86325</b> | 25         | 0.426            | 10.82 | 0.045            | 1.14 |



# Xtra-Guard® Continuous Flex Data



C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles  
300 V Foil/Spiral Shield, Multiconductor



UL CM  
UL AWM 2661  
CSA AWM I/II A/B FT4  
CSA CMG  
CE

## Operating Temperature

- +5°C to 105°C (flexing)
- 10°C to 105°C (stationary)

## Conductor Color Coding

- Chart D (page 531)
- Jacket color: slate

## Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Foil +spiral shield  
Aluminum/polyester foil shield,  
25% overlap min.  
Foil facing outward  
Tinned copper spiral shield,  
90% coverage
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer



### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 86002CY  | 2          | 0.174            | 4.42 | 0.040            | 1.02 |
| 86003CY  | 3          | 0.180            | 4.57 | 0.040            | 1.02 |
| 86004CY  | 4          | 0.190            | 4.83 | 0.040            | 1.02 |
| 86005CY  | 5          | 0.200            | 5.08 | 0.040            | 1.02 |
| 86007CY  | 7          | 0.223            | 5.66 | 0.040            | 1.02 |
| 86012CY  | 12         | 0.283            | 7.19 | 0.040            | 1.02 |
| 86018CY  | 18         | 0.282            | 7.16 | 0.040            | 1.02 |
| 86025CY  | 25         | 0.329            | 8.36 | 0.040            | 1.02 |

### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 86102CY  | 2          | 0.182            | 4.62 | 0.040            | 1.02 |
| 86103CY  | 3          | 0.188            | 4.78 | 0.040            | 1.02 |
| 86104CY  | 4          | 0.199            | 5.05 | 0.040            | 1.02 |
| 86105CY  | 5          | 0.211            | 5.36 | 0.040            | 1.02 |
| 86107CY  | 7          | 0.237            | 6.02 | 0.040            | 1.02 |
| 86112CY  | 12         | 0.303            | 7.70 | 0.040            | 1.02 |
| 86118CY  | 18         | 0.302            | 7.67 | 0.040            | 1.02 |
| 86125CY  | 25         | 0.355            | 9.02 | 0.040            | 1.02 |

### 24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 86202CY  | 2          | 0.192            | 4.88  | 0.040            | 1.02 |
| 86203CY  | 3          | 0.199            | 5.05  | 0.040            | 1.02 |
| 86204CY  | 4          | 0.211            | 5.36  | 0.040            | 1.02 |
| 86205CY  | 5          | 0.225            | 5.72  | 0.040            | 1.02 |
| 86207CY  | 7          | 0.253            | 6.43  | 0.040            | 1.02 |
| 86212CY  | 12         | 0.327            | 8.31  | 0.040            | 1.02 |
| 86218CY  | 18         | 0.327            | 8.31  | 0.040            | 1.02 |
| 86225CY  | 25         | 0.396            | 10.06 | 0.045            | 1.14 |

### 22 AWG (0.38 mm²)

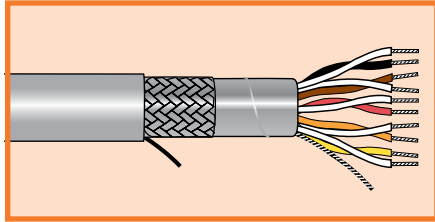
Stranding: 19/34 (19 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 86302CY  | 2          | 0.208            | 5.28  | 0.040            | 1.02 |
| 86303CY  | 3          | 0.217            | 5.51  | 0.040            | 1.02 |
| 86304CY  | 4          | 0.231            | 5.87  | 0.040            | 1.02 |
| 86305CY  | 5          | 0.247            | 6.27  | 0.040            | 1.02 |
| 86307CY  | 7          | 0.280            | 7.11  | 0.040            | 1.02 |
| 86312CY  | 12         | 0.367            | 9.32  | 0.040            | 1.02 |
| 86318CY  | 18         | 0.367            | 9.32  | 0.040            | 1.02 |
| 86325CY  | 25         | 0.446            | 11.33 | 0.045            | 1.14 |

# Xtra-Guard® Continuous Flex Data



C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles  
300 V Foil/Braid Shield, Multipair



UL CM  
UL AWM 2661  
CSA AWM I/II A/B FT4  
CSA CMG  
CE

## Operating Temperature

- +5°C to +105°C (flexing)
- -10°C to +105°C (stationary)

