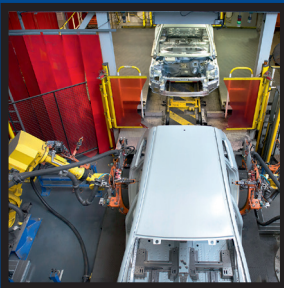


MachFlex™ Industrial Cables



**The Ideal Cable Solution
for Flex Motion and Space-
Constrained Industrial
Applications**

**Be certain.
Belden.**

MachFlex Industrial Cable Table of Contents

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Automated Assembly Systems

Machine Vision

Automated Storage

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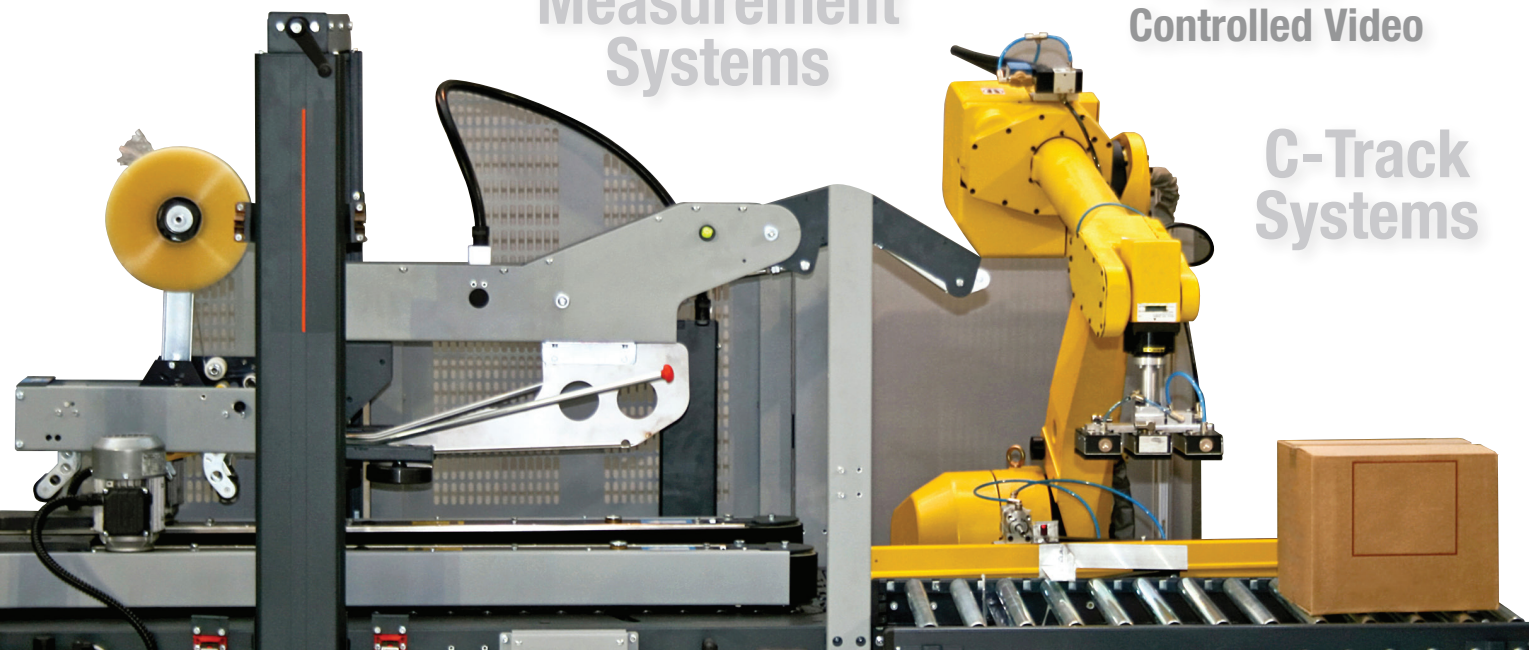
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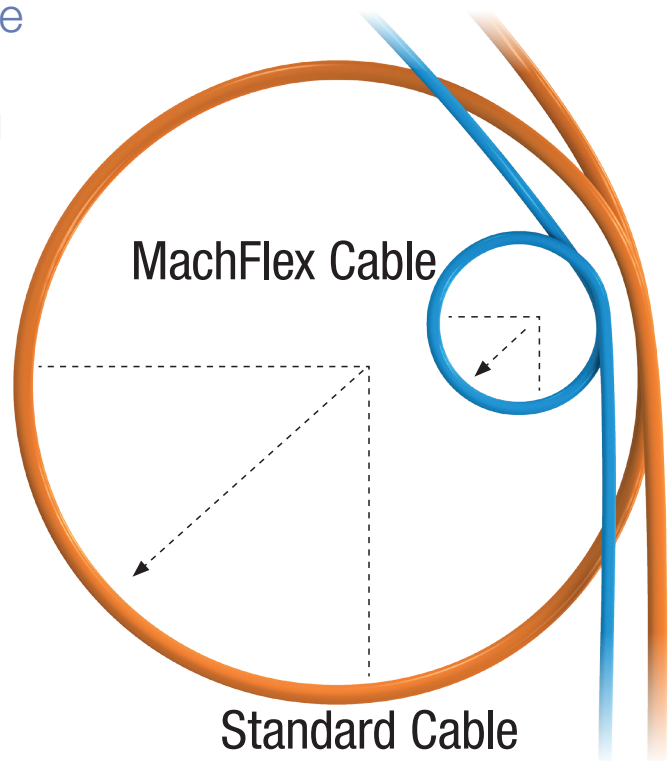


