

Amendment No. 1:2007 to the Code of Practice for the Electricity (Wiring) Regulations

Item	Revision																														
1.	<p>Code 4D(1)(a)</p> <p>Each switch, fuse switch, switch fuse, busbar chamber, checkmeter and distribution board should be properly labelled on the front cover to indicate the circuit name or number, the rating of the fuse or circuit breaker, and the purpose of each circuit (e.g. lighting, socket outlet, pumps, lifts etc.). For fuses and circuit breakers fitted in a distribution board which are not visible without opening or removing the front cover of the distribution board, labels should be fixed inside the distribution board in such a manner as to allow easy identification of the individual fuses or circuit breakers when the front cover is opened or removed. <u>The use of colour and / or coding for phase identification of switchgear / distribution board should be in accordance with Table 13(2) in so far as these are applicable.</u></p>																														
2.	<p>Code 6B(3)(b)</p> <p>Every socket in a three phase installation should be marked with the appropriate phase colour <u>identification (e.g. L1, L2 and L3 etc.)</u> in a permanent manner.</p>																														
3.	<p>Code 13D(2)(a)</p> <p>Every cable core of a non-flexible cable or bare conductors in a fixed wiring installation should be identifiable at its terminations <u>and preferably throughout its length</u> by appropriate labels, colours or coding. <u>Label and coding identification should be clearly legible and durable and should be in contrast to the colours of the insulations.</u> The application of tapes, sleeves or discs of the appropriate colours at terminations is acceptable. The use of colours <u>and /or coding</u> should be in accordance with Table 13(2).</p>																														
4.	<p>Table 13(2)</p> <p style="text-align: center;">Table 13(2)</p> <p style="text-align: center;"><i>Colour Identification of Non-flexible Cables and Bare Conductors for Fixed Wiring</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Function</th> <th colspan="2">Colour</th> <th rowspan="2">Coding</th> </tr> <tr> <th>Old Colour</th> <th>New Colour</th> </tr> </thead> <tbody> <tr> <td>Phase of single phase circuit</td> <td>Red (or Yellow or White or Blue)</td> <td>Brown</td> <td>L</td> </tr> <tr> <td>Phase 1 of 3-phase circuit</td> <td>Red</td> <td>Brown</td> <td>L1</td> </tr> <tr> <td>Phase 2 of 3-phase circuit</td> <td>Yellow (or white)</td> <td>Black</td> <td>L2</td> </tr> <tr> <td>Phase 3 of 3-phase circuit</td> <td>Blue</td> <td>Grey</td> <td>L3</td> </tr> <tr> <td>Neutral</td> <td>Black</td> <td>Blue</td> <td>N</td> </tr> <tr> <td>Protective conductor</td> <td>Green-and-yellow</td> <td>Green-and-yellow</td> <td>--</td> </tr> </tbody> </table> <p>(Note: The new colour code should be used for those electrical installation works commencing on-site on or after 1 July 2007. For installation works commencing on-site from 1 July 2007 to 30 June 2009 (i.e. the 2-year grace period), either the new or the existing old colour code, but not both, can be used. For installation works commencing on-site on or after 1 July 2009, only the new colour code should be used.)</p>	Function	Colour		Coding	Old Colour	New Colour	Phase of single phase circuit	Red (or Yellow or White or Blue)	Brown	L	Phase 1 of 3-phase circuit	Red	Brown	L1	Phase 2 of 3-phase circuit	Yellow (or white)	Black	L2	Phase 3 of 3-phase circuit	Blue	Grey	L3	Neutral	Black	Blue	N	Protective conductor	Green-and-yellow	Green-and-yellow	--
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5.	<p>Code 17F (<i>New Item</i>)</p> <p>Warning Notice for installation having both new and old cable colours</p> <p>‘小心！ 此電力裝置包含新舊顏色電線。在進行加裝、改裝或修理工作前，務須正確識別所有導體。’ and ‘CAUTION! THIS INSTALLATION HAS BOTH NEW AND OLD CABLE COLOURS. GREAT CARE SHOULD BE TAKEN BEFORE UNDERTAKING EXTENSION, ALTERATION OR REPAIR THAT ALL CONDUCTORS ARE CORRECTLY IDENTIFIED.’ in black legible letters and characters, and in yellow background. ‘小心’ and ‘CAUTION’ should not be less than 10 mm in height and other letters and characters not less than 5 mm in height. The warning notice should have a minimum size of 100mm (width) x 75mm (height). It should be displayed at or close to the nearest upstream distribution board (e.g. main switchboard, sub-main distribution board or consumer unit) of an installation where cables in new colour code are installed in an existing installation with old colour coded cables.</p>
6.	<p>Code 18A(a)</p> <p>For any alteration or addition to an existing fixed installation, the registered electrical worker responsible for the work should:</p> <ul style="list-style-type: none"> (i) carry out the alteration or addition in compliance with the Wiring Regulations, and (ii) verify that the alteration or addition does not impair in any way the safety of the existing installation, and (iii) <u>verify new colour cables are installed in compliance with the requirements in Appendix 17.</u>
7.	<p>Appendix 13, Checklist No. 4, Item (l) (<i>New Item</i>)</p> <p>(l) Installation having both new and old cable colours</p> <ul style="list-style-type: none"> (i) Warning notice provided in compliance with Code 17 and Appendix 17 (ii) Proper labels provided near the cable termination interface to identify new colour cables /conductors for 1-phase circuits in compliance with Appendix 17 (iii) Proper labels provided near the cable termination interface to identify both the new and old colour cables / conductors for 3-phase circuits in compliance with Appendix 17 (iv) Conductors are properly identified in compliance with Code 13D(2).
8.	<p>Appendix 17 (<i>New Item</i>)</p> <p>(see Appendix 17 attached)</p>

