2024 Manitoba Electrical Code

New consolidated edition

Online seminar

March 17, 2026

Winnipeg Manitoba Hydro energy for life

Acknowledgement

We acknowledge that Winnipeg is located in Treaty One territory, the home and traditional lands of the Anishinaabe (Ojibwe), Ininew (Cree), and Dakota peoples, and in the National Homeland of the Red River Métis. Our drinking water comes from Shoal Lake 40 First Nation, in Treaty Three Territory.

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The purpose of this presentation

The City of Winnipeg and Manitoba Hydro wish to welcome everyone for attending this presentation regarding the upcoming adoption of the first consolidated Manitoba Electrical Code.

Enforcement date?

The Province of Manitoba has approved the new Manitoba Electrical Code, it will come into force on April 1, 2026.

We will be covering the changes having the most impact on you as installers

There have been almost 600 changes in the CSA Canadian Electrical Code Part 1 since 2018.

Fortunately, many of these are minor wording changes to remove redundant language or clarify technical requirements.

In the short time available we cannot cover everything in detail.

You are encouraged to go through the CE Code yourself.

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CSA CE Code Part 1 On-line

The Canadian Standards Association does provide free access online to the 2024 CSA CEC Part 1 for viewing only (no download).

They also have numerous training webinars available for download going over the 2024 CSA CEC Part 1 changes.

You can check the CSA web page for details and further training.

How to get the most out of this presentation

It’s beneficial for you to have a 2024 CSA Canadian Electrical Code book with you.

We will be indicating things you may wish to highlight for further review on your own.

We will be providing our contact information for follow-up to answer questions after today’s presentation.

This presentation is only a summary

This presentation is provided as a courtesy by The City of Winnipeg and Manitoba Hydro.

We hope to provide you with enough general information on the major changes since 2018, that will help you comply with the 2024 Manitoba Electrical Code.

Compliance with the Manitoba Electrical Code is a requirement.

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City of Winnipeg and Manitoba Hydro provide online resources on the respective webpages

Information regarding the Manitoba Electrical Code, Technical Interpretations, Fees, Informative Notes and Bulletins, and other information will be available online.

We strongly encourage installers to download a copy of the Manitoba Electrical Code and Technical Interpretations to be read in conjunction with the CSA CE Code Part 1.

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Section 0 Definitions

There has been a change to the definition of **Ampacity**. It now correlates with the temperature rating of the conductor as well as conditions of use.

In many rules the term “allowable ampacity” has been changed to “ampacity” for simplicity.

Cable Tray is no longer considered a raceway but a supporting means. However, all previous rules regarding access, ampacity, conductors, etc. have been retained.

Explosion Proof Enclosure has been better defined to differentiate from other acceptable HAZLOC equipment in Section 18

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Section 0 Definitions

Flood elevation — elevation of surface water resulting from a flood event designated in accordance with the National Building Code of Canada or applicable local legislation (see Appendix B).

Flood hazard zone — a spatially delineated area designated in accordance with the National Building Code of Canada or applicable local legislation as being subjected to a flood hazard (see Appendix B).

These definitions will have an impact on service box location and the protection of below grade electrical circuits in other sections of the Code.

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Section 0 Definitions

Voltage (see Appendix B)

Extra-low voltage

a) for ac circuits, any voltage not exceeding 30 V ac; or

b) for dc circuits, any voltage not exceeding 60 V dc.

Low voltage

a) for ac circuits, any voltage exceeding 30 V ac but not exceeding 1000 V ac; or

b) for dc circuits, any voltage exceeding 60 V dc but not exceeding 1500 V dc.

High voltage

a) for ac circuits, any voltage exceeding 1000 V ac; or

b) for dc circuits, any voltage exceeding 1500 V dc.

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Section 2 General rules

Section 2 Administrative

Manitoba Electrical Code Amendments to Section 2 have now repealed many of the Administrative Rules

Please refer to the City of Winnipeg Electrical By-law and the Manitoba Hydro Section 2 Informative Note for more information regarding permits, inspections, fees and other administrative matters in each jurisdiction.