MachFlex Cables Work in Diverse Industrial Applications, Ranging from Light to Continuous Flexing

Moderate Flexing

Measured as a multiple of the overall cable diameter (OD), the bend radius defines flexibility. With a tighter bend radius, you get greater cable flexibility. The MachFlex portfolio lists cables as tight as 5 x OD, compared to the industry standard 10 x OD.

So, if you're space constrained, MachFlex is the perfect fit.



Continuous Flexing

Continuous motion causes many standard industrial cables to suffer insulation damage and cracking, jacket abrasion or shield degradation. Designed specifically for the rigors of constant motion, MachFlex helps you minimize unexpected – and expensive – downtime.

Reduce Maintenance and Avoid These Common Failures



Abrasion Through Jacket



Conductor Breaks



Corkscrewing



MachFlex 73000W Series

600 V Unshielded, Light to Moderate Flexing Applications Up to 1 Million Flex Life Cycles

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)

Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73002W	2*	0.238	6.045	0.035	0.889
73003W	3	0.251	6.375	0.035	0.889
73004W	4	0.272	6.909	0.035	0.889
73005W	5	0.305	7.747	0.038	0.965
73007W	7	0.327	8.306	0.038	0.965
73009W	9	0.416	10.566	0.040	1.016
73012W	12	0.433	10.998	0.045	1.143

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)

Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73802W	2*	0.258	6.553	0.035	0.889
73803W	3	0.272	6.909	0.035	0.889
73804W	4	0.296	7.518	0.035	0.889
73805W	5	0.326	8.280	0.035	0.889
73807W	7	0.351	8.915	0.035	0.889
73809W	9	0.445	11.303	0.035	0.889
73812W	12	0.470	11.938	0.043	1.092

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)

Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73602W	2*	0.284	7.214	0.035	0.889
73603W	3	0.300	7.620	0.035	0.889
73604W	4	0.328	8.331	0.035	0.889
73605W	5	0.361	9.169	0.035	0.889
73607W	7	0.390	9.906	0.035	0.889
73609W	9	0.509	12.929	0.041	1.041
73612W	12	0.536	13.614	0.049	1.245

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)

Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73402W	2*	0.330	8.382	0.044	1.118
73403W	3	0.351	8.915	0.045	1.143
73404W	4	0.404	10.262	0.055	1.397
73405W	5	0.439	11.151	0.055	1.397
73407W	7	0.479	12.167	0.058	1.473
73409W	9	0.609	15.469	0.063	1.600
73412W	12	0.667	16.942	0.085	2.159

12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)

Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73203W	3	0.436	11.074	0.067	1.702
73204W	4	0.500	12.700	0.080	2.032
73205W	5	0.553	14.046	0.086	2.184

* No ground conductor on 2-conductor designs

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: chrome

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)

Ratings

UL AWM 2587

CSA AWM I/II A/B FT1

CE



MachFlex 73000WS Series

600 V Shielded, Light to Moderate Flexing Applications Up to 1 Million Flex Life Cycles

20 AWG (0.51 mm²)

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

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73003WS	3	0.339	8.611	0.035	0.889
73007WS	7	0.409	10.389	0.035	0.889
73012WS	12	0.521	13.233	0.040	1.016

18 AWG (0.81 mm²)

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

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73803WS	3	0.360	9.144	0.035	0.889
73804WS	4	0.384	9.754	0.035	0.889
73805WS	5	0.414	10.516	0.035	0.889
73807WS	7	0.439	11.151	0.035	0.889
73812WS	12	0.568	14.427	0.045	1.143

16 AWG (1.32 mm²)

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

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73603WS	3	0.388	9.855	0.035	0.889
73604WS	4	0.416	10.566	0.035	0.889
73605WS	5	0.449	11.405	0.035	0.889
73607WS	7	0.484	12.294	0.035	0.889