Appendix 17
New Cable Colour Code for Fixed Electrical Installations
Installation Guidelines

(1) Introduction

With effect from 1 July 2007, colour for identification of conductors in fixed electrical installations will be changed as shown in Table 13(2) of the CoP.

The change is applicable to all new electrical installations as well as addition & alteration to existing electrical installations. Existing installations with cables adopting the old cable colour code will not be affected.

A Working Group on the Review of Cable Colour Code in Hong Kong comprising members from the trade and industry was established in year 2003 to study the cable colour change issue in Hong Kong. In mid 2004, the Working Group proposed to adopt the new cable colour code in Hong Kong. The change was then endorsed by the Electrical Safety Advisory Committee in September 2004.

The new cable colour code complies with the requirements of relevant national and international standards (such as IEC 60446, EN 60446, BS EN 60446 and BS 7671) and has been adopted by the majority of the western countries (e.g. UK, France, Germany, Spain, Netherlands, Portugal etc.).

(2) Implementation

The new colour code may be used for those electrical installation works commencing on-site on or after 1 July 2007. For installation works commencing on-site from 1 July 2007 to 30 June 2009 (i.e. the 2-year grace period), either the new or the existing old colour code, but NOT both, can be used. For installation works commencing on-site on or after 1 July 2009, only the new colour code should be used.



Figure A17(1) - Implementation Schedule

(3) Precautions

In the new colour code, the black core will be changed from neutral to phase and the blue core from phase to neutral (see Table 13(2)). Wrong connection of these cores will lead to increased risk, leading to possible electrical accidents and short circuiting, in particular during the transition period. To ensure electrical safety, it is recommended not to conduct, whenever practicable, works on "LIVE" installations at any cable colour change interfaces. Where serious inconvenience would arise from isolating electrical circuits for works at the cable colour change interfaces, adequate safety precautions should be taken to avoid danger from "LIVE" working conditions (see Code 4 of the CoP for details).

(4) Installation Guides - New Installation

The old cable colour code, i.e. red, yellow and blue for phase conductors and black for the neutral conductor, are to be replaced by the new one, i.e. brown, black and grey for phase conductors and blue for the neutral conductor, as specified in Table 13(2). Circuits for new installations should be wired in new colour coded cables (see examples in Figures A17(2a) and (2b)).

For a single phase installation, only the brown colour should be used to identify a phase conductor, irrespective of whether it is connected to the L1, L2 or L3 phase. For a room /flat /unit taking single phase electricity supply from a multi-phase power supply source, only brown (phase) and blue (neutral) coloured cables should be used.