## Conductor Color Coding

- Chart A (page 528)
- Jacket color: slate

## Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Shield: Combination foil and braid  
Aluminum/polyester foil shield, with 25% overlap and tinned copper drain wire  
Tinned copper braid with 85% coverage
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |      | Jacket Thickness |      |
|----------|-------|------------------|------|------------------|------|
|          |       | Inch             | mm   | Inch             | mm   |
| 86401CY  | 1     | 0.186            | 4.72 | 0.040            | 1.02 |
| 86402CY  | 2     | 0.231            | 5.87 | 0.040            | 1.02 |
| 86403CY  | 3     | 0.240            | 6.10 | 0.040            | 1.02 |
| 86404CY  | 4     | 0.256            | 6.50 | 0.040            | 1.02 |
| 86405CY  | 5     | 0.274            | 6.96 | 0.040            | 1.02 |
| 86406CY  | 6     | 0.293            | 7.44 | 0.040            | 1.02 |
| 86408CY  | 8     | 0.331            | 8.41 | 0.040            | 1.02 |
| 86410CY  | 10    | 0.365            | 9.27 | 0.045            | 1.14 |
| 86414CY  | 14    | 0.381            | 9.68 | 0.045            | 1.14 |

### 26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No. | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------|-------|------------------|-------|------------------|------|
|          |       | Inch             | mm    | Inch             | mm   |
| 86501CY  | 1     | 0.194            | 4.93  | 0.040            | 1.02 |
| 86502CY  | 2     | 0.244            | 6.20  | 0.040            | 1.02 |
| 86503CY  | 3     | 0.254            | 6.45  | 0.040            | 1.02 |
| 86504CY  | 4     | 0.272            | 6.91  | 0.040            | 1.02 |
| 86505CY  | 5     | 0.292            | 7.42  | 0.040            | 1.02 |
| 86506CY  | 6     | 0.313            | 7.95  | 0.040            | 1.02 |
| 86508CY  | 8     | 0.355            | 9.02  | 0.040            | 1.02 |
| 86510CY  | 10    | 0.392            | 9.96  | 0.045            | 1.14 |
| 86514CY  | 14    | 0.426            | 10.82 | 0.053            | 1.35 |



# Xtra-Guard® Continuous Flex Data



C-Track or High Flexing Applications Up to 6 Million Flex Life Cycles  
300 V Foil/Braid Shield, Multipair



**UL CM**  
**UL AWM 2661**  
**CSA AWM I/II A/B FT4**  
**CSA CMG**  
**CE**

## Operating Temperature

- +5°C to +105°C (flexing)
- -10°C to +105°C (stationary)

## Conductor Color Coding

- Chart A (page 528)
- Jacket color: slate

## Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Shield: Combination foil and braid  
Aluminum/polyester foil shield, with 25% overlap and tinned copper drain wire  
Tinned copper braid with 85% coverage
- Oil-resistant PVC jacket

## Availability

100 ft (30.5 m)  
500 ft (152 m)  
1000 ft (305 m)  
Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.       | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------------|-------|------------------|-------|------------------|------|
|                |       | Inch             | mm    | Inch             | mm   |
| <b>86601CY</b> | 1     | 0.204            | 5.18  | 0.040            | 1.02 |
| <b>86602CY</b> | 2     | 0.260            | 6.60  | 0.040            | 1.02 |
| <b>86603CY</b> | 3     | 0.272            | 6.91  | 0.040            | 1.02 |
| <b>86604CY</b> | 4     | 0.292            | 7.42  | 0.040            | 1.02 |
| <b>86605CY</b> | 5     | 0.314            | 7.98  | 0.040            | 1.02 |
| <b>86606CY</b> | 6     | 0.337            | 8.56  | 0.040            | 1.02 |
| <b>86608CY</b> | 8     | 0.385            | 9.78  | 0.040            | 1.02 |
| <b>86610CY</b> | 10    | 0.427            | 10.85 | 0.045            | 1.14 |
| <b>86614CY</b> | 14    | 0.463            | 11.76 | 0.053            | 1.35 |

### 22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)  
Insulation thickness: 0.010 (0.25 mm)

| Part No.       | Pairs | Nominal Diameter |       | Jacket Thickness |      |
|----------------|-------|------------------|-------|------------------|------|
|                |       | Inch             | mm    | Inch             | mm   |
| <b>86701CY</b> | 1     | 0.220            | 5.59  | 0.040            | 1.02 |
| <b>86702CY</b> | 2     | 0.287            | 7.29  | 0.040            | 1.02 |
| <b>86703CY</b> | 3     | 0.301            | 7.65  | 0.040            | 1.02 |
| <b>86704CY</b> | 4     | 0.324            | 8.23  | 0.040            | 1.02 |
| <b>86705CY</b> | 5     | 0.350            | 8.89  | 0.040            | 1.02 |
| <b>86706CY</b> | 6     | 0.377            | 9.58  | 0.040            | 1.02 |
| <b>86708CY</b> | 8     | 0.443            | 11.25 | 0.045            | 1.14 |
| <b>86710CY</b> | 10    | 0.497            | 12.62 | 0.053            | 1.35 |
| <b>86714CY</b> | 14    | 0.527            | 13.39 | 0.053            | 1.35 |