14 AWG (2.08 mm²)

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

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73403WS	3	0.443	11.252	0.042	1.067
73404WS	4	0.486	12.344	0.047	1.194
73405WS	5	0.537	13.640	0.052	1.321
73407WS	7	0.581	14.757	0.057	1.448

12 AWG (3.31 mm²)

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

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
73203WS	3	0.530	13.462	0.060	1.524
73204WS	4	0.616	15.646	0.066	1.676
73205WS	5	0.671	17.043	0.073	1.854

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: chrome

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)

Ratings

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



MachFlex 77000W Series

600 V Unshielded, Continuous Flexing Applications Up to 14 Million Flex Life Cycles

20 AWG (0.51 mm²)

Stranding: 63/38 (63 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77003W	3	0.272	6.909	0.035	0.889
77004W	4	0.297	7.544	0.035	0.889
77005W	5	0.323	8.204	0.035	0.889
77007W	7	0.388	9.855	0.040	1.016

18 AWG (0.85 mm²)

Stranding: 105/38 (105 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77803W	3	0.298	7.569	0.035	0.889
77804W	4	0.326	8.280	0.035	0.889
77805W	5	0.355	9.017	0.035	0.889
77807W	7	0.438	11.125	0.045	1.143
77812W	12	0.520	13.208	0.050	1.270

16 AWG (1.36 mm²)

Stranding: 168/38 (168 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77603W	3	0.331	8.407	0.035	0.889
77604W	4	0.362	9.195	0.035	0.889
77605W	5	0.396	10.058	0.035	0.889
77607W	7	0.478	12.141	0.040	1.016

14 AWG (2.16 mm²)

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

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77404W	4	0.424	10.770	0.050	1.270
77407W	7	0.582	14.783	0.070	1.778

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)

Ratings

UL AWM 2587

CSA AWM I/II A/B FT1

CE



MachFlex 77000WS Series

600 V Shielded, Continuous Flexing Applications Up to 14 Million Flex Life Cycles

20 AWG (0.51 mm²)

Stranding: 63/38 (63 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77003WS	3	0.350	8.890	0.035	0.889
77004WS	4	0.375	9.525	0.035	0.889

18 AWG (0.85 mm²)

Stranding: 105/38 (105 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77803WS	3	0.376	9.550	0.035	0.889
77804WS	4	0.414	10.516	0.040	1.016
77805WS	5	0.453	11.506	0.040	1.016
77807WS	7	0.532	13.513	0.045	1.143
77812WS	12	0.634	16.104	0.060	1.524

16 AWG (1.36 mm²)

Stranding: 168/38 (168 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77603WS	3	0.419	10.643	0.035	0.889
77604WS	4	0.460	11.684	0.040	1.016

14 AWG (2.16 mm²)

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

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
77404WS	4	0.528	13.411	0.050	1.270

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

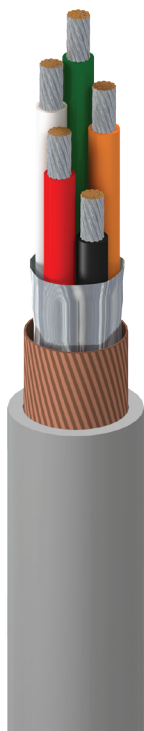
- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Tinned copper braid shield, 85% coverage
- PVC inner jacket
- Oil-resistant PVC jacket

Availability

- 100 ft (30.5 m)
- 500 ft (152 m)
- 1000 ft (305 m)

Ratings

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



MachFlex 76000WS Series

300 V Foil/Spiral Shield, Continuous Flexing Data Applications Up to 6 Million Flex Life Cycles

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)

Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
76002WS	2	0.174	4.420	0.040	1.016
76003WS	3	0.180	4.572	0.040	1.016
76004WS	4	0.190	4.826	0.040	1.016
76005WS	5	0.200	5.080	0.040	1.016
76007WS	7	0.223	5.664	0.040	1.016
76012WS	12	0.283	7.188	0.040	1.016
76018WS	18	0.282	7.163	0.040	1.016
76025WS	25	0.329	8.357	0.040	1.016

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
76102WS	2	0.182	4.623	0.040	1.016
76103WS	3	0.188	4.775	0.040	1.016
76104WS	4	0.199	5.055	0.040	1.016
76105WS	5	0.211	5.359	0.040	1.016
76107WS	7	0.237	6.020	0.040	1.016
76112WS	12	0.303	7.696	0.040	1.016
76118WS	18	0.302	7.671	0.040	1.016
76125WS	25	0.355	9.017	0.040	1.016

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)

Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
76202WS	2	0.192	4.877	0.040	1.016
76203WS	3	0.199	5.055	0.040	1.016
76204WS	4	0.211	5.359	0.040	1.016
76205WS	5	0.225	5.715	0.040	1.016
76207WS	7	0.253	6.426	0.040	1.016
76212WS	12	0.327	8.306	0.040	1.016
76218WS	18	0.327	8.306	0.040	1.016
76225WS	25	0.396	10.058	0.045	1.143

