

# MTW, TEW, UL 1015 & UL 1230 Hook-Up Wire

UL 105°C, 600V, VW-1 / 1032 1000V

CSA 105°C, 600V, FT1



PRODUCT DATA SHEET

UL 1015 hook-up wire is a PVC hook-up wire used for internal wiring for appliance and electronic equipment, panels, meters, point to point wiring, and many other applications. This PVC hook-up wire has multiple ratings, including MTW, TEW, UL 1015, and UL 1230. UL 1015 is an Appliance Wiring Material (AWM) style. Machine Tool Wire (MTW) is a completely different UL Standard that covers both wires and cables designed for use on industrial machines. This allows the hook-up wire to be used in applications that required either type of UL approval.



## CONSTRUCTION

**Conductor** Stranded bare or tinned copper  
**Insulation Material** Polyvinyl Chloride  
**Color** A variety of insulation colors available  
**Operating Temperature** 105°C  
**Min Temperature Rating** -40°C  
**Operating Voltage** 600V / 1000V

## STANDARDS

**UL 1426** Boat Cable  
**UL 1063** Machine - Tool Wire  
**UL 758** Appliance Wiring Material - Component  
**CSA C22.2 No 127** Equipment and Lead Wires

| IEWC Family | Conductor Type | AWG | Stranding | Nominal Insulation Thickness |      | Nominal O.D |      | UL Type                                         | CSA Type       |
|-------------|----------------|-----|-----------|------------------------------|------|-------------|------|-------------------------------------------------|----------------|
|             |                |     |           | Inch                         | mm   | Inch        | mm   |                                                 |                |
| 1028/08B19  | Bare Copper    | 8   | 19/0295   | 0.0465                       | 1.18 | 0.240       | 6.10 | MTW, BC-5W2, 1028, 1231, 1015, 1336, 1344, 1032 | TEW, AWM I A/B |
| 1028/08T19  | Tinned Copper  | 8   | 19/0295   | 0.0465                       | 1.18 | 0.240       | 6.10 | MTW, BC-5W2, 1028, 1231, 1015, 1336, 1344, 1032 | TEW, AWM I A/B |
| 1028/08B133 | Bare Copper    | 8   | 133/29    | 0.0465                       | 1.18 | 0.260       | 6.60 | MTW, BC-5W2, 1028, 1231, 1015, 1336, 1344, 1032 | TEW, AWM I A/B |
| 1028/08T133 | Tinned Copper  | 8   | 133/29    | 0.0465                       | 1.18 | 0.260       | 6.60 | MTW, BC-5W2, 1028, 1231, 1015, 1336, 1344, 1032 | TEW, AWM I A/B |
| 1028/08T168 | Tinned Copper  | 8   | 168/30    | 0.0465                       | 1.18 | 0.260       | 6.60 | MTW, BC-5W2, 1028, 1231, 1015, 1336, 1344, 1032 | TEW, AWM I A/B |
| 1015/10B01  | Bare Copper    | 10  | Solid     | 0.031                        | 0.79 | 0.164       | 4.17 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |
| 1015/10T01  | Tinned Copper  | 10  | Solid     | 0.031                        | 0.79 | 0.164       | 4.17 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |
| 1015/10B105 | Bare Copper    | 10  | 105/30    | 0.030                        | 0.76 | 0.173       | 4.39 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/10T105 | Tinned Copper  | 10  | 105/30    | 0.030                        | 0.76 | 0.173       | 4.39 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/10B19  | Bare Copper    | 10  | 19/0234   | 0.031                        | 0.78 | 0.178       | 4.52 | MTW, BC-5W2, 1231, 1015, 1336, 1344, 1032       | TEW, AWM I A/B |
| 1015/10T19  | Tinned Copper  | 10  | 19/0234   | 0.031                        | 0.78 | 0.178       | 4.52 | MTW, BC-5W2, 1231, 1015, 1336, 1344, 1032       | TEW, AWM I A/B |
| 1015/12B01  | Bare Copper    | 12  | Solid     | 0.031                        | 0.79 | 0.144       | 3.66 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |
| 1015/12T01  | Tinned Copper  | 12  | Solid     | 0.031                        | 0.79 | 0.144       | 3.66 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |
| 1015/12B65  | Bare Copper    | 12  | 65/30     | 0.030                        | 0.76 | 0.148       | 3.76 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/12T65  | Tinned Copper  | 12  | 65/30     | 0.030                        | 0.76 | 0.148       | 3.76 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/12B19  | Bare Copper    | 12  | 19/0185   | 0.031                        | 0.78 | 0.153       | 3.89 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/12T19  | Tinned Copper  | 12  | 19/0185   | 0.031                        | 0.78 | 0.153       | 3.89 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/14B01  | Bare Copper    | 14  | Solid     | 0.031                        | 0.79 | 0.127       | 3.23 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |
| 1015/14T01  | Tinned Copper  | 14  | Solid     | 0.031                        | 0.79 | 0.127       | 3.23 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |
| 1015/14B41  | Bare Copper    | 14  | 41/30     | 0.030                        | 0.76 | 0.130       | 3.30 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/14T41  | Tinned Copper  | 14  | 41/30     | 0.030                        | 0.76 | 0.130       | 3.30 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/14B19  | Bare Copper    | 14  | 19/0147   | 0.031                        | 0.78 | 0.133       | 3.38 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/14T19  | Tinned Copper  | 14  | 19/0147   | 0.031                        | 0.78 | 0.133       | 3.38 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335       | TEW, AWM I A/B |
| 1015/16B01  | Bare Copper    | 16  | Solid     | 0.031                        | 0.79 | 0.113       | 2.87 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |
| 1015/16T01  | Tinned Copper  | 16  | Solid     | 0.031                        | 0.79 | 0.113       | 2.87 | 1013, 1015, 1032, 1230, 1335                    | TEW, AWM I A/B |

