THHN / MTW / THWN-2 / T90 COPPER CONDUCTOR

ENGINEERING SPECIFICATIONS:

Standards:
- Underwriters Laboratories Standards UL-83, UL-1063, UL-758
- AWM Spec 1316, 1317, 1318, 1319, 1320, 1321
- ASTM Stranding Class B3, B8, B787
- Canadian Standards Association C22.2 No. 75
- NEMA WC70/ICEA S-95-658
- Institute of Electrical and Electronics Engineers
- ARRA 2009; Section 1605 “Buy American” Compliant

CONSTRUCTION:

Conductors:
- Solid, uncoated copper conductors per ASTM-B3
- Stranded, uncoated copper conductors per ASTM-B3, ASTM-B787 and ASTM-B8

Insulation:
- Color-coded Polyvinyl Chloride (PVC), heat and moisture-resistant, flame-retardant compound per UL-1063 and UL-83

Applications:
- Type THHN/THWN-2 building wire is intended for general purpose applications as defined by the National Electrical Code (NEC).
- Type THHN/THWN-2 is permitted for new construction or rewiring for 600-volt applications.
- Applications requiring Type THHN or THWN-2: the conductor is appropriate for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C in oil or coolants. Applications requiring Type MTW: the conductor is appropriate for use in dry locations at 90°C, or not to exceed 60°C in wet locations or where exposed to oils or coolants. Applications requiring Type AWM: the conductor is appropriate for use at temperatures to not exceed 105°C in dry locations.

Features:
- Slick, Nylon outer jacket for easy pulling. VW-1 rated 14 AWG - 8 AWG. All sizes are rated gasoline and oil-resistant II.

Jacket:
- A tough, polyamide, Nylon outer covering per UL-1063 and UL-83.

THHN/MTW/THWN-2/T90 Copper Conductor 600V

<table>
<thead>
<tr>
<th>Size (AWG or KCMIL)</th>
<th>Number of Strands</th>
<th>Cross Sect. Area (mm²)</th>
<th>PVC Insulation Thickness (Conductor)</th>
<th>Nylon Jacket Thickness</th>
<th>Outside Diameter (mm)</th>
<th>Approximate Net Weight (kg/km)</th>
<th>Allowable Ampacity (Amps)*</th>
<th>Standard Packaging (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Solid</td>
<td>2.08</td>
<td>0.380</td>
<td>0.100</td>
<td>0.004</td>
<td>2.57</td>
<td>0.101</td>
<td>22</td>
</tr>
<tr>
<td>12</td>
<td>Solid</td>
<td>3.31</td>
<td>0.380</td>
<td>0.100</td>
<td>0.004</td>
<td>3.05</td>
<td>0.120</td>
<td>34</td>
</tr>
<tr>
<td>10</td>
<td>Solid</td>
<td>5.26</td>
<td>0.510</td>
<td>0.100</td>
<td>0.004</td>
<td>3.78</td>
<td>0.149</td>
<td>55</td>
</tr>
<tr>
<td>14</td>
<td>Solid</td>
<td>2.08</td>
<td>0.380</td>
<td>0.100</td>
<td>0.004</td>
<td>2.77</td>
<td>0.109</td>
<td>25</td>
</tr>
<tr>
<td>12</td>
<td>Solid</td>
<td>3.31</td>
<td>0.380</td>
<td>0.100</td>
<td>0.004</td>
<td>3.23</td>
<td>0.127</td>
<td>36</td>
</tr>
<tr>
<td>10</td>
<td>Solid</td>
<td>5.26</td>
<td>0.510</td>
<td>0.100</td>
<td>0.004</td>
<td>4.07</td>
<td>0.160</td>
<td>57</td>
</tr>
<tr>
<td>8</td>
<td>19</td>
<td>8.37</td>
<td>0.760</td>
<td>0.130</td>
<td>0.005</td>
<td>5.39</td>
<td>0.212</td>
<td>94</td>
</tr>
</tbody>
</table>

*Allowable ampacity shown above is per the National Electrical Code. The above data is approximate and subject to normal manufacturing tolerances.

