

Xtra-Guard® Performance Cable



Xtra-Guard® Flex Cable

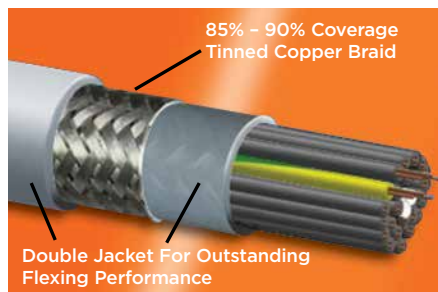
Flexible/Flexing



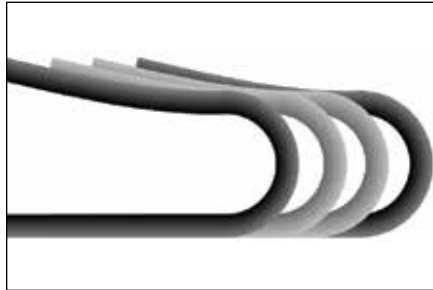
Xtra-Guard cables are available in a variety of configurations to allow exactly the right cable to be selected for your flexing application. There are four common types of cable flexing movements to consider when designing and applying a high-flexing cable and they are:

- **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.

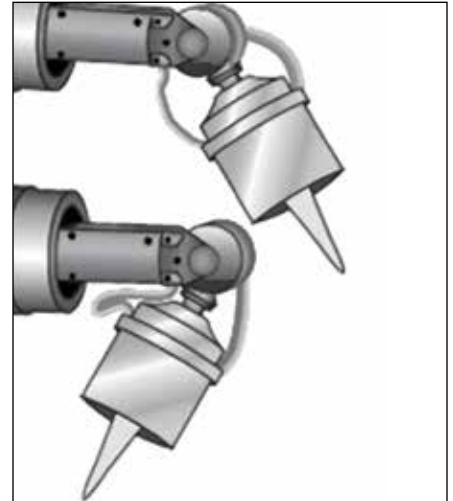


Our high-flex shielding options include a double-jacket configuration with 85% braid coverage to achieve high shielding effectiveness while maintaining the desired flexibility. For torsional flex applications, we offer spiral wound shielding with 90% coverage.



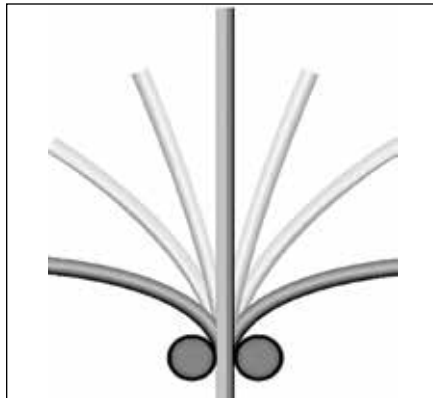
Rolling Flex

- 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)

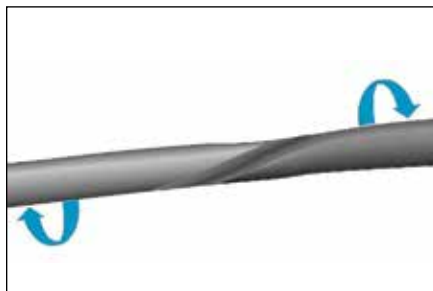


Applications

- 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)



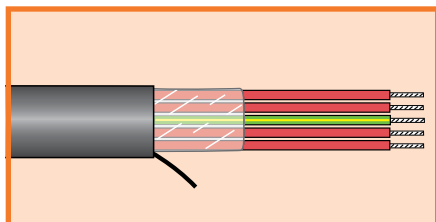
Torsion Flex

- Xtra-Guard Torsional Flex Cable (600 V)

Xtra-Guard® 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 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



Alpha Wire | www.alphawire.com | 1-800-52 ALPHA

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

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

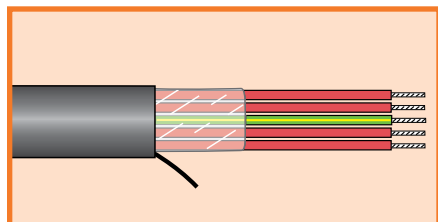
14 AWG (2.16 mm²)

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



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
- 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

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
85204	4	0.527	13.39	0.070	1.78
85207	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
85104	4	0.590	14.99	0.070	1.78
85107	7	0.816	20.73	0.100	2.54

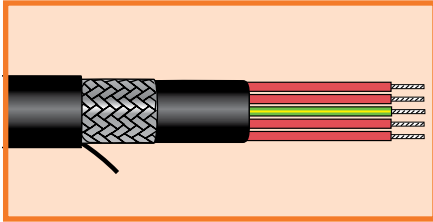
8 to 2 AWG (8.62 to 33.86 mm²)

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
85904	4	8	8.62	266/32	266 x 0.20	0.721	18.31	0.070	1.78	0.032	0.81
85704	4	6	13.38	413/32	413 x 0.20	0.935	23.75	0.085	2.16	0.047	1.19
85504	4	4	21.55	665/32	665 x 0.20	1.076	27.33	0.085	2.16	0.047	1.19
85304	4	2	33.86	1045/32	1045 x 0.20	1.250	31.75	0.085	2.16	0.047	1.19



Xtra-Guard® Continuous Flex Control

C-Track or High Flexing Applications Up to 14 Million Flex Life Cycles 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)

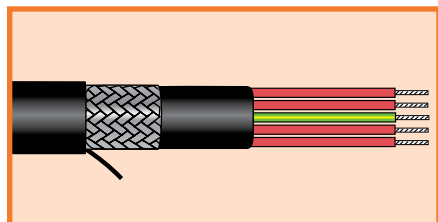
Stranding: 266/38 (266 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

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



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

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

