

Xtra-Guard® Performance Cable



Xtra-Guard® Flex Cable

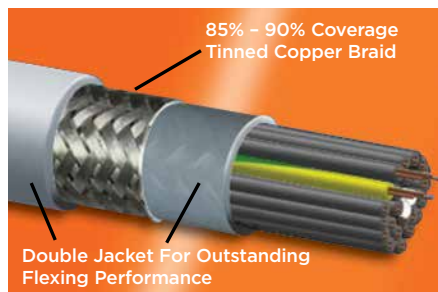
Flexible/Flexing



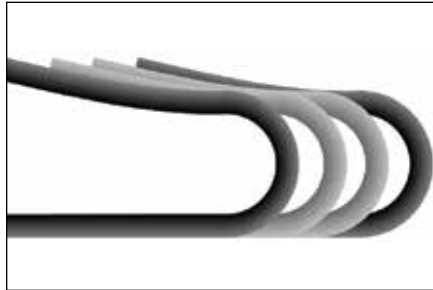
Xtra-Guard cables are available in a variety of configurations to allow exactly the right cable to be selected for your flexing application. There are four common types of cable flexing movements to consider when designing and applying a high-flexing cable and they are:

- **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.

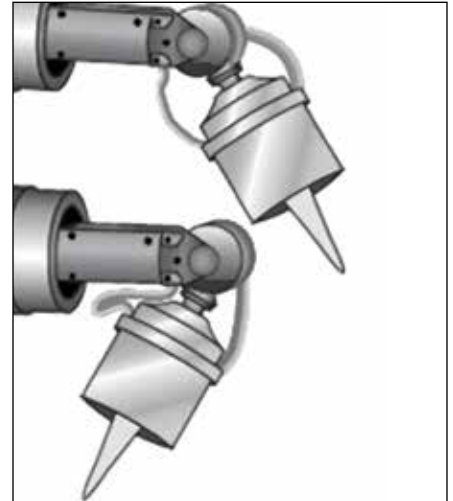


Our high-flex shielding options include a double-jacket configuration with 85% braid coverage to achieve high shielding effectiveness while maintaining the desired flexibility. For torsional flex applications, we offer spiral wound shielding with 90% coverage.



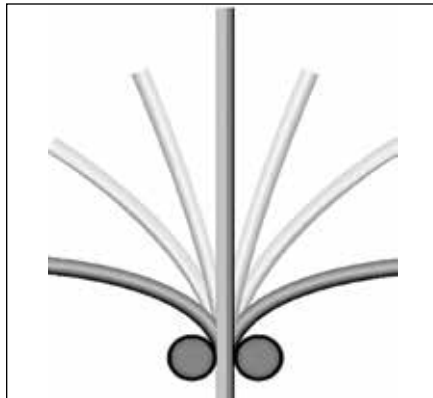
Rolling Flex

- 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)

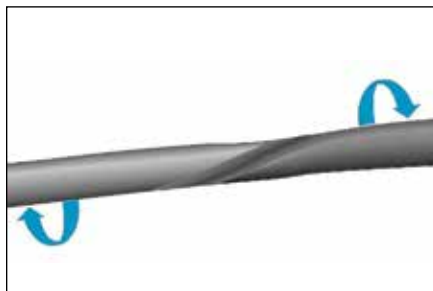


Applications

- 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

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)

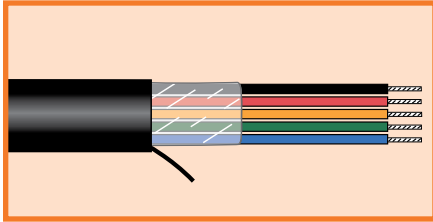


Torsion Flex

- Xtra-Guard Torsional Flex Cable (600 V)

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
87003	3	0.227	5.77	0.050	1.27
87004	4	0.242	6.15	0.050	1.27
87005	5	0.259	6.58	0.050	1.27
87007	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
87103	3	0.244	6.20	0.050	1.27
87104	4	0.261	6.63	0.050	1.27
87105	5	0.281	7.14	0.050	1.27
87107	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
87203	3	0.262	6.65	0.050	1.27
87204	4	0.281	7.14	0.050	1.27
87205	5	0.302	7.67	0.050	1.27
87207	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
87303	3	0.283	7.19	0.050	1.27
87304	4	0.305	7.75	0.050	1.27
87305	5	0.329	8.36	0.050	1.27
87307	7	0.380	9.65	0.050	1.27

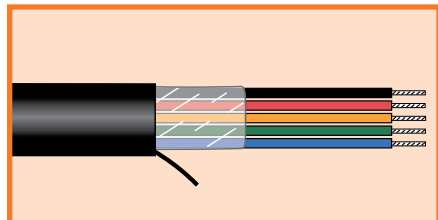


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Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Xtra-Guard® Torsional Flex

Torsional Cable with 360° Twisting
600 V Unshielded, Multiconductor



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CSA AWM I/II A/B FT1
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- -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

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)

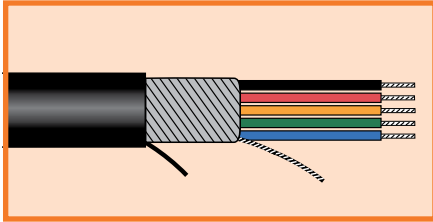
Stranding: 37/0.0167 (37 x 0.42 mm)
Insulation thickness: 0.030 (0.76 mm)

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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- Tinned copper spiral shield, 90% coverage
- Oil-resistant polyurethane jacket

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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

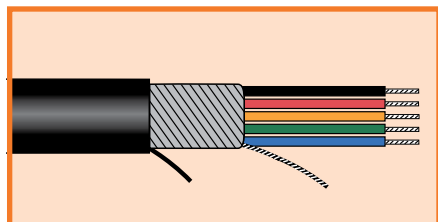


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Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87403CY	3	0.321	8.15	0.050	1.27
87404CY	4	0.346	8.79	0.050	1.27
87405CY	5	0.373	9.47	0.050	1.27
87407CY	7	0.429	10.90	0.050	1.27

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