|                  |            |                                              |
|------------------|------------|----------------------------------------------|
| Design Number    | 10852      |                                              |
| Revision History |            |                                              |
| 00               | 2023/09/18 | Initial Release                              |
| 01               | 2024/04/23 | Add some new parts                           |
| 02               | 2024/06/12 | Add 22AWG, 24AWG, 26AWG sizes                |
| 03               | 2024/10/22 | Add 2207AWG Bare copper, Topcoat copper size |
| 04               | 2025/02/08 | Add some new parts                           |
| Created          | L. Jian    | Approved T. Plochocki                        |

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**Milwaukee** | 5001 South Towne Dr. New Berlin, WI 53151, USA  
**Frankfurt** | Rudolf-Braas-Strasse 2, D-61381 Friedrichsdorf, Germany  
**Luton** | Unit 11, Humphrys Road, Woodside Industrial Estate, Dunstable, LU5 4TP, UK  
**Suzhou** | B2-2 Weiting Industrial - Workshop A, No. 9 Weixin Road, Suzhou Industrial Park, China



# MTW, TEW, UL 1015 & UL 1230 Hook-Up Wire



UL 105°C, 600V, VW-1 / 1032 1000V

CSA 105°C, 600V, FT1

PRODUCT DATA SHEET

| IEWC Family | Conductor Type  | AWG | Stranding | Nominal Insulation Thickness |      | Nominal O.D |      | UL Type                                   | CSA Type       |
|-------------|-----------------|-----|-----------|------------------------------|------|-------------|------|-------------------------------------------|----------------|
|             |                 |     |           | Inch                         | mm   | Inch        | mm   |                                           |                |
| 1015/16B07  | Bare Copper     | 16  | 7/0192    | 0.031                        | 0.79 | 0.121       | 3.07 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335 | TEW, AWM I A/B |
| 1015/16B26  | Bare Copper     | 16  | 26/30     | 0.030                        | 0.76 | 0.114       | 2.90 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335 | TEW, AWM I A/B |
| 1015/16P26  | Bare Copper     | 16  | 26/30     | 0.031                        | 0.79 | 0.121       | 3.07 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/16T26  | Tinned Copper   | 16  | 26/30     | 0.030                        | 0.76 | 0.114       | 2.90 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335 | TEW, AWM I A/B |
| 1015/16Q26  | Topcoat Copper  | 16  | 26/30     | 0.031                        | 0.79 | 0.121       | 3.07 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/16B19  | Bare Copper     | 16  | 19/0117   | 0.031                        | 0.79 | 0.121       | 3.07 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335 | TEW, AWM I A/B |
| 1015/16T19  | Tinned Copper   | 16  | 19/0117   | 0.031                        | 0.79 | 0.121       | 3.07 | MTW, BC-5W2, 1011, 1015, 1032, 1230, 1335 | TEW, AWM I A/B |