PRINT LEGEND:
SOLID CONDUCTOR SIZES 14 AWG THROUGH 10 AWG: ENCORE WIRE CORPORATION (size) AWG TYPE THHN OR THWN-2 GR II VW-1 600 VOLTS (UL) OR AWM OR C-(UL) TYPE T90 NYLON OR TWN 75 FT1 DATE/TIME/QC
STRANDED CONDUCTOR SIZES 14 AWG THROUGH 8 AWG: ENCORE WIRE CORPORATION (size) AWG TYPE MTW OR THHN OR THWN-2 GR II VW-1 600 VOLTS (UL) OR AWM OR C-(UL) TYPE T90 NYLON OR TWN 75 FT1 DATE/TIME/QC
ENGINEERING SPECIFICATIONS:

**Standards:**
- Underwriters Laboratories Standards UL-83, UL-1063, UL-758
- AWM Spec 1316, 1317, 1318, 1319, 1320, 1321
- ASTM Stranding Class B3, B8, B787
- Canadian Standards Association C22.2 No. 75
- NEMA WC70/ICEA S-95-658
- Institute of Electrical and Electronics Engineers IEEE 1202/FT4
- ICEA T-29-520 (210,000 Btu/hr) Flame Test
- ARRA 2009; Section 1605 "Buy American" Compliant

**CONSTRUCTION:**

**Conductors:**
- Solid, uncoated copper conductors per ASTM-B3
- Stranded, uncoated copper conductors per ASTM-B3, ASTM-B787 and ASTM-B8

**Insulation:**
- Color-coded Polyvinyl Chloride (PVC), heat and moisture-resistant, flame-retardant compound per UL-1063 and UL-83

**Applications:**
- Type THHN/THWN-2 building wire is intended for general purpose applications as defined by the National Electrical Code (NEC).
- Type THHN/THWN-2 is permitted for new construction or rewiring for 600-volt applications. Applications requiring Type THHN or THWN-2: the conductor is appropriate for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C in oil or coolants. Applications requiring Type MTW: the conductor is appropriate for use in dry locations at 90°C, or not to exceed 60°C in wet locations or where exposed to oils or coolants. Applications requiring Type AWM: the conductor is appropriate for use at temperatures not to exceed 105°C in dry locations.

**Features:**
- Slick Nylon outer jacket for easy pulling. 6 AWG and larger Sunlight Resistant in all colors. All sizes rated gasoline and oil resistant II. On 250 KCMIL and larger, sequential footage markings located every foot for easy measuring. For 1 AWG through 4/0 AWG sequential foot markings on master reels only unless otherwise specified. 1/0 AWG and larger are rated for cable tray use and comply with IEEE 1202/FT4 (70,000 Btu/hr) flame test and ICEA T-29-520 (210,000 Btu/hr) flame test.

