



Product: [7416WS](#)

MachFlex™, 17+1G C #18 Str BC, PVC-NYL Ins, OA TC Brd, TPE Jkt, 1000V WTTC, 600V TC-ER

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Product Description

MachFlex™ for High Flex, 17+1G Conductor 18AWG (16x30) Bare Copper, PVC-NYL Insulation, Overall Tinned Copper Braid(85%) Shield, TPE Outer Jacket, 1000V WTTC, 600V TC-ER

Technical Specifications

Product Overview

Suitable Applications:	Robotics, Robot, Continuous Flex
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Physical Characteristics (Overall)

Conductor

Element	AWG	Stranding	Material	No. of Conductors
	18	16x30	BC - Bare Copper	17
Ground Wire	18	16x30	BC - Bare Copper	1

Conductor Count:	18
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Insulation

Material	Nominal Diameter
PVC/Nylon - Polyvinyl Chloride + Nylon	0.089 in

Color Chart

Number	Color
1	Black and Numbered 1
2	Black and Numbered 2
3	Black and Numbered 3
4	Black and Numbered 4
5	Black and Numbered 5
6	Black and Numbered 6
7	Black and Numbered 7
8	Black and Numbered 8
9	Black and Numbered 9
10	Black and Numbered 10
11	Black and Numbered 11
12	Black and Numbered 12
13	Black and Numbered 13
14	Black and Numbered 14
15	Black and Numbered 15
16	Black and Numbered 16
17	Black and Numbered 17
18	Green/Black

Inner Jacket

Material	Nominal Diameter	Nominal Wall Thickness
TPE - Thermoplastic Elastomer	0.5 in	0.025 in

Outer Shield

Type	Material	Coverage [%]	Nominal Diameter
Braid	Tinned Copper (TC)	85%	0.528 in

Outer Jacket

Material	Nominal Diameter	Nominal Wall Thickness
TPE - Thermoplastic Elastomer	0.654 in	0.063 in

Electrical Characteristics

Conductor DCR

Nominal Conductor DCR
6.5 Ohm/1000ft

Voltage

UL Voltage Rating
1000 V RMS
600 V RMS

Temperature Range

UL Temp Rating:	75°C Dry, 90°C Wet
Other Temp Range:	Flexing: -5°C To +90 °C

Mechanical Characteristics

Oil Resistance:	Yes
Flex Cycle Rating:	1 Million Flexes
Bulk Cable Weight:	263 lbs/1000ft
Max. Pull Tension:	414 lbs
Min. Bend Radius (Continuous Flexing):	6.5 in

Standards

NEC/(UL) Compliance:	TC-ER, W TTC
CEC/C(UL) Compliance:	CIC, TC
UL AWM Style Compliance:	AWM 20328
CSA AWM Compliance:	AWM I/II A/B

Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2011/65/EU (RoHS 2):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU (RoHS 2 amendment):	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
MII Order #39 (China RoHS):	Yes

Suitability

Suitability - Non-Halogenated:	No
Suitability - Oil Resistance:	Yes - Oil Res II
Suitability - Sunlight Resistance:	Yes

Flammability, LSOH, Toxicity Testing

UL Flammability:	UL1685 UL Loading
CSA Flammability:	FT4
IEEE Flammability:	1202
UL voltage rating:	1000 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	No
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Related Part Numbers

**Variants**

Item #	Color	Put-Up Type	Length	UPC
7416WS 0601000	Chrome	Reel	1,000 ft	612825186021

**History**

Update and Revision:	Revision Number: 0.188 Revision Date: 02-03-2025
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