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)

Insulation thickness: 0.010 (0.25 mm)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
76302WS	2	0.208	5.283	0.040	1.016
76303WS	3	0.217	5.512	0.040	1.016
76304WS	4	0.231	5.867	0.040	1.016
76305WS	5	0.247	6.274	0.040	1.016
76307WS	7	0.280	7.112	0.040	1.016
76312WS	12	0.367	9.322	0.040	1.016
76318WS	18	0.367	9.322	0.040	1.016
76325WS	25	0.446	11.328	0.045	1.143

Operating Temperature

+5°C to +105°C (flexing)

-10°C to +105°C (stationary)

Conductor Color Coding

Chart B (multi-conductor)

Jacket color: chrome

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)

Ratings

UL CM

UL AWM 2661

CSA AWM I/II A/B FT4

CSA CMG

CE



MachFlex 76000TS Series

300 V Foil/Braid Shield, Continuous Flexing Data Applications Up to 6 Million Flex Life Cycles

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
76401TS	1	0.186	4.724	0.040	1.016
76402TS	2	0.231	5.867	0.040	1.016
76403TS	3	0.240	6.096	0.040	1.016
76404TS	4	0.256	6.502	0.040	1.016
76405TS	5	0.274	6.960	0.040	1.016
76406TS	6	0.293	7.442	0.040	1.016
76408TS	8	0.331	8.407	0.040	1.016

26 AWG (0.14 mm²)

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

Part Number	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
76501TS	1	0.194	4.928	0.040	1.016
76502TS	2	0.244	6.198	0.040	1.016
76503TS	3	0.254	6.452	0.040	1.016
76504TS	4	0.272	6.909	0.040	1.016
76505TS	5	0.292	7.417	0.040	1.016
76506TS	6	0.313	7.950	0.040	1.016
76508TS	8	0.355	9.017	0.040	1.016
76510TS	10	0.392	9.957	0.045	1.143
76514TS	14	0.426	10.820	0.053	1.346

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
76601TS	1	0.204	5.182	0.040	1.016
76602TS	2	0.260	6.604	0.040	1.016
76603TS	3	0.272	6.909	0.040	1.016
76604TS	4	0.292	7.417	0.040	1.016
76605TS	5	0.314	7.976	0.040	1.016
76606TS	6	0.337	8.560	0.040	1.016
76608TS	8	0.385	9.779	0.040	1.016
76610TS	10	0.427	10.846	0.045	1.143
76614TS	14	0.463	11.760	0.053	1.346

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part Number	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
76701TS	1	0.220	5.588	0.040	1.016
76702TS	2	0.287	7.290	0.040	1.016
76703TS	3	0.301	7.645	0.040	1.016
76704TS	4	0.324	8.230	0.040	1.016
76705TS	5	0.350	8.890	0.040	1.016
76706TS	6	0.377	9.576	0.040	1.016
76708TS	8	0.443	11.252	0.045	1.143
76710TS	10	0.497	12.624	0.053	1.346
76714TS	14	0.527	13.386	0.053	1.346

Operating Temperature

+5°C to +105°C (flexing)
-10°C to +105°C (stationary)

Conductor Color Coding

Chart A (multi-pair)
Jacket color: slate

Materials

Finely stranded tinned copper conductors
Lubricated semi-rigid PVC insulation
Foil + braid shield
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)

Ratings

UL CM
UL AWM 2661
CSA AWM I/II A/B FT4
CSA CMG
CE



MachFlex 7400W Series

300 V PLTC & 600 V TC-ER Unshielded, Light to Moderate Flexing
Applications Up to 1 Million Flex Life Cycles

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.015 (0.38 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7400W	2*	0.211	5.359	0.037	0.940
7401W	3	0.221	5.613	0.037	0.940
7402W	4	0.238	6.045	0.037	0.940
7403W	5	0.257	6.528	0.037	0.940
7404W	7	0.309	7.849	0.037	0.940
7405W	9	0.345	8.763	0.042	1.067
7406W	12	0.363	9.220	0.042	1.067
7407W	18	0.441	11.201	0.053	1.346
7408W	25	0.517	13.132	0.053	1.346

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7409W	2*	0.264	6.706	0.040	1.016
7410W	3	0.289	7.341	0.047	1.194
7411W	4	0.313	7.950	0.047	1.194
7412W	5	0.339	8.611	0.047	1.194
7413W	7	0.390	9.906	0.047	1.194
7414W	9	0.451	11.455	0.047	1.194
7415W	12	0.468	11.887	0.047	1.194
7416W	18	0.576	14.630	0.063	1.600
7417W	25	0.678	17.221	0.063	1.600
7418W	34	0.762	19.355	0.063	1.600