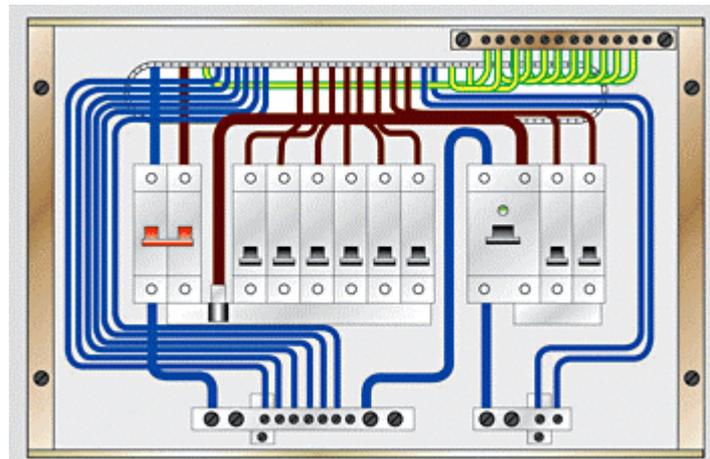


Figure A17(2a) – New coloured wiring cables in a single phase distribution board

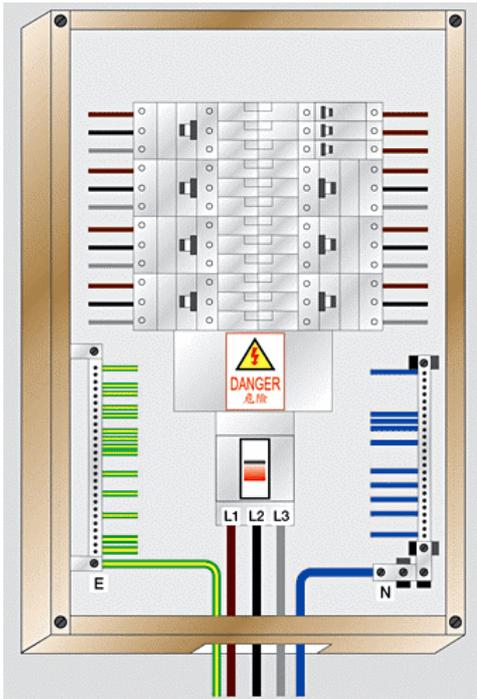


Figure A17(2b) – New coloured wiring in a 3-phase distribution board

(5) Installation Guides - Extensions, Alterations or Repair to an Existing Installation

5.1 Warning Notice

Where cables in new colour code are installed in an existing installation with old colour coded cables, a yellow warning notice in both English and Chinese (see Figure A17(3)) should be displayed at or close to the nearest upstream distribution board (e.g. main switchboard, sub-main distribution board or consumer unit) of the affected installation. The warning notice should comply with the requirements specified in Code 17F of the CoP.



Figure A17(3) - Warning Notice

5.2 Single-phase installation

Extension, alteration or repair to an existing single-phase installation should be wired in the colour of brown (for phase conductor), blue (for neutral conductor), and green-and-yellow (for protective conductor) as specified in Table 13(2).

a. Existing cables adopting red for phase and black for neutral

If the existing single phase installation has adopted the red colour for phase conductor and black for neutral conductor (i.e. correctly identified), both the new and old colour coded cables are considered unambiguously marked. It is therefore not necessary to provide additional marking / label at the interface between new and old colour coded cables (see Figure A17(4)).

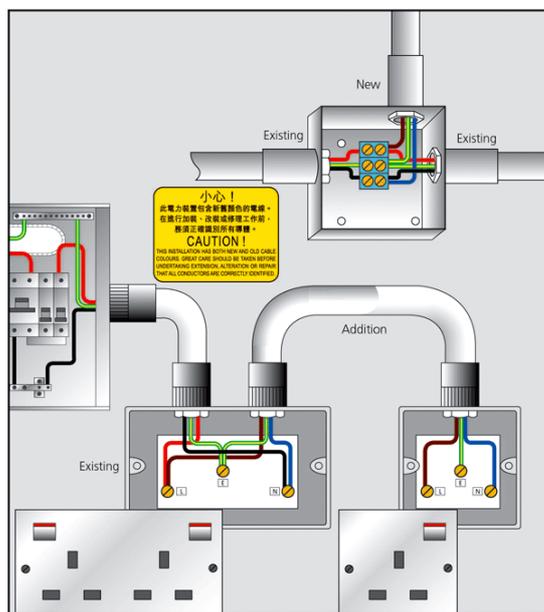


Figure A17(4) - Extension, alteration and repair to an existing single phase installation, where existing phase conductors are identified by red colour

b. Existing cables adopting either yellow or blue for phase and black for neutral

Proper durable and legible labels or coding (such as cable ties, sleeves, ferrules etc.) should be provided on the new cables near the cable termination interface (see Figures A17(5a) to (5d)). The above provision is to standardize the wiring work for incorrectly identified cables and to avoid any possibility of mistaking the old "blue" (phase) cable as the new "blue" (neutral) cable.