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Section 2 General rules

Section 2 Administrative. Permit Descriptions

When applying for an electrical permit, providing a clear and detailed description of the work is essential. Accurate permit descriptions help ensure that:

- The correct permit type is issued
- Proper inspections are scheduled
- Code requirements are correctly applied
- Delays and rework are avoided

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Section 2 General rules

Section 2 Administrative. Permit Descriptions

Vague or incomplete descriptions such as “electrical work” or “service upgrade” do not provide enough information for proper review and may result in permit processing delays or inspection issues. Providing a complete and accurate description protects both the applicant and the Authority Having Jurisdiction by ensuring compliance with applicable codes and helping inspections proceed smoothly.

Section 2 General rules

Manitoba Electrical Code Amendment repeals 2-032

2-032 Damage to equipment

CSA CEC New Subrule 3)

This rule has been revised by CSA to require the evaluation of electrical equipment that has been submerged or exposed to excessive water damage.

The Appendix B Note for this new **Rule 2-032 3)** directs you to NEMA GD-1 Guidelines for Water Damaged Equipment.

Please see our respective Bulletins and Informative Note for water damaged equipment.

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Section 2 General rules

Rule 2-100 Marking of equipment

Subrules 3) and 4) of Rule 2-100 have been changed.

2-100 3) requires that in addition to identifying circuits on the panel directory, the required overcurrent protection must also be indicated for each circuit.

2-100 4) requires that this marking shall be updated whenever circuits are added, removed or modified at an existing panel board.

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Section 2 General rules

Rule 2-100 Marking of equipment

Subrules 5) and 6) of Rule 2-100 have been modified and added respectively

5) requires permanent, legible marking for the maximum continuous load allowed in accordance with Rule 8-104 5) and 6) when it is less than the continuous operating marking of the fused switch or circuit breaker. This cautionary marking shall be field applied adjacent to the fused switch or circuit breaker nameplate to indicate the maximum continuous loading permitted for connection to the fused switch or circuit breaker.

6) requires similar permanent marking where the ampacity of the conductors for a service or feeders based on the loads calculated in accordance with Rule 8-200 or 8-202 are less than the rating of the fuse or circuit breaker,

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Section 2 General Rules

New Manitoba Electrical Code Technical Interpretation

2-200 Protection of persons and property

Securing buildings prior to energization by Manitoba Hydro

Buildings shall be secure and weatherproof prior to energization by Manitoba Hydro. This will include but not be limited to completed roof coverings and all door and window openings shall be adequately covered and secured against moisture and unauthorized entry. Where windows or doors are not yet installed, temporary coverings are acceptable.

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Section 2 General Rules

2-306 Shock and arc flash protection

There is a new Subrule 3) requirement for arc clearing means for equipment with overcurrent protective devices rated 1200-amp and above.

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Section 2 General rules

New Manitoba Electrical Code Technical Interpretation

2-306 Shock and arc flash protection

The responsibility for documentation required in Item 3) b) will be on the engineer of record or the manufacturer. The owner will be responsible to ensure that the documentation is readily available to personnel that install, operate, inspect, and maintain electrical equipment.

Section 2 General rules

2-400 Marking of enclosures and equipment

CSA has removed the reference to enclosure types from 2-400 and refers solely to **Table 65**.

2-404 Marking of motors

Minor changes to the required marking of motors for use in other than ordinary locations.

Section 4 Conductors

4-000 Scope

Subrule 1 Wording changes to the Scope of 4-000 to clearly define the application of Section 4 to AC and DC conductors.

This Subrule also refers now to the determination of conductor ampacity for specific conditions of use as well as the determination of the maximum conductor termination temperature permitted for a given size of conductor ampacity

Section 4 Conductors

4-002 Size of conductors

New Subrule 2) permits the use of conductors in IEC (mm2) sizes as listed in a new Table D18 provided they are not smaller than the cross-sectional area of the AWG size. You would use the corresponding AWG ampacity as per rule 4-004

Rule 4-004 Ampacity of wires and cables

Subrule 22) has been deleted and Table 39 is struck out.