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25mm)
Insulation thickness: 0.020 (0.51 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7421W	2*	0.301	7.645	0.047	1.194
7422W	3	0.316	8.026	0.047	1.194
7423W	4	0.342	8.687	0.047	1.194
7424W	5	0.371	9.423	0.047	1.194
7425W	7	0.434	11.024	0.047	1.194
7426W	9	0.498	12.649	0.047	1.194
7427W	12	0.550	13.970	0.063	1.600
7428W	18	0.636	16.154	0.063	1.600
7429W	25	0.752	19.101	0.063	1.600
7430W	34	0.882	22.403	0.085	2.159

* No ground conductor on 2 conductor designs

**-ER rating for 3 or more conductors only

Operating Temperature

-40°C to +90°C (operating)

-5°C to +90°C (flexing)

Conductor Color Coding

Numbered black conductors (ICEA Method 4)

1 yellow/green ground conductor (3
conductor and greater)

Jacket color: chrome

Materials

Finely stranded bare copper conductors

PVC insulation (20 AWG)

PVC/Nylon insulation (18 AWG & Larger)

Belflex® TPE jacket

Availability

250 ft (76.2 m)

1000 ft (305 m)

5000 ft (1524 m)

Ratings

300V UL PLTC (20 AWG)

**600V UL TC-ER (18 AWG &
Larger)****

1000V WTTC (18 AWG & Larger)

UL MTW & AWM

UL Oil Res I & II

UL -40° Cold Impact

IEEE 1202/383 (Flame Test)

C(UL) Type TC & CIC FT4

C(UL) 600V AWM I/II A/B FT2

Sunlight Resistance

NFPA 79 for Industrial Machinery

Class I & II Div 2 Suitable for

Hazardous Locations

CE & RoHS

CA Prop 65

REACH



MachFlex 7400W Series *Continued*

300 V PLTC & 600 V TC-ER Unshielded, Light to Moderate Flexing Applications Up to 1 Million Flex Life Cycles

14 AWG (2.08 mm ²)					
Stranding: 41/30 (41 x 0.25mm)					
Insulation thickness: 0.020 (0.51 mm)					
Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7435W	3	0.329	8.357	0.047	1.194
7436W	4	0.381	9.677	0.047	1.194
7437W	5	0.414	10.516	0.047	1.194
7438W	7	0.487	12.370	0.047	1.194
7439W	9	0.593	15.062	0.063	1.600
7440W	12	0.617	15.672	0.063	1.600
7442W	25	0.895	22.733	0.085	2.159

12 AWG and Larger						
AWG	Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
			Inch	mm	Inch	mm
12	7444W	3	0.389	9.881	0.047	1.194
	7445W	4	0.424	10.770	0.047	1.194
10	7447W	4	0.546	13.868	0.063	1.600
8	7450W	4	0.758	19.253	0.063	1.600
6	7453W	4	0.875	22.225	0.085	2.159

* No ground conductor on 2 conductor designs
 **-ER rating for 3 or more conductors only

Operating Temperature

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

Conductor Color Coding

Numbered black conductors (ICEA Method 4)
 1 yellow/green ground conductor (3 conductor and greater)
 Jacket color: chrome

Materials

Finely stranded bare copper conductors
 PVC insulation (20 AWG)
 PVC/Nylon insulation (18 AWG & Larger)
 Belflex® TPE jacket

Availability

250 ft (76.2 m)
 1000 ft (305 m)
 5000 ft (1524 m)

Ratings

300V UL PLTC (20 AWG)
600V UL TC-ER (18 AWG & Larger)**
1000V WTTC (18 AWG & Larger)
UL MTW & AWM
UL Oil Res I & II
UL -40° Cold Impact
IEEE 1202/383 (Flame Test)

C(UL) Type TC & CIC FT4
C(UL) 600V AWM I/II A/B FT2
Sunlight Resistance
NFPA 79 for Industrial Machinery
Class I & II Div 2 Suitable for Hazardous Locations
CE & RoHS
CA Prop 65
REACH



MachFlex 7400WS Series

300 V PLTC & 600 V TC-ER Shielded, Light to Moderate Flexing
Applications Up to 1 Million Flex Life Cycles

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.015 (0.38 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7400WS	2*	0.292	7.417	0.042	1.067
7401WS	3	0.303	7.696	0.040	1.016
7402WS	4	0.319	8.103	0.042	1.067
7403WS	5	0.339	8.611	0.042	1.067
7404WS	7	0.358	9.093	0.042	1.067
7405WS	9	0.421	10.693	0.053	1.346
7406WS	12	0.456	11.582	0.053	1.346
7407WS	18	0.512	13.005	0.053	1.346
7408WS	25	0.595	15.113	0.053	1.346