| 1015/18B01  | Bare Copper     | 18  | Solid     | 0.031                        | 0.79 | 0.103       | 2.62 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/18T01  | Tinned Copper   | 18  | Solid     | 0.031                        | 0.79 | 0.103       | 2.62 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/18P07  | Prebond Copper  | 18  | 7/0152    | 0.031                        | 0.79 | 0.108       | 2.74 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/18P16  | Prebond Copper  | 18  | 16/30     | 0.031                        | 0.79 | 0.108       | 2.74 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/18B16  | Bare Copper     | 18  | 16/30     | 0.030                        | 0.76 | 0.104       | 2.64 | MTW, 1011, 1015, 1032, 1230, 1335         | TEW, AWM I A/B |
| 1015/18T16  | Tinned Copper   | 18  | 16/30     | 0.030                        | 0.76 | 0.104       | 2.64 | MTW, 1011, 1015, 1032, 1230, 1335         | TEW, AWM I A/B |
| 1015/18Q16  | Overcoat Copper | 18  | 16/30     | 0.031                        | 0.79 | 0.108       | 2.74 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/18V16  | Overcoat Copper | 18  | 16/30     | 0.031                        | 0.79 | 0.108       | 2.74 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/18T19  | Tinned Copper   | 18  | 19/0092   | 0.031                        | 0.79 | 0.110       | 2.79 | MTW, 1011, 1013, 1015, 1032, 1230, 1335   | TEW, AWM I A/B |
| 1015/18B41  | Bare Copper     | 18  | 41/34     | 0.031                        | 0.79 | 0.110       | 2.79 | MTW, 1011, 1013, 1015, 1032, 1230, 1335   | TEW, AWM I A/B |
| 1015/18T41  | Tinned Copper   | 18  | 41/34     | 0.031                        | 0.79 | 0.110       | 2.79 | MTW, 1011, 1013, 1015, 1032, 1230, 1335   | TEW, AWM I A/B |
| 1015/20B01  | Bare Copper     | 20  | Solid     | 0.031                        | 0.79 | 0.094       | 2.39 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/20T01  | Tinned Copper   | 20  | Solid     | 0.031                        | 0.79 | 0.094       | 2.39 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/20P07  | Prebond Copper  | 20  | 7/28      | 0.031                        | 0.79 | 0.099       | 2.51 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/20Q07  | Topcoat Copper  | 20  | 7/28      | 0.031                        | 0.79 | 0.099       | 2.51 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/20B10  | Bare Copper     | 20  | 10/30     | 0.030                        | 0.76 | 0.095       | 2.41 | MTW, 1011, 1015, 1032, 1230, 1335         | TEW, AWM I A/B |
| 1015/20T10  | Tinned Copper   | 20  | 10/30     | 0.030                        | 0.76 | 0.095       | 2.41 | MTW, 1011, 1015, 1032, 1230, 1335         | TEW, AWM I A/B |
| 1015/20Q10  | Topcoat Copper  | 20  | 10/30     | 0.031                        | 0.79 | 0.098       | 2.49 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/22B01  | Bare Copper     | 22  | Solid     | 0.031                        | 0.79 | 0.088       | 2.24 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/22B07  | Bare Copper     | 22  | 7/0096    | 0.031                        | 0.79 | 0.092       | 2.34 | MTW, 1011, 1013, 1015, 1032, 1230, 1335   | TEW, AWM I A/B |
| 1015/22T01  | Tinned Copper   | 22  | Solid     | 0.031                        | 0.79 | 0.088       | 2.24 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/22T07  | Tinned Copper   | 22  | 7/0096    | 0.031                        | 0.79 | 0.092       | 2.34 | MTW, 1011, 1013, 1015, 1032, 1230, 1335   | TEW, AWM I A/B |
