



PANELBOARD LABELING

What are the requirements for panelboard labeling?

408.4 Circuit Directory or Circuit Identification.

Every circuit and circuit modification shall be legibly identified as to its clear, evident, and specific purpose or use. The identification shall include sufficient detail to allow each circuit to be distinguished from all others. Spare positions that contain unused overcurrent devices or switches shall be described accordingly. The identification shall be included in a circuit directory that is located on the face or inside of the panel door in the case of a panelboard, and located at each switch on a switchboard. No circuit shall be described in a manner that depends on transient conditions of occupancy.

(Yellow Highlight indicates 2008 code change)

A panel schedule is required at each panel. Each circuit must be clearly marked to indicate its specific purpose or use and must include enough detail to differentiate it from other circuits. Office lights or warehouse receptacles would not be sufficient information, even in a small facility added circuits in the future would create confusion. A new change in the 2008 code no longer allows circuit descriptions based on “transient conditions of occupancy” such as Jim’s office lights because Jim will not always be the occupant of that office and there will be no way to know what office is being referred to once Jim is gone. Permanent room numbers would be a good way to identify areas especially if they are posted in the areas. Another 2008 change requires spare circuit breakers to be labeled accordingly.

210.5 Identification for Branch Circuits.

(C) Ungrounded Conductors. Where the premises wiring system has branch circuits supplied from more than one nominal voltage system, each ungrounded conductor of a branch circuit shall be identified by phase or line and system at all termination, connection, and splice points. The means of identification shall be permitted to be by separate color coding, marking tape, tagging, or other approved means. The method utilized for conductors originating within each branch-circuit panelboard or similar branch-circuit distribution equipment shall be documented in a manner that is readily available or shall be permanently posted at each branch-circuit panelboard or similar branch-circuit distribution equipment.

Article 210.5 (C) for branch circuits and 215.12 (C) for feeders require that any facility that is served from more than one nominal voltage system, such as a facility that has 480/277 panels and also has 208/120 panels, a means of identification of the conductors of each system. This identification must indicate the phasing and system of the conductor. This is most often accomplished through color coding such as Brown, Orange, Yellow, & Gray for 480/277 volt wiring and Black, Red, Blue, & White for 208/120 volt wiring. This means of identification must be present at all termination, connection, or splice points but would not be required at a pull box where the wires pass through without a splice or connection. This color code or other means of identification are required to be documented in a manner that is “readily available or shall be permanently posted at each branch-circuit panelboard”.

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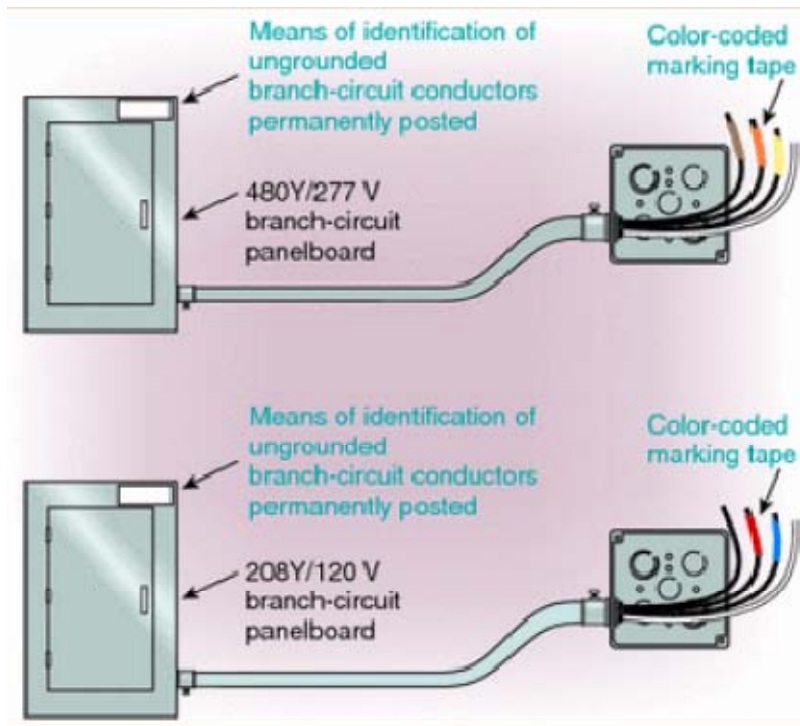
One method for posting the color code would be to include it on the panel schedule for each panel. This assures that it will be available to anyone working on the electrical system. Examples are pictured below:

Phase A	Brown	480/277
Phase B	Orange	Three-Phase
Phase C	Yellow	
Neutral	Gray	

PANEL "1-LRP-1"

1	LIGHTING RM. 1816-1821	2	LIGHTING RM. 1809,1810,1813
3	LIGHTING RM. 1820, 1823	4	LIGHTING RM. 1808,1812,1835
5	LIGHTING RM. 1815	6	LIGHTING RM. 1711,1831,1832
7	LIGHTING RM. 1815	8	LIGHTIGN RM. 1802-1807
9	LIGHTING RM. 1824-1827	10	LIGHTING RM. 1708,1709,1800

Panel schedule with system color code



Signs posted at panels

408.3 Support and Arrangement of Busbars and Conductors.

(F) High-Leg Identification. A switchboard or panelboard containing a 4-wire, delta-connected system where the midpoint of one phase winding is grounded shall be legibly and permanently field marked as follows:

“Caution _____ Phase Has _____ Volts to Ground” (Yellow Highlight indicates 2008 code change)

This requirement for marking of a High Leg Delta panel is a 2008 code change and must be added in the field when the panel is installed.

110.16 Flash Protection.

Electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers, that are in other than dwelling occupancies, and are likely to require examination, adjustment, servicing, or maintenance while energized shall be field marked to warn qualified persons of potential electric arc flash hazards. The marking shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment.

Panelboards and other electrical equipment are required to be “field marked” to warn qualified persons of the potential for arc flash hazards. This marking can simply be a warning label as pictured below or can include arc flash hazard levels and required PPE obtained from an arc flash analysis performed on the system.



All code references are from NFPA 70 National Electrical Code 2008 Edition

The interpretations expressed are those of the author and are intended to be a guideline only. They are based on the references listed. It is the responsibility of the reader to be sure this complies with the codes, standards, and specifications applicable to any given situation. Compliance with codes, standards, and specifications is the responsibility of the installer. Final interpretation is up to the local authority having jurisdiction.

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