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.020 (0.51 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7409WS	2*	0.354	8.992	0.047	1.194
7410WS	3	0.367	9.322	0.047	1.194
7411WS	4	0.391	9.931	0.047	1.194
7412WS	5	0.416	10.566	0.047	1.194
7413WS	7	0.468	11.887	0.047	1.194
7414WS	9	0.498	12.649	0.047	1.194
7415WS	12	0.578	14.681	0.060	1.524
7416WS	18	0.654	16.612	0.063	1.600
7417WS	25	0.756	19.202	0.063	1.600
7418WS	34	0.871	22.123	0.083	2.108

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25mm)
Insulation thickness: 0.020 (0.51 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7421WS	2*	0.378	9.601	0.047	1.194
7422WS	3	0.394	10.008	0.047	1.194
7423WS	4	0.420	10.668	0.047	1.194
7424WS	5	0.449	11.405	0.047	1.194
7425WS	7	0.479	12.167	0.047	1.194
7426WS	9	0.574	14.580	0.083	2.108
7427WS	12	0.628	15.951	0.063	1.600
7428WS	18	0.714	18.136	0.063	1.600
7429WS	25	0.870	22.098	0.080	2.032
7430WS	34	0.955	24.257	0.083	2.108

* No ground conductor on 2 conductor designs

**-ER rating for 3 or more conductors only

Operating Temperature

-40°C to +90°C (operating)

-5°C to +90°C (flexing)

Conductor Color Coding

Numbered black conductors (ICEA Method 4)

1 yellow/green ground conductor (3 conductor and greater)

Jacket color: chrome

Materials

Finely stranded bare copper conductors

PVC insulation (20 AWG)

PVC/Nylon insulation (18 AWG & Larger)

Tinned Copper Braid, 85% Coverage

Belflex® TPE jacket

Availability

250 ft (76.2 m)

1000 ft (305 m)

5000 ft (1524 m)

Ratings

300V UL PLTC (20 AWG)

600V UL TC-ER (18 AWG & Larger)**

1000V WTTC (18 AWG & Larger)

UL MTW & AWM

UL Oil Res I & II

UL -40° C Cold Impact

IEEE 1202/383 (Flame Test)

C(UL) Type TC & CIC FT4

C(UL) 600V AWM I/II A/B FT2

Sunlight Resistance

NFPA 79 for Industrial Machinery

Class I & II Div 2 Suitable for Hazardous Locations

CE & RoHS

CA Prop 65

REACH



MachFlex 7400WS Series *Continued*

300 V PLTC & 600 V TC-ER Shielded, Light to Moderate Flexing Applications Up to 1 Million Flex Life Cycles

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25mm)
Insulation thickness: 0.020 (0.51 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7435WS	3	0.407	10.338	0.047	1.194
7436WS	4	0.459	11.659	0.047	1.194
7437WS	5	0.492	12.497	0.047	1.194
7438WS	7	0.598	15.189	0.060	1.524
7439WS	9	0.671	17.043	0.063	1.600
7440WS	12	0.695	17.653	0.063	1.600
7442WS	25	0.969	24.613	0.083	2.108

12 AWG and Larger

AWG	Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
			Inch	mm	Inch	mm
12	7444WS	3	0.477	12.116	0.047	1.194
	7445WS	4	0.544	13.818	0.060	1.524
10	7447WS	4	0.644	16.358	0.063	1.600
8	7450WS	4	0.910	23.114	0.085	2.159
6	7453WS	4	0.979	24.867	0.083	2.108

* No ground conductor on 2 conductor designs
**-ER rating for 3 or more conductors only

Operating Temperature

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

Conductor Color Coding

Numbered black conductors (ICEA Method 4)
1 yellow/green ground conductor (3 conductor and greater)
Jacket color: chrome

Materials

Finely stranded bare copper conductors
PVC insulation (20 AWG)
PVC/Nylon insulation (18 AWG & Larger)
Tinned Copper Braid, 85% Coverage
Belflex® TPE jacket

Availability

250 ft (76.2 m)
1000 ft (305 m)
5000 ft (1524 m)

Ratings

300V UL PLTC (20 AWG)
600V UL TC-ER (18 AWG & Larger)**
1000V WTTC (18 AWG & Larger)
UL MTW & AWM
UL Oil Res I & II
UL -40° C Cold Impact
IEEE 1202/383 (Flame Test)

C(UL) Type TC & CIC FT4
C(UL) 600V AWM I/II A/B FT2
Sunlight Resistance
NFPA 79 for Industrial Machinery
Class I & II Div 2 Suitable for Hazardous Locations
CE & RoHS
CA Prop 65
REACH



