




**Product:** [7411WS](#) 

MachFlex™, 3+1G C #18 Str BC, PVC-NYL Ins, OA TC Brd, TPE Jkt, 1000V WTTC, 600V TC-ER

 [Request Sample](#)

## Product Description

MachFlex™ for High Flex, 3+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 |
|------------------------|----------------------------------|

### Construction Details

#### Conductor

| Element      | No. of Elements | Size   | Stranding | Material         |
|--------------|-----------------|--------|-----------|------------------|
| Conductor(s) | 3               | 18 AWG | 16x30     | BC - Bare Copper |
| Ground Wire  | 1               | 18 AWG | 16x30     | BC - Bare Copper |

#### Insulation

| Element      | Material                               | Nom. Thickness     | Nom. Insulation Diameter | Color Code         |
|--------------|----------------------------------------|--------------------|--------------------------|--------------------|
| Conductor(s) | PVC/Nylon - Polyvinyl Chloride + Nylon | 0.021 in (0.53 mm) | 0.089 in (2.3 mm)        | Black and Numbered |
| Ground Wire  | PVC/Nylon - Polyvinyl Chloride + Nylon | 0.021 in (0.53 mm) | 0.089 in (2.3 mm)        | Green/Yellow       |

#### Outer Shield

| Shield Type | Material           | Coverage |
|-------------|--------------------|----------|
| Braid       | Tinned Copper (TC) | 85%      |

#### Inner Jacket

| Separator      | Material                      | Nom. Thickness   | Nom. Diameter      | Color  |
|----------------|-------------------------------|------------------|--------------------|--------|
| non-Woven Tape | TPE - Thermoplastic Elastomer | 0.25 in (6.4 mm) | 0.269 in (6.83 mm) | Chrome |

#### Outer Jacket

| Material                      | Nom. Thickness    | Nom. Diameter |
|-------------------------------|-------------------|---------------|
| TPE - Thermoplastic Elastomer | 0.047 in (1.2 mm) | 0.391 in      |

Overall Cable Diameter (Nominal): 0.391 in

### Electrical Characteristics

#### Electricals

| Element      | Nom. Conductor DCR            | Max. Current                  |
|--------------|-------------------------------|-------------------------------|
| Conductor(s) | 6.5 Ohm/1000ft                | 15 Amps per Conductor at 30°C |
| Ground Wire  | 7.06 Ohm/1000ft (23.2 Ohm/km) | 24 Amps per Conductor at 30°C |

Nom Outer Shield DCR: 4.32 Ohm/1000ft (14.2 Ohm/km)

#### Voltage

| UL Voltage Rating            |
|------------------------------|
| 1000 V (WTTC), 600 V (TC-ER) |

### Mechanical Characteristics

Temperature

| UL Temperature                             | Operating      |
|--------------------------------------------|----------------|
| UL : 90°C Dry, 75°C Wet; AWM 20328 : 105°C | -40°C To 105°C |

Bend Radius

| Stationary Min.   | Installation Min. |
|-------------------|-------------------|
| 1.56 in (39.6 mm) | 1.95 in           |

|                    |                    |
|--------------------|--------------------|
| Max. Pull Tension: | 83.2 lbs (37.7 kg) |
| Bulk Cable Weight: | 91 lbs/1000ft      |

Standards and Compliance

|                                  |                                                                                                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------|
| Environmental Suitability:       | Outdoor, Sunlight Resistance, UV Resistance, Oil Resistance                                                   |
| Flammability / Reaction to Fire: | UL1685 UL Loading, IEEE 1202 FT4                                                                              |
| NEC / UL Compliance:             | Article 336                                                                                                   |
| AWM Compliance:                  | AWM 20328, AWM I/II A/B                                                                                       |
| CEC / C(UL) Compliance:          | CIC, TC                                                                                                       |
| European Directive Compliance:   | EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE) |
| APAC Compliance:                 | China RoHS II (GB/T 26572-2011)                                                                               |

History

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.379 Revision Date: 09-07-2025 |
|----------------------|--------------------------------------------------|

Part Numbers

Variants

| Item #         | Color  | Putup Type | Length   | UPC          | Footnote |
|----------------|--------|------------|----------|--------------|----------|
| 7411WS 060250  | Chrome | Reel       | 250 ft   | 612825185802 | C        |
| 7411WS 0601000 | Chrome | Reel       | 1,000 ft | 612825185796 | C        |
| 7411WS 0605000 | Chrome | Reel       | 5,000 ft | 612825185819 |          |

|           |                        |
|-----------|------------------------|
| Footnote: | C - CRATE REEL PUT-UP. |
|-----------|------------------------|

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