



**Product:** [H12G4CH](#) 

MachFlex™ 610CH, 11+1G C 4mm<sup>2</sup> Str BC, LSZH Ins, LSZH Inner Jkt, TCBS, LSZH Outer Jkt, UL AWM Style 21115

## Product Description

MachFlex™ 610CH, 11 Conductor + 1 Ground 4mm<sup>2</sup> Stranded Bare Copper, LSZH Insulation, LSZH Inner Jacket, Tinned Copper Braid Shield, LSZH Outer Jacket, UL AWM Style 21115

## Technical Specifications

### Product Overview

|                        |   |
|------------------------|---|
| Suitable Applications: | Designed for applications which are installed in occasional flexing and fixed locations. Cable applications include precision control sensors, multi axis control machines, temperature controllers, control panels, machine cutting tools, auxiliary equipment, motor speed control, production machinery and many more. Tinned copper braid shield ensures cables with excellent noise immunity. Utilizing LSZH material emits limited smoke and no halogen when exposed to high sources of heat. It can considerably reduce the amount and density of the smoke, toxic and corrosive gas emitted during a fire, enable easier evacuation as well as safer firefighting operations. |
|------------------------|---|

### Physical Characteristics (Overall)

#### Conductor

| Element      | AWG               | Stranding | Material         | No. of Conductors |
|--------------|-------------------|-----------|------------------|-------------------|
| Conductor(s) | 4 mm <sup>2</sup> | Class 5   | BC - Bare Copper | 11                |
| Ground       | 4 mm <sup>2</sup> | Class 5   | BC - Bare Copper | 1                 |

Conductor Count: 12

#### Insulation

| Material  |
|---|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) |

#### Color Chart

| Color        |
|--------------|
| Black #1     |
| Black #2     |
| Black #3     |
| Black #4     |
| Black #5     |
| ...          |
| Black #11    |
| Green/Yellow |

#### Outer Shield

| Type  | Material           |
|-------|--------------------|
| Braid | Tinned Copper (TC) |

#### Outer Jacket

| Material  | Nominal Diameter |
|---|------------------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 22.88 mm         |

### Electrical Characteristics

#### Conductor DCR

| Max. Conductor DCR |
|--------------------|
| 4.95 Ohm/km        |

## Voltage

| Dielectric Withstand Voltage | Non-UL Description | Non-UL Voltage Rating |
|------------------------------|--------------------|-----------------------|
| 4000 V                       | IEC:               | 600/1000 V            |

## Temperature Range

|                                 |                |
|---------------------------------|----------------|
| Installation Temperature Range: | -40°C to +80°C |
| Operating Temperature Range:    | 25°C to +70°C  |

## Mechanical Characteristics

|                                       |           |
|---------------------------------------|-----------|
| Oil Resistance:                       | Yes       |
| UV Resistance:                        | Yes       |
| Bulk Cable Weight:                    | 971 kg/km |
| Min. Bend Radius During Installation: | 6 x OD    |
| Min. Bend Radius During Operation:    | 20 x OD   |

## Standards

|                          |           |
|--------------------------|-----------|
| UL AWM Style Compliance: | AWM 21115 |
|--------------------------|-----------|

## Applicable Environmental and Other Programs

|                                   |     |
|-----------------------------------|-----|
| EU Directive 2011/65/EU (RoHS 2): | Yes |
|-----------------------------------|-----|

## Suitability

|                                    |     |
|------------------------------------|-----|
| Suitability - Indoor:              | Yes |
| Suitability - Oil Resistance:      | Yes |
| Suitability - Outdoor:             | Yes |
| Suitability - Sunlight Resistance: | Yes |

## Flammability, LSOH, Toxicity Testing

|  |  |
|--|--|
| IEC Flammability:  | IEC 60332-1-2  |
| Other Flammability:  | DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-3-24, IEC 60332-3-25 |
| IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity: | 10 µS/mm   |
| IEC 60754-2 - Halogen Acid Gas Amount - Min. pH:           | 4.3  |
| IEC 61034-2 - Smoke Density Min. Transmittance:            | 60%  |
| UL voltage rating:   | 1000 V RMS   |

## Related Part Numbers

### Variants

| Item #          | Color            | Length |
|-----------------|------------------|--------|
| H12G4CH 010200M | Black, RAL 9005  | 200 m  |
| H12G4CH 010305M | Black, RAL 9005  | 305 m  |
| H12G4CH 010500M | Black, RAL 9005  | 500 m  |
| H12G4CH G8U200M | Gray, RAL 7001   | 200 m  |
| H12G4CH G8U305M | Gray, RAL 7001   | 305 m  |
| H12G4CH G8U500M | Gray, RAL 7001   | 500 m  |
| H12G4CH 003200M | Orange, RAL 2003 | 200 m  |
| H12G4CH 003305M | Orange, RAL 2003 | 305 m  |
| H12G4CH 003500M | Orange, RAL 2003 | 500 m  |

## History

|                      |   |
|----------------------|---|
| Update and Revision: | Revision Number: 0.12 Revision Date: 04-08-2022 |
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