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Section 4 Conductors

4-004 Ampacity

We are continuing to use the “2-step” method for determining underground cable ampacity.

Also note that changes to Table 53 for underground installations depth may affect the underground cable ampacities listed in the D Tables referred to in 4-004.

This can result in the listed ampacities no longer being acceptable and an IEEE calculation for ampacity may be required.

The “2 step “ method for underground ampacity

Consult with the applicable underground diagrams and tables in Appendix D

Select a wire size of sufficient ampacity from the tables

Compare the ampacity of that conductor with Tables 2 and 4

If the ampacity of that conductor in Table 2 or 4 is insufficient, select the appropriate size from Table 2 or 4

See the Informative Note on our webpage or the CSA handbook for examples.

Section 6 Services and service equipment

The biggest revision to Section 6 occurred in 2021 by establishing a Flood Hazard Zone and a Flood Elevation.

Service equipment located below a Flood Elevation height is now considered to be in an undesirable location.

This will require service equipment to be located above a potential flood elevation of surface water in designated areas. Explanation to follow.

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Section 6 Services and service equipment

Rule 6-206 1) v)

Service boxes or other consumer's service equipment must now be located within the building being served, as close as practicable to the point where the consumer's service conductors enter the building and not be in unsuitable locations. (New installations)

Examples of unsuitable locations include but are not limited to areas such as clothes closets, bathrooms, stairways, locations where the headroom clearance is less than 2 meters and **areas below the flood elevation.**

Section 6 Services and service equipment

Manitoba Electrical Code Technical Interpretation

6-206 A Existing services and panelboards located below the flood elevation

Rule 6-206 Consumer's service equipment location

Item 6-206 1) c) v) does not allow a service box or other consumer's service equipment to be located in areas below the flood elevation. An existing service entrance rated panelboard installed before August 15, 1981 may be replaced in the same location in accordance with the Manitoba Regulation 266/91 Section 8, Item (b), however service upgrades are required to meet current Code.

For information regarding flood hazard zone areas, builders and installers are advised to contact the municipality or the Provincial Senior Flood Protection Planning Officer.

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Section 6 Services and Service Equipment

Manitoba Electrical Code Amendment Rule 6-212

Rule 6-212 Wiring space in enclosures

Subrule 3) now requires that consumer's service conductors entering a service box that is not equipped with a barrier between the line and load sides must enter the service box as close as practicable to the line terminals of the main switch or circuit breaker ***if practicable.***

In addition, ***if practicable*** they must not contact, or cross conductors connected to the load terminals of the main switch or circuit breaker.

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Section 6 Services and Service Equipment

6-302 Installation of overhead consumer's service conductors

Neutral supported (NS) cable is now permitted for overhead consumer services but not permitted to be run on or along exteriors of buildings (See T.I. 6-302 B)

This is specifically NS-75 and NS-90 cables with bare neutrals.

Use Tables 36 A and 36 B for ampacities of NS aluminum and copper conductors respectively

Section 6 Services and Service Equipment

6-308 Use of neutral conductors in consumer's service

6-308 1) now requires all neutral conductors to be insulated except for NS type cable. This would include residential services.

There are specific requirements for the identification of neutral conductors.

See **T.I. 6-308 Identification of neutral conductors** for the additional required methods for identification of neutral conductors.

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New T. I. 6-308 Identification of neutral conductors

Insulated neutrals in services create safety risks for supply authority employees involved in connecting service conductors due to incorrect identification at installation. For this reason, insulated neutrals in services must be identifiable along the entire length of the conductor.

Acceptable identification of the neutral conductor must be verifiable during inspections and can be accomplished by different means per the list below however, conductors must also be identified at each end in accordance with Rule 4-026:

- A reduced neutral in residential services is inherently identifiable by the size difference from the ungrounded conductors.

- White tape along the length of the conductor.

- White marking line along the length of conductor.

- Neutral conductor is a different colour than the ungrounded conductors (sun resistant cable required for overhead services).