**Jacket:**
- A tough, polyamide, Nylon outer covering per UL-1063 and UL-83.

---

### THHN/MTW/THWN-2/T90 Copper Conductor 600V

<table>
<thead>
<tr>
<th>Size (AWG or KCMIL)</th>
<th>Number of Strands</th>
<th>PVC Insulation Thickness (Conductor) (mm)</th>
<th>Nylon Jacket Thickness (mm)</th>
<th>Outside Diameter (mm)</th>
<th>Approximate Net Weight (kg/km)</th>
<th>Allowable Amperage (Amps)*</th>
<th>Standard Packaging (reels)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>19</td>
<td>0.060</td>
<td>0.030</td>
<td>0.130</td>
<td>0.005</td>
<td>6.30</td>
<td>0.248</td>
</tr>
<tr>
<td>4</td>
<td>19</td>
<td>0.060</td>
<td>0.040</td>
<td>0.150</td>
<td>0.006</td>
<td>8.06</td>
<td>0.317</td>
</tr>
<tr>
<td>3</td>
<td>19</td>
<td>0.060</td>
<td>0.040</td>
<td>0.150</td>
<td>0.006</td>
<td>8.74</td>
<td>0.344</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
<td>0.060</td>
<td>0.040</td>
<td>0.150</td>
<td>0.006</td>
<td>9.53</td>
<td>0.375</td>
</tr>
<tr>
<td>1</td>
<td>19</td>
<td>0.120</td>
<td>0.050</td>
<td>0.180</td>
<td>0.007</td>
<td>11.05</td>
<td>0.435</td>
</tr>
<tr>
<td>1/0</td>
<td>19</td>
<td>0.120</td>
<td>0.050</td>
<td>0.180</td>
<td>0.007</td>
<td>12.04</td>
<td>0.474</td>
</tr>
<tr>
<td>2/0</td>
<td>19</td>
<td>0.120</td>
<td>0.050</td>
<td>0.180</td>
<td>0.007</td>
<td>13.16</td>
<td>0.518</td>
</tr>
<tr>
<td>3/0</td>
<td>19</td>
<td>0.120</td>
<td>0.050</td>
<td>0.180</td>
<td>0.007</td>
<td>14.43</td>
<td>0.568</td>
</tr>
<tr>
<td>4/0</td>
<td>19</td>
<td>0.120</td>
<td>0.050</td>
<td>0.180</td>
<td>0.007</td>
<td>15.85</td>
<td>0.624</td>
</tr>
<tr>
<td>250</td>
<td>37</td>
<td>0.127</td>
<td>0.060</td>
<td>0.200</td>
<td>0.008</td>
<td>17.23</td>
<td>0.678</td>
</tr>
<tr>
<td>300</td>
<td>37</td>
<td>0.125</td>
<td>0.060</td>
<td>0.200</td>
<td>0.008</td>
<td>18.54</td>
<td>0.730</td>
</tr>
<tr>
<td>350</td>
<td>37</td>
<td>0.125</td>
<td>0.060</td>
<td>0.200</td>
<td>0.008</td>
<td>19.74</td>
<td>0.777</td>
</tr>
<tr>
<td>400</td>
<td>37</td>
<td>0.125</td>
<td>0.060</td>
<td>0.200</td>
<td>0.008</td>
<td>20.95</td>
<td>0.821</td>
</tr>
<tr>
<td>500</td>
<td>37</td>
<td>0.125</td>
<td>0.060</td>
<td>0.200</td>
<td>0.008</td>
<td>22.91</td>
<td>0.902</td>
</tr>
<tr>
<td>600</td>
<td>61</td>
<td>0.177</td>
<td>0.070</td>
<td>0.229</td>
<td>0.009</td>
<td>26.70</td>
<td>1.051</td>
</tr>
<tr>
<td>750</td>
<td>61</td>
<td>0.177</td>
<td>0.070</td>
<td>0.229</td>
<td>0.009</td>
<td>29.36</td>
<td>1.156</td>
</tr>
<tr>
<td>1000</td>
<td>61</td>
<td>0.177</td>
<td>0.070</td>
<td>0.229</td>
<td>0.009</td>
<td>33.27</td>
<td>1.310</td>
</tr>
</tbody>
</table>

*Allowable ampacity shown above is per the National Electrical Code. The above data is approximate and subject to normal manufacturing tolerances.

PRINT LEGEND:
- STRANDED CONDUCTORS-SIZES 6 AWG THROUGH 1 AWG: ENCORE WIRE CORPORATION (oz) TYPE MTW OR THHN OR THWN-2 GR II SUN-RES VW-1 600 VOLTS (UL) OR AWM OR (CU) TYPE T90 NYLON OR TWIN 75 FT1 DATE/TIME/OPER/OC
- CONDUCTOR SIZES 1/0 AWG THROUGH 1000 KCMIL: ENCORE WIRE CORPORATION (oz) TYPE MTW OR THHN OR THWN-2 GR II SUN-RES FOR CT USE (UL) OR AWM OR (CU) TYPE T90 NYLON OR TWIN 75 FT1 DATE/TIME/OPER/OC

---

**800.962.9473  www.encorewire.com**

---

ENCORE WIRE CORPORATION®

**Copper Conductor**

**PVC Insulation**

**Nylon Jacket**

---

RoHS COMPLIANT