# Xtra-Guard® Torsional Flex

Torsional Cable with 360° Twisting  
600 V Unshielded, Multiconductor



**UL AWM 20234**  
**CSA AWM I/II A/B FT1**  
**CE**

## Operating Temperature

- -10°C to +80°C (flexing)
- -30°C to +80°C (stationary)

## Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: black

## Materials

- Stranded bare copper conductors
- Thermoplastic elastomer insulation
- Oil-resistant polyurethane jacket

## Availability

Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.     | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|--------------|------------|------------------|------|------------------|------|
|              |            | Inch             | mm   | Inch             | mm   |
| <b>87003</b> | 3          | 0.227            | 5.77 | 0.050            | 1.27 |
| <b>87004</b> | 4          | 0.242            | 6.15 | 0.050            | 1.27 |
| <b>87005</b> | 5          | 0.259            | 6.58 | 0.050            | 1.27 |
| <b>87007</b> | 7          | 0.294            | 7.47 | 0.050            | 1.27 |

### 22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.     | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|--------------|------------|------------------|------|------------------|------|
|              |            | Inch             | mm   | Inch             | mm   |
| <b>87103</b> | 3          | 0.244            | 6.20 | 0.050            | 1.27 |
| <b>87104</b> | 4          | 0.261            | 6.63 | 0.050            | 1.27 |
| <b>87105</b> | 5          | 0.281            | 7.14 | 0.050            | 1.27 |
| <b>87107</b> | 7          | 0.321            | 8.15 | 0.050            | 1.27 |

### 20 AWG (0.62 mm²)

Stranding: 19/32 (19 x 0.20 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.     | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|--------------|------------|------------------|------|------------------|------|
|              |            | Inch             | mm   | Inch             | mm   |
| <b>87203</b> | 3          | 0.262            | 6.65 | 0.050            | 1.27 |
| <b>87204</b> | 4          | 0.281            | 7.14 | 0.050            | 1.27 |
| <b>87205</b> | 5          | 0.302            | 7.67 | 0.050            | 1.27 |
| <b>87207</b> | 7          | 0.347            | 8.81 | 0.050            | 1.27 |

### 18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No.     | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|--------------|------------|------------------|------|------------------|------|
|              |            | Inch             | mm   | Inch             | mm   |
| <b>87303</b> | 3          | 0.283            | 7.19 | 0.050            | 1.27 |
| <b>87304</b> | 4          | 0.305            | 7.75 | 0.050            | 1.27 |
| <b>87305</b> | 5          | 0.329            | 8.36 | 0.050            | 1.27 |
| <b>87307</b> | 7          | 0.380            | 9.65 | 0.050            | 1.27 |

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### 16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87403    | 3          | 0.302            | 7.67  | 0.050            | 1.27 |
| 87404    | 4          | 0.327            | 8.31  | 0.050            | 1.27 |
| 87405    | 5          | 0.354            | 8.99  | 0.050            | 1.27 |
| 87407    | 7          | 0.410            | 10.41 | 0.050            | 1.27 |

### 14 AWG (2.07 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)  
Insulation thickness: 0.027 (0.69 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87503    | 3          | 0.382            | 9.70  | 0.050            | 1.27 |
| 87504    | 4          | 0.417            | 10.59 | 0.050            | 1.27 |
| 87505    | 5          | 0.455            | 11.56 | 0.050            | 1.27 |
| 87507    | 7          | 0.535            | 13.59 | 0.050            | 1.27 |

### 12 AWG (3.29 mm²)

Stranding: 19/0.0185 (19 x 0.47 mm)  
Insulation thickness: 0.027 (0.69 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87603    | 3          | 0.444            | 11.28 | 0.060            | 1.52 |
| 87604    | 4          | 0.483            | 12.27 | 0.060            | 1.52 |
| 87605    | 5          | 0.526            | 13.36 | 0.060            | 1.52 |
| 87607    | 7          | 0.618            | 15.70 | 0.060            | 1.52 |

### 10 AWG (5.22 mm²)

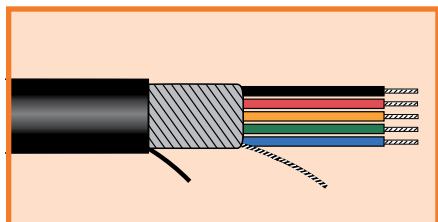
Stranding: 37/0.0167 (37 x 0.42 mm)  
Insulation thickness: 0.030 (0.76 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87703    | 3          | 0.508            | 12.90 | 0.060            | 1.52 |
| 87704    | 4          | 0.555            | 14.10 | 0.060            | 1.52 |
| 87705    | 5          | 0.627            | 15.93 | 0.070            | 1.78 |
| 87707    | 7          | 0.737            | 18.72 | 0.070            | 1.78 |



