

Xtra-Guard® Performance Cable



Xtra-Guard® Flex Cable

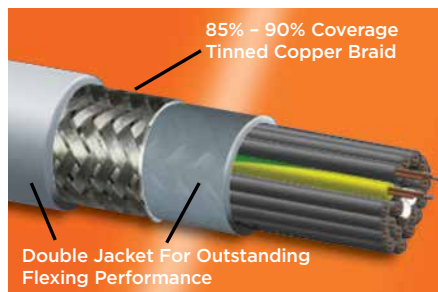
Flexible/Flexing



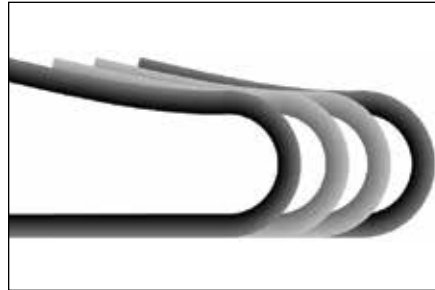
Xtra-Guard cables are available in a variety of configurations to allow exactly the right cable to be selected for your flexing application. There are four common types of cable flexing movements to consider when designing and applying a high-flexing cable and they are:

- **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.

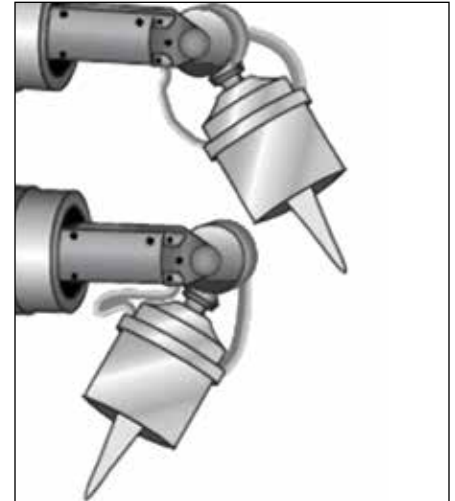


Our high-flex shielding options include a double-jacket configuration with 85% braid coverage to achieve high shielding effectiveness while maintaining the desired flexibility. For torsional flex applications, we offer spiral wound shielding with 90% coverage.



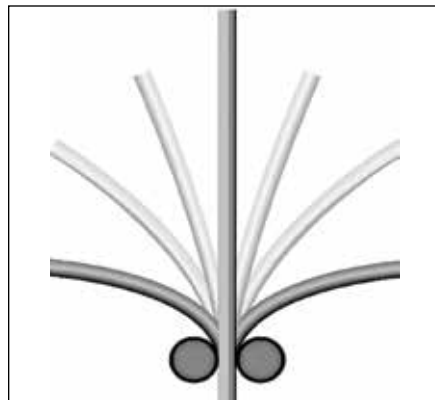
Rolling Flex

- 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)

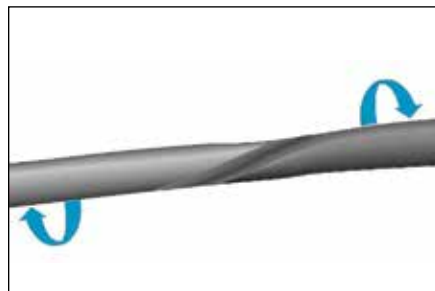


Applications

- 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)

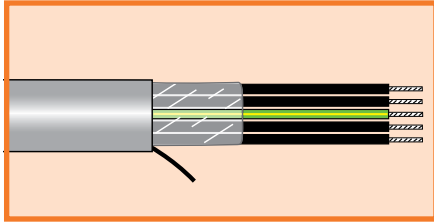


Torsion Flex

- Xtra-Guard Torsional Flex Cable (600 V)

