



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
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Jeffrey Gonneville, Interim General Manager



DESIGN DIRECTIVE

To: Distribution

From: Joseph A. Pavao, Jr., PE
Acting Chief Engineer

Date: 1/10/2023

RE: Indoor Branch Circuits – Type XHHW-2 – Copper conductors
Class 1 Control Circuits – Type XHHW-2 – Copper conductors
Class 2 Control Circuits – Type XHHW-2 – Copper conductors
Stranded Conductors

This Design Directive is intended to consolidate, reiterate, supplement, and clarify the MBTA's approach, preferences, and requirements for all MBTA Stations and Facilities. In the event that conditions warrant deviation from this directive, a design waiver signed by the Chief Engineer and department owning the scope of work will be required of the project.

This directive is to provide guidance in the installation of Indoor Branch circuits, Class 1 control circuits, Class 2 control circuits and the use of Stranded copper conductors instead of solid conductors.

1. Indoor branch circuits shall utilize Type XHHW-2 stranded copper conductor in the raceways.
2. Class 1 Control Circuits shall utilize Type XHHW -2 stranded copper conductor in raceways.
3. Class 2 Control Circuits shall utilize Type XHHW -2 stranded copper conductor in raceways.
4. For general purpose wires and cables, conductors shall be stranded, and all conductors shall be copper.

CODES AND STANDARDS

- NFPA 70
- Massachusetts Electric Code (527 CMR 12.00)
- Massachusetts Building Code (780 CMR)
- International Building Code