- If the material of the neutral conductor is different from that of the ungrounded conductors (e.g.: aluminum conductors with copper neutral), the neutral is easily identifiable.

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Section 6 Services and Service Equipment

SERVICE PIPE FILL

	100 Amp Service	PVC Conduit	EMT Conduit
Copper:	2 - #3 RW90 & **#6** Bare Neutral(Cu or AL)	**1”**	**1”**
	3 - #3 RW90 (Full Sized Neutral)	**1”**	**1”**
Aluminum:	2 – #1 RW90 & **#6 Bare** Neutral (Cu or AL)	**1 ¼”**	**1”**
	3 – #1 RW90 (Full Sized Neutral)	**1 ¼”**	**1 ¼”**

2021 CEC

	100 Amp Service	PVC Conduit	EMT Conduit
Copper:	2 - #3 RW90 & **#6 Insulated** Neutral(Cu or AL)	**1”**	**1”**
	3 - #3 RW90 (Full Sized Neutral)	**1”**	**1”**
Aluminum:	2 – #1 RW90 & **#6 Insulated** Neutral (Cu or AL)	**1 ¼”**	**1 ¼”**
	3 – #1 RW90 (Full Sized Neutral)	**1 ¼”**	**1 ¼”**

2024 CEC

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Section 6 Services and Service Equipment

SERVICE PIPE FILL

	100 Amp Service	PVC Conduit	EMT Conduit
Copper:	2 - #3 RW90 & **#6 Insulated** Neutral(Cu or AL)	**1”**	**1”**
	3 - #3 RW90 (Full Sized Neutral)	**1”**	**1”**
Aluminum:	2 – #1 RW90 & **#6 Insulated** Neutral (Cu or AL)	**1 ¼”**	**1 ¼”**
	3 – #1 RW90 (Full Sized Neutral)	**1 ¼”**	**1 ¼”**

	100Amp Service	PVC Conduit	EMT Conduit
Copper:	2 - #3 RW90 & **#6 Insulated** Neutral (Cu or AL) & **#8 Cu**	**1”**	**1”**
	3 - #3 RW90 (Full Sized Neutral) & **#6 Cu/Al**	**1 ¼”**	**1”**
Aluminum:	2 – #1 RW90 & **#6 Insulated** Neutral (Cu or AL) & **#8 Cu**	**1 ¼”**	**1 ¼”**
	3 – #1 RW90 (Full Sized Neutral) & **#6 Cu**	**1 ½”**	**1 ¼”**

100 Amp service pipe sizes with isolated neutrals have slightly changed due to the requirement of a separate bonding conductor.

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Section 6 Services and Service Equipment

SERVICE PIPE FILL

200 Amp Service		PVC Conduit	EMT Conduit
Copper:	2 - 3/0 RW90 & **#6** Bare Copper Neutral	**1 ½”**	**1 ¼”**
	2 - 3/0 RW90 & Insulated #4 Copper Neutral	**1 ½”**	**1 ¼”**
	3 - 3/0 RW90 (Full Sized Neutral)	**2”**	**1 ½”**
Aluminum:	2 – 250MCM RW90 & **#4** Bare Copper Neutral	**2”**	**2”**
	2 – 250MCM RW90 & #4 Insulated Copper Neutral	**2”**	**2”**
	3 – 250MCM RW90 (Full Sized Neutral)	**2”**	**2”**

2021 CEC

200 Amp Service		PVC Conduit	EMT Conduit
Copper:	2 - 3/0 RW90 & **#6 Insulated** Copper Neutral	**1 ½”**	**1 ½”**
	3 - 3/0 RW90 (Full Sized Neutral)	**2”**	**1 ½”**
Aluminum:	2 – 250MCM RW90 & **#4 Insulated** Copper Neutral	**2”**	**2”**
	3 – 250MCM RW90 (Full Sized Neutral)	**2”**	**2”**

2024 CEC

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Section 6 Services and Service Equipment

