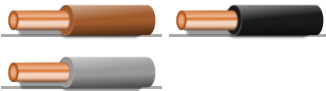
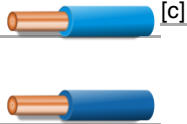

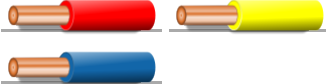

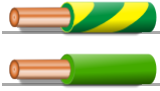
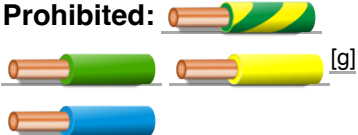





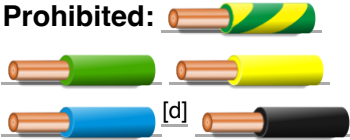









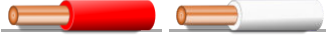






















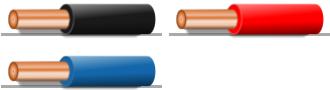


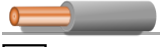
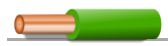





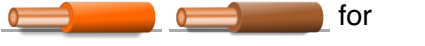
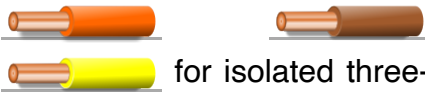

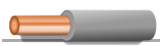
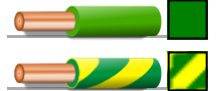

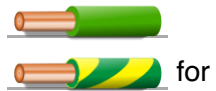



# Color codes for Alternating Current (AC)

Standard Region or country	Phases (L, L1/L2/L3)	Neutral (N)	Protective earth/ground (PE)
<p>IEC 60446 (now part of IEC 60445)</p> <ul style="list-style-type: none"> <li>▪ European Union from April 2004</li> <li>▪ United Kingdom from April 2004 (BS 7671)</li> <li>▪ Argentina</li> <li>▪ China</li> <li>▪ Hong Kong from July 2007</li> <li>▪ Singapore from March 2009</li> <li>▪ Russia from 2009 (GOST R 50462)</li> <li>▪ Ukraine, Belarus, Kazakhstan</li> <li>▪ South Korea from January 2021<sup>[8]</sup></li> <li>▪ Australia and New Zealand<sup>[b]</sup></li> </ul>		 <p style="text-align: right; margin-right: 20px;"><sup>[c]</sup></p>	
<p>Pre-2004 IEE</p> <ul style="list-style-type: none"> <li>▪ United Kingdom until April 2006 (BS 7671)</li> <li>▪ India, Pakistan</li> <li>▪ Hong Kong prior to 2009</li> <li>▪ Malaysia and Singapore prior to February 2011</li> </ul>			 <p style="text-align: right; margin-right: 20px;">(before 1977)</p>
<p>ABNT NBR 5410</p> <ul style="list-style-type: none"> <li>▪ Brazil</li> </ul>	<p><b>Prohibited:</b>  <sup>[g]</sup></p> <p>To designate any phase, the above colors are <b>prohibited</b>.</p> <p>Local rules may specify colors to be used for phases.</p>		
<p>SABS SANS 10142-1</p> <ul style="list-style-type: none"> <li>▪ South Africa</li> </ul>	<p><b>Prohibited:</b> </p> <p>To designate any phase, the above colors are <b>prohibited</b>.</p>		

<p>AS/NZS 3000:2018</p> <ul style="list-style-type: none"> <li>Australia and New Zealand<sup>[b]</sup></li> </ul>	<p><b>Installation wiring:</b> (section 3.8.1)</p> <p><b>Prohibited:</b> </p> <p>To designate any phase, the above colors are <b>prohibited</b>.</p> <p> <i>recommended</i> for single phase</p> <p></p> <p> <sup>[d]</sup> <i>recommended</i> for multiphase</p> <p>While light blue is prohibited from use for active function, dark blue is recommended for L3.</p> <p> <i>usually</i> used for "Switched Line"</p>	  <sup>[e]</sup>	  (before 1980)  (before 1966)
	<p><b>Cable identification colours:</b><sup>[f]</sup> (section 3.8.3.4)</p> <p><b>Multiphase cables</b></p> <p>   <sup>[d]</sup> Current AS/NZS cables</p>		
	<p>   European cables</p>		
	<p><b>Single-phase cables</b></p> <p> Current AS/NZS flexible cords, flexible cables and equipment wiring, and European cables</p>		
	<p> Superseded AS/NZS flexible cords</p>		
<p>China (PRC)</p>	<p>  </p>	 	
<p>JIS C 0446</p> <ul style="list-style-type: none"> <li>Japan</li> </ul>	<p>  </p> <p>See ja: <a href="#">識別標識 (電線)</a> for details</p>		

<p><b>NEC (NFPA 70)</b></p> <ul style="list-style-type: none"> <li>United States<sup>[h]</sup></li> <li>Mexico (NOM-001)</li> <li>Puerto Rico, Guatemala, Nicaragua, El Salvador, Honduras, Costa Rica, Panama, Dominican Republic, Colombia, Ecuador, Peru, Venezuela<sup>[9]</sup></li> </ul>	<p><b>120, 208, or 240 V</b></p>  <p><b>277, or 480 V</b></p>  <p>metallic brass</p>	<p><b>120, 208, or 240 V</b></p>  <p><b>277, or 480 V</b></p>  <p>metallic silver</p>	   <p>no insulation for isolated systems</p>
<p><b>CE Code (CSA C22.1)</b></p> <ul style="list-style-type: none"> <li>Canada<sup>[10][h]</sup></li> </ul>	<p><b>Flexible cable (e.g., extension, power, and lamp cords)</b></p> <p><b>120 V</b></p>  <p><b>split-phase 240 V</b></p>  <p>for single-phase systems</p>  <p>for three-phase systems</p> <p>for isolated single-phase systems</p>  <p>for isolated three-phase systems</p> 	 <p>metallic silver</p> 	  <p>no insulation</p>  <p>for isolated systems</p>

Boxes (e.g., ) denote markings on wiring terminals.

- The colors in this table represent the most common and preferred standard colors for wiring; however others may be in use, especially in older installations.
- Australian and New Zealand wiring standards allow both Australian and European color codes.
- Sweden allow the use of blue for other purposes in circuits without a neutral, for instance two-phase with ground.
- Australian-standard phase colors conflict with IEC 60446 colors, where IEC-60446 supported neutral color (blue) is an allowed phase color in the Australia/New Zealand standard. Care must be taken when determining the system used in any existing wiring.
- Except that in New Zealand domestic installations, the only permitted color for Neutral is Black.
- Australian and NZ cable identification colours and European cable identification colours should not be combined within the same wiring enclosure.
- For safety reasons, yellow should not be used when green/yellow striped cables are present.
- Canadian and American wiring practices are very similar, with ongoing harmonisation efforts.