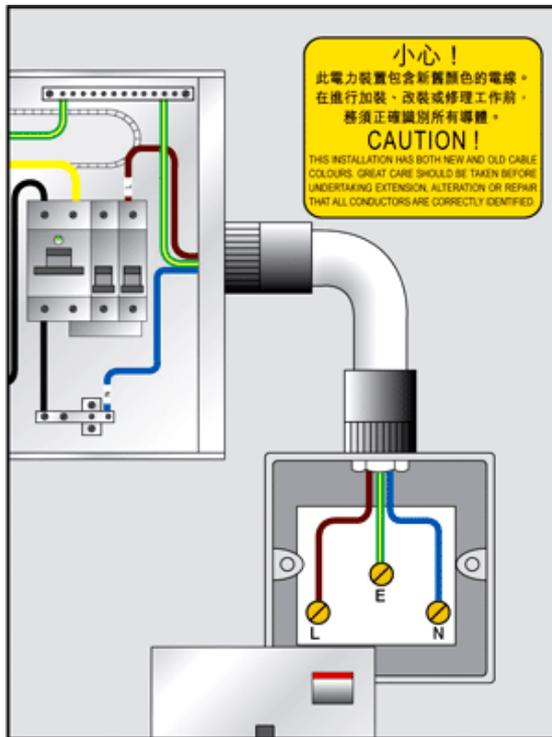


Figure A17(5a) - Addition of new colour coded cables to an existing MCB board where phase conductor is identified by yellow colour

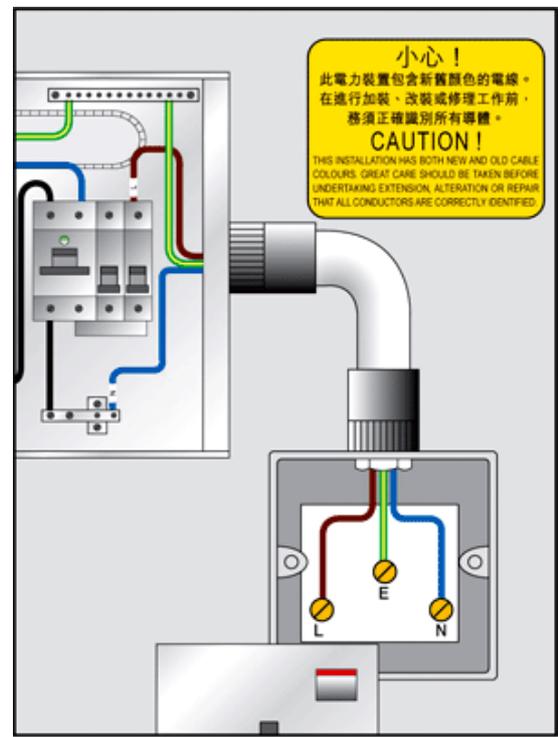


Figure A17(5c) - Addition of new colour coded cables to an existing MCB board where phase conductor is identified by blue colour

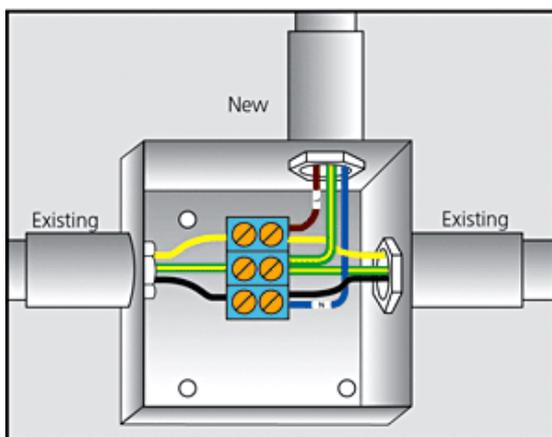


Figure A17(5b) - Extension, alteration and repair to an existing single phase installation where phase conductor is identified by yellow colour

