



Product: [7413W](#)

MachFlex™, 6+1G C #18 Str BC, PVC-NYL Ins, TPE Jkt, 1000V WTTC, 600V TC-ER

[Request Sample](#)

Product Description

MachFlex™ for High Flex, 6+1G Conductor 18AWG (16x30) Bare Copper, PVC-NYL Insulation, 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) | 6               | 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

| Material  |
|-----------|
| No Shield |

Outer Jacket

| Separator      | Material                      | Nom. Thickness    | Nom. Diameter |
|----------------|-------------------------------|-------------------|---------------|
| non-Woven Tape | TPE - Thermoplastic Elastomer | 0.047 in (1.2 mm) | 0.39 in       |

|                                   |         |
|-----------------------------------|---------|
| Overall Cable Diameter (Nominal): | 0.39 in |
|-----------------------------------|---------|

Electrical Characteristics

Electricals

| Element      | Nom. Conductor DCR            | Max. Current                    |
|--------------|-------------------------------|---------------------------------|
| Conductor(s) | 6.5 Ohm/1000ft                | 10.5 Amps per Conductor at 30°C |
| Ground Wire  | 7.06 Ohm/1000ft (23.2 Ohm/km) | 24 Amps per Conductor at 30°C   |

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: | 145.6 lbs (66.04 kg) |
| Bulk Cable Weight: | 87 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: 0.371 Revision Date: 02-03-2025 |
|----------------------|--------------------------------------------------|

Part Numbers

Variants

| Item #        | Color  | Putup Type | Length   | UPC          | Footnote |
|---------------|--------|------------|----------|--------------|----------|
| 7413W 060250  | Chrome | Reel       | 250 ft   | 612825185864 | C        |
| 7413W 0601000 | Chrome | Reel       | 1,000 ft | 612825185857 | C        |

© 2025 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.