Xtra-Guard® 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
65002	2	0.238	6.05	0.035	0.89
65003	3	0.251	6.38	0.035	0.89
65004	4	0.272	6.91	0.035	0.89
65005	5	0.305	7.75	0.038	0.97
65007	7	0.327	8.31	0.038	0.97
65009	9	0.416	10.57	0.040	1.02
65012	12	0.433	11.00	0.045	1.14
65018	18	0.527	13.39	0.055	1.40
65025	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
65802	2	0.258	6.55	0.035	0.89
65803	3	0.272	6.91	0.035	0.89
65804	4	0.296	7.52	0.035	0.89
65805	5	0.326	8.28	0.035	0.89
65807	7	0.351	8.92	0.035	0.89
65809	9	0.445	11.30	0.035	0.89
65812	12	0.470	11.94	0.043	1.09
65818	18	0.567	14.40	0.050	1.27
65825	25	0.666	16.92	0.050	1.27
65834	34	0.769	19.53	0.060	1.52
65841	41	0.835	21.21	0.063	1.60
65850	50	0.967	24.56	0.083	2.11

16 AWG (1.32 mm²)

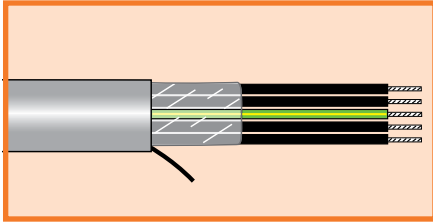
Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65602	2	0.284	7.21	0.035	0.89
65603	3	0.300	7.62	0.035	0.89
65604	4	0.328	8.33	0.035	0.89
65605	5	0.361	9.17	0.035	0.89
65607	7	0.390	9.91	0.035	0.89
65609	9	0.509	12.93	0.041	1.04
65612	12	0.536	13.61	0.049	1.24
65618	18	0.632	16.05	0.050	1.27
65625	25	0.756	19.20	0.055	1.40
65641	41	0.959	24.36	0.075	1.90
65650	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 mm²)

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 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
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 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
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 mm²)

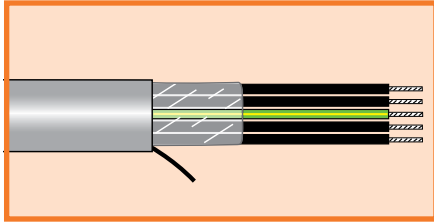
Stranding: 65/26 (65 x 0.40 mm)
Insulation thickness: 0.032 (0.81 mm)

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



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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
65704	4	0.891	22.63	0.100	2.54
65705	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
65504	4	1.080	27.43	0.100	2.54
65505	5	1.207	30.66	0.110	2.79

2 AWG (34.05 mm²)

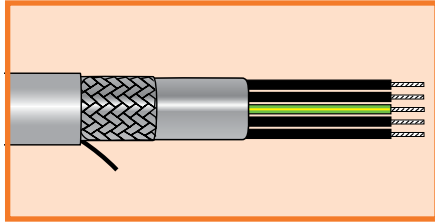
Stranding: 266/26 (266 x 0.40 mm)
Insulation thickness: 0.047 (1.19 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65304	4	1.273	32.33	0.120	3.05
65305	5	1.428	36.27	0.135	3.43



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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 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 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
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 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
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 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
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 mm²)

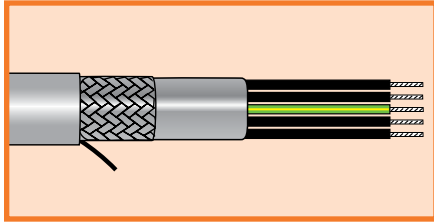
Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

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
65203CY	3	0.530	13.46	0.060	1.52
65204CY	4	0.616	15.65	0.066	1.68
65205CY	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
65103CY	3	0.630	16.00	0.070	1.78
65104CY	4	0.684	17.37	0.070	1.78
65105CY	5	0.757	19.23	0.077	1.96
65107CY	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	mm ²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
65904CY	4	8	8.32	65/26	65 x 0.40	0.822	20.88	0.075	1.90	0.032	0.81
65704CY	4	6	13.44	105/26	105 x 0.40	1.062	26.97	0.100	2.54	0.047	1.19
65504CY	4	4	21.55	168/26	168 x 0.40	1.251	31.78	0.100	2.54	0.047	1.19
65304CY	4	2	34.05	266/26	266 x 0.40	1.453	36.91	0.110	2.79	0.047	1.19