| 1015/22P07  | Prebond Copper  | 22  | 7/30      | 0.031                        | 0.79 | 0.092       | 2.34 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/22Q07  | Topcoat Copper  | 22  | 7/30      | 0.031                        | 0.79 | 0.092       | 2.34 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/22V07  | Overcoat Copper | 22  | 7/30      | 0.031                        | 0.79 | 0.092       | 2.34 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/22T19  | Tinned Copper   | 22  | 19/34     | 0.031                        | 0.79 | 0.093       | 2.36 | MTW, 1011, 1013, 1015, 1032, 1230, 1335   | TEW, AWM I A/B |
| 1015/24B01  | Bare Copper     | 24  | Solid     | 0.031                        | 0.79 | 0.083       | 2.10 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/24T01  | Tinned Copper   | 24  | Solid     | 0.031                        | 0.79 | 0.083       | 2.10 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/24B07  | Tinned Copper   | 24  | 7/32      | 0.031                        | 0.79 | 0.086       | 2.18 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/24T07  | Tinned Copper   | 24  | 7/32      | 0.031                        | 0.79 | 0.086       | 2.18 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/24Q07  | Topcoat Copper  | 24  | 7/32      | 0.031                        | 0.79 | 0.086       | 2.18 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/24B19  | Bare Copper     | 24  | 19/36     | 0.031                        | 0.79 | 0.086       | 2.18 | 1013, 1015, 1032, 1230, 1335              | TEW, AWM I A/B |
| 1015/26B01  | Bare Copper     | 26  | Solid     | 0.031                        | 0.79 | 0.078       | 1.98 | 1015, 1230                                | TEW            |
| 1015/26T01  | Tinned Copper   | 26  | Solid     | 0.031                        | 0.79 | 0.078       | 1.98 | 1015, 1230                                | TEW            |
| 1015/26T07  | Tinned Copper   | 26  | 7/34      | 0.031                        | 0.79 | 0.081       | 2.06 | 1015, 1230                                | TEW            |
| 1015/28T01  | Tinned Copper   | 28  | Solid     | 0.031                        | 0.79 | 0.075       | 1.90 | 1015, 1032                                | TEW            |

|                  |                       |                                              |
|------------------|-----------------------|----------------------------------------------|
| Design Number    | 10852                 |                                              |
| Revision History |                       |                                              |
| 00               | 2023/09/18            | Initial Release                              |
| 01               | 2024/04/23            | Add some new parts                           |
| 02               | 2024/06/12            | Add 22AWG, 24AWG, 26AWG sizes                |
| 03               | 2024/10/22            | Add 2207AWG Bare copper, Topcoat copper size |
| 04               | 2025/02/08            | Add some new parts                           |
| Created L. Jian  | Approved T. Plochocki |                                              |

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Milwaukee | 5001 South Towne Dr. New Berlin, WI 53151, USA  
Frankfurt | Rudolf-Braas-Strasse 2, D-61381 Friedrichsdorf, Germany  
Luton | Unit 11, Humphrys Road, Woodside Industrial Estate, Dunstable, LU5 4TP, UK  
Suzhou | B2-2 Weiting Industrial - Workshop A, No. 9 Weixin Road, Suzhou Industrial Park, China