MachFlex 7100W Series

300 V PLTC & 600 V TC-ER Unshielded, Continuous Flexing
Applications Up to 10 Million Flex Life Cycles

20 AWG (0.51 mm²)

Stranding: 74/38 (74 x 0.10 mm)
Insulation thickness: 0.015 (0.38 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7101W	3	0.237	6.020	0.037	0.940
7102W	4	0.256	6.502	0.037	0.940
7103W	5	0.288	7.315	0.042	1.067
7104W	7	0.310	7.874	0.042	1.067
7105W	9	0.376	9.550	0.042	1.067
7106W	12	0.417	10.592	0.053	1.346
7107W	18	0.480	12.192	0.053	1.346
7108W	25	0.563	14.300	0.053	1.346

18 AWG (0.81 mm²)

Stranding: 114/38 (114 x 0.10 mm)
Insulation thickness: 0.021 (0.53 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7110W	3	0.289	7.341	0.047	1.194
7111W	4	0.313	7.950	0.047	1.194
7112W	5	0.339	8.611	0.047	1.194
7113W	7	0.390	9.906	0.047	1.194
7114W	9	0.420	10.668	0.047	1.194
7115W	12	0.468	11.887	0.047	1.194
7116W	18	0.576	14.630	0.063	1.600
7117W	25	0.678	17.221	0.063	1.600

16 AWG (1.32 mm²)

Stranding: 190/38 (190 x 0.10 mm)
Insulation thickness: 0.021 (0.53 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7122W	3	0.333	8.458	0.047	1.194
7123W	4	0.361	9.169	0.047	1.194
7124W	5	0.393	9.982	0.047	1.194
7125W	7	0.460	11.684	0.047	1.194
7126W	9	0.561	14.249	0.063	1.600
7127W	12	0.582	14.783	0.063	1.600
7128W	18	0.675	17.145	0.063	1.600
7129W	25	0.800	20.320	0.063	1.600

14 AWG and Larger

AWG	Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
			Inch	mm	Inch	mm
14	7136W	4	0.394	10.008	0.047	1.194
12	7145W	4	0.446	11.328	0.047	1.194

*-ER rating for 3 or more conductors only

Operating Temperature

-40°C to +90°C (operating)

-5°C to +90°C (flexing)

Conductor Color Coding

Numbered black conductors (ICEA Method 4)
1 yellow/green ground conductor (3 conductor
and greater)

Jacket color: orange

Materials

Finely stranded bare copper conductors

PVC insulation (20 AWG)

PVC/Nylon insulation (18 AWG & Larger)

Belflex® TPE jacket

Availability

250 ft (76.2 m)

1000 ft (305 m)

5000 ft (1524 m)

Ratings

300V UL PLTC (20 AWG)

600V UL TC-ER (18 AWG & Larger)*

1000V WTTC (18 AWG & Larger)

UL MTW & AWM

UL Oil Res I & II

UL -40° C Cold Impact

IEEE 1202/383 (Flame Test)

C(UL) Type TC & CIC FT4

C(UL) 600V AWM I/II A/B FT2

Sunlight Resistance

NFPA 79 for Industrial Machinery

Class I & II Div 2 Suitable for Hazardous Locations

CE & RoHS

CA Prop 65

REACH



MachFlex 7100WS Series

300 V PLTC & 600 V TC-ER Shielded, Continuous Flexing
Applications Up to 10 Million Flex Life Cycles

20 AWG (0.51 mm²)

Stranding: 74/38 (74 x 0.10 mm)
Insulation thickness: 0.015 (0.38 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7101WS	3	0.319	8.103	0.042	1.067
7102WS	4	0.338	8.585	0.042	1.067
7103WS	5	0.360	9.144	0.042	1.067
7104WS	7	0.382	9.703	0.042	1.067
7105WS	9	0.450	11.430	0.053	1.346
7106WS	12	0.489	12.421	0.053	1.346
7107WS	18	0.552	14.021	0.053	1.346
7108WS	25	0.657	16.688	0.063	1.600

18 AWG (0.81 mm²)

Stranding: 114/38 (114 x 0.10 mm)
Insulation thickness: 0.021 (0.53 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7110WS	3	0.367	9.322	0.047	1.194
7111WS	4	0.391	9.931	0.047	1.194
7112WS	5	0.416	10.566	0.047	1.194
7113WS	7	0.468	11.887	0.047	1.194
7114WS	9	0.498	12.649	0.047	1.194
7115WS	12	0.577	14.656	0.063	1.600
7116WS	18	0.654	16.612	0.063	1.600
7117WS	25	0.756	19.202	0.063	1.600

16 AWG (1.32 mm²)

Stranding: 190/38 (190 x 0.10 mm)
Insulation thickness: 0.021 (0.53 mm)

Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
7122WS	3	0.411	10.439	0.047	1.194
7123WS	4	0.435	11.049	0.047	1.194
7124WS	5	0.470	11.938	0.047	1.194
7125WS	7	0.570	14.478	0.063	1.600
7126WS	9	0.639	16.231	0.063	1.600
7127WS	12	0.660	16.764	0.063	1.600
7128WS	18	0.753	19.126	0.063	1.600
7129WS	25	0.918	23.317	0.063	1.600

14 AWG and Larger

AWG	Part Number	Conductors (Including Ground)	Nominal Diameter		Jacket Thickness	
			Inch	mm	Inch	mm
14	7136WS	4	0.488	12.395	0.053	1.346
12	7145WS	4	0.566	14.376	0.063	1.600

*-ER rating for 3 or more conductors only

Operating Temperature

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

Conductor Color Coding

Numbered black conductors (ICEA Method 4)
1 yellow/green ground conductor (3
conductor and greater)
Jacket color: orange

Materials

Finely stranded bare copper conductors
PVC insulation (20 AWG)
PVC/Nylon insulation (18 AWG & Larger)
Tinned Copper Braid, 85% Coverage
Belflex® TPE jacket

Availability

250 ft (76.2 m)
1000 ft (305 m)
5000 ft (1524 m)

Ratings

300V UL PLTC (20 AWG)
600V UL TC-ER (18 AWG & Larger)*
1000V WTTC (18 AWG & Larger)
UL MTW & AWM
UL Oil Res I & II

UL -40° C Cold Impact
IEEE 1202/383 (Flame Test)
C(UL) Type TC & CIC FT4
C(UL) 600V AWM I/II A/B FT2
Sunlight Resistance

NFPA 79 for Industrial Machinery
Class I & II Div 2 Suitable for Hazardous Locations
CE & RoHS
CA Prop 65
REACH



MachFlex 7200A Series

300 V Shielded, Light to Moderate Flexing Data Applications Up to 1 Million Flex Life Cycles

14 AWG					
Stranding: 41/40					
Insulation resistance: 6.1 Megaohms / 1000 ft. minimum					
Part Number	Pairs	RS-Type	Impedance (Ω)	Nominal Diameter	
				Inch	mm
7200A	1	232, 485	120	0.240	6.096
7201A	2	232, 485	120	0.322	8.179
7202A	3	232, 485	120	0.347	8.814
7203A	4	232, 485	120	0.362	9.195
7205A	1	232, 422	100	0.232	5.893
7206A	1	232, 485	150	0.302	7.671

Operating Temperature

-20°C to +60°C

Materials

Finely stranded bare copper conductors
Foam PE insulation
Foil + 85% tinned copper braid shield
PVC jacket
Jacket color: green

Ratings

UL & C(UL) CM
UL Oil Res I & II
CE & RoHS
CA Prop 65

Availability

500 ft (152 m)
1000 ft (305 m)



MachFlex 7500A Series

75 Ohm Shielded Coax, Moderate Flexing Machine Vision Applications Up to 1 Million Flex Life Cycles

30 AWG and Larger						
AWG	Part Number	No. of Coax	Stranding	Impedance (Ω)	Nominal Diameter	
					Inch	mm
30	7500A	1	7x38	75	0.110	2.794
25	7501A	1	19x38	75	0.146	3.708
22	7502A	1	19x34	75	0.242	6.147
20	7503A	1	7x15x40	75	0.275	6.985
16	7504A	1	7x37x40	75	0.405	10.287

Operating Temperature

-40°C to +80°C

Materials

Finely stranded bare copper conductors
Finely stranded tinned copper alloy conductors (7500A only)
Foam PE insulation
Braid shield, "French Style", 95% coverage
Belflex® PVC jacket
Jacket color: blue

Ratings

UL & C(UL) CM
UL Oil Res I & II
CE & RoHS
CA Prop 65

Availability

1000 ft (305 m)



References

Color Chart A (Multi-pair)	
Pair No.	Color Combination
1	Black + Red
2	Black + White
3	Black + Green
4	Black + Blue
5	Black + Brown
6	Black + Yellow
7	Black + Orange
8	Red + Green
9	Red + White
10	Red + Blue
11	Red + Yellow
12	Red + Brown
13	Red + Orange
14	Green + Blue

Color Chart B (Multi-conductor)				
Conductor No.	Base Color	1st Stripe	2nd Stripe	3rd Stripe
1	Black			
2	Red			
3	White			
4	Green			
5	Orange			
6	Blue			
7	Brown			
8	Yellow			
9	Violet			
10	Slate			
11	Pink			
12	Tan			
13	Red	Green		
14	Red	Yellow		
15	Red	Black		
16	White	Black		
17	White	Red		
18	White	Green		
19	White	Yellow		
20	White	Blue		
21	White	Brown		
22	White	Orange		
23	White	Slate		
24	White	Violet		
25	White	Black	Red	

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