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## Conductor Color Coding

- Numbered black conductors
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- Jacket color: black

## Materials

- Stranded bare copper conductors
- Thermoplastic elastomer insulation
- Tinned copper spiral shield, 90% coverage
- Oil-resistant polyurethane jacket

## Availability

Bulk, cut to length

## FIT® Tubing Recommendations

- FIT-FLEX: Highly flexible, cross-linked silicone rubber
- FIT-650: Chemical/temperature resistant cross-linked fluoroelastomer

### 24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 87003CY  | 3          | 0.246            | 6.25 | 0.050            | 1.27 |
| 87004CY  | 4          | 0.261            | 6.63 | 0.050            | 1.27 |
| 87005CY  | 5          | 0.278            | 7.06 | 0.050            | 1.27 |
| 87007CY  | 7          | 0.313            | 7.95 | 0.050            | 1.27 |

### 22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 87103CY  | 3          | 0.263            | 6.68 | 0.050            | 1.27 |
| 87104CY  | 4          | 0.280            | 7.11 | 0.050            | 1.27 |
| 87105CY  | 5          | 0.300            | 7.62 | 0.050            | 1.27 |
| 87107CY  | 7          | 0.340            | 8.64 | 0.050            | 1.27 |

### 20 AWG (0.62 mm²)

Stranding: 19/32 (19 x 0.20 mm)  
Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |      | Jacket Thickness |      |
|----------|------------|------------------|------|------------------|------|
|          |            | Inch             | mm   | Inch             | mm   |
| 87203CY  | 3          | 0.281            | 7.14 | 0.050            | 1.27 |
| 87204CY  | 4          | 0.300            | 7.62 | 0.050            | 1.27 |
| 87205CY  | 5          | 0.321            | 8.15 | 0.050            | 1.27 |
| 87207CY  | 7          | 0.366            | 9.30 | 0.050            | 1.27 |

### 18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)  
Insulation thickness: 0.016 (0.41 mm)

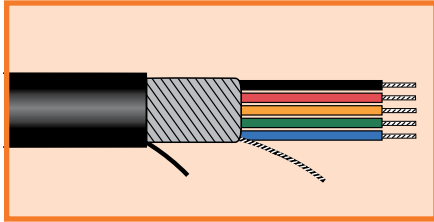
| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87303CY  | 3          | 0.302            | 7.67  | 0.050            | 1.27 |
| 87304CY  | 4          | 0.324            | 8.23  | 0.050            | 1.27 |
| 87305CY  | 5          | 0.348            | 8.84  | 0.050            | 1.27 |
| 87307CY  | 7          | 0.399            | 10.13 | 0.050            | 1.27 |





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Insulation thickness: 0.016 (0.41 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87403CY  | 3          | 0.321            | 8.15  | 0.050            | 1.27 |
| 87404CY  | 4          | 0.346            | 8.79  | 0.050            | 1.27 |
| 87405CY  | 5          | 0.373            | 9.47  | 0.050            | 1.27 |
| 87407CY  | 7          | 0.429            | 10.90 | 0.050            | 1.27 |

### 14 AWG (2.07 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)  
Insulation thickness: 0.027 (0.69 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87503CY  | 3          | 0.401            | 10.19 | 0.050            | 1.27 |
| 87504CY  | 4          | 0.436            | 11.07 | 0.050            | 1.27 |
| 87505CY  | 5          | 0.474            | 12.04 | 0.050            | 1.27 |
| 87507CY  | 7          | 0.554            | 14.07 | 0.050            | 1.27 |

### 12 AWG (3.29 mm²)

Stranding: 19/0.0185 (19 x 0.47 mm)  
Insulation thickness: 0.027 (0.69 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87603CY  | 3          | 0.463            | 11.76 | 0.060            | 1.52 |
| 87604CY  | 4          | 0.502            | 12.75 | 0.060            | 1.52 |
| 87605CY  | 5          | 0.545            | 13.84 | 0.060            | 1.52 |
| 87607CY  | 7          | 0.637            | 16.18 | 0.060            | 1.52 |

### 10 AWG (5.22 mm²)

Stranding: 37/0.0167 (37 x 0.42 mm)  
Insulation thickness: 0.030 (0.76 mm)

| Part No. | Conductors | Nominal Diameter |       | Jacket Thickness |      |
|----------|------------|------------------|-------|------------------|------|
|          |            | Inch             | mm    | Inch             | mm   |
| 87703CY  | 3          | 0.527            | 13.39 | 0.060            | 1.52 |
| 87704CY  | 4          | 0.574            | 14.58 | 0.060            | 1.52 |
| 87705CY  | 5          | 0.646            | 16.41 | 0.070            | 1.78 |
| 87707CY  | 7          | 0.756            | 19.20 | 0.070            | 1.78 |