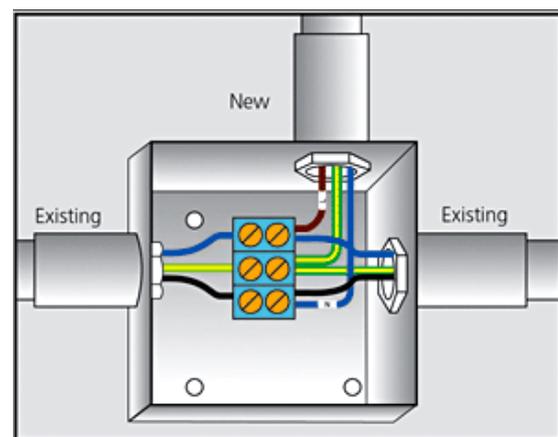


Figure A17(5d) - Extension, alteration and repair to an existing single phase installation where phase conductor is identified by blue colour

5.3 Three-phase installation

Extension, alteration or repair to an existing 3-phase installation should be wired in the new colour code of brown/ black/ grey/ blue/ (green-and-yellow) as specified in Table 13(2).

At the wiring interface, both the new and old phase and neutral conductors should be fitted with proper, durable and legible identification marked in L1, L2, L3 and N (Figure A17(6)).

For the interface between new and old colour coded cables at a busbar chamber for an existing three-phase installation, an acceptable means of identification is illustrated in Figure A17(7).

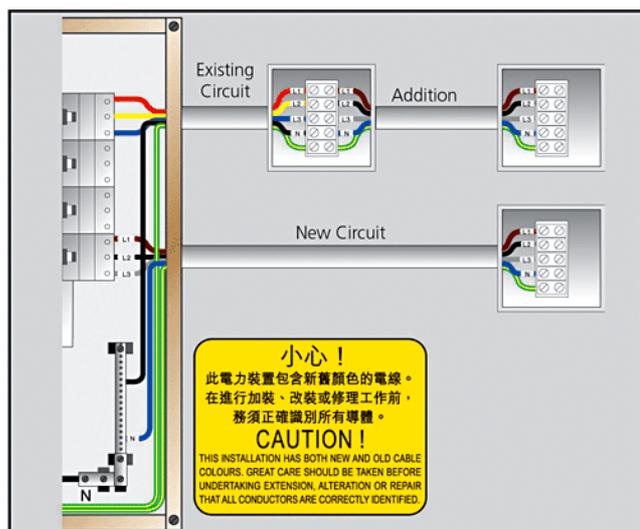


Figure A17(6) - Extensions, alterations or repairs to an existing three-phase installation

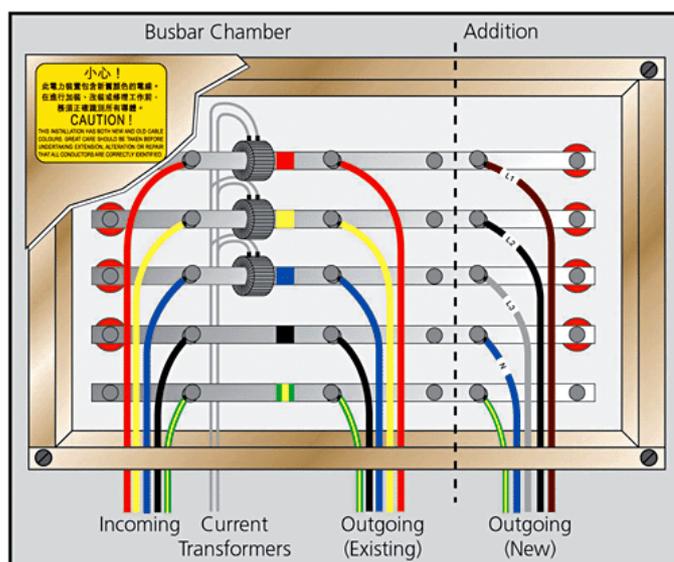


Figure A17(7) - Interface between new and old colour coded cables at a busbar chamber for an existing three-phase installation