SERVICE PIPE FILL

200 Amp Service		PVC Conduit	EMT Conduit
Copper:	2 - 3/0 RW90 & **#6 Insulated** Copper Neutral	**1 ½"**	**1 ½"**
	3 - 3/0 RW90 (Full Sized Neutral)	**2"**	**1 ½"**
Aluminum:	2 – 250MCM RW90 & **#4 Insulated** Copper Neutral	**2"**	**2"**
	3 – 250MCM RW90 (Full Sized Neutral)	**2"**	**2"**

200 Amp Service with Isolated Neutrals		PVC Conduit	EMT Conduit
Copper:	2 - 3/0 RW90 & **#6 Insulated** Copper Neutral & **#6 Cu**	**1 ½"**	**1 ½"**
	3 - 3/0 RW90 (Full Sized Neutral) & **#6 Cu**	**2"**	**2"**
Aluminum:	2 – 250MCM RW90 & **#4 Insulated** Copper Neutral & **#4 Cu**	**2"**	**2"**
	3 – 250MCM RW90 (Full Sized Neutral) & **#4 Cu**	**2"**	**2"**

200 Amp service pipe sizes with isolated neutrals have slightly changed due to the requirement of a separate bonding conductor.

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Section 6 Services and Service Equipment

Manitoba Electrical Code Amendment

Rule 6-400 (Metering equipment) is amended by renumbering it as Subrule 6-400 1) and adding the following as Subrule 2):

2) To determine the type of metering equipment required by the supply authority, reference shall be made to supply authority metering standards.

In the case of a conflict between those standards and Rules 6-402 to 6-412, the metering standards prevail.

Section 6 Services and Service Equipment

Manitoba Electrical Code Amendment

6-400 Metering equipment

All metering equipment in areas served by Manitoba Hydro must be installed in conformance with the Manitoba Hydro Customer Metering Standard.

This document is available online.

Deviations to this standard must be requested and approved in advance by Manitoba Hydro.

Section 8 Circuit loading and demand factors

There has been a revision to the demand factors applied when accounting for electric vehicle energy supply loads in a variety of occupancies.

Table 38 for determining EV supply loads has been deleted

New provisions for approved Electric Vehicle Energy Management Systems (EVEMS) to monitor and control EV supply loads with the aim of reducing service and conductor sizes where such loads are being included.

Reduction in the number of required spare circuit locations for new installations.

There has been an increase in the number of outlets permitted on a branch circuit

Section 8 Circuit loading and demand factors

8-102 Voltage drop

There has been a change in the Appendix D Tables and CSA CEC method for calculating voltage drop (see Appendix B)

This change in method is “informative” and not mandatory. It may be used at the discretion of the installer when a voltage drop calculation is requested by the Authority Having Jurisdiction.

Also, Manitoba Electrical Code Subrule 8-102 1) (Voltage drop) is amended, in the part before Item a), by striking out "the feeder or branch circuit" and substituting "the branch circuit".

Section 8 Circuit loading and demand factors

Manitoba Electrical Code Amendment

8-102 Voltage drop

Subrule 8-102 1) (Voltage drop) is amended, in the part before Item a), by striking out "the feeder or branch circuit" and substituting "the branch circuit".

Section 8 Circuit loading and demand factors

Calculated load for services and feeders

There has been a significant change in the methods for determining calculated loads where electric vehicle supply equipment is being installed in different types of buildings.

Installers are advised to read these calculations in Rules 8-200 to 8-210 for a better understanding.

Section 8 Circuit loading and demand factors

Calculated load for services and feeders

New Manitoba Electrical Code Amendment

Item 8-202 3) d) (Apartment and similar buildings) is replaced with the following:

d) except as permitted by Subrule 8-106 10) or 11), any electric vehicle equipment loads shall be added with a demand factor of 100%; and

Section 8 Circuit loading and demand factors

8-106 Use of demand factors

Note that Subrules 10) and 11) refer to the installation of **Electric Vehicle Energy Management Systems**

These systems are described in **Rule 8-500 Electric vehicle energy management systems.**

These systems must be approved and installed according to the applicable CSA Standards.

Please see Technical Interpretations **8-106 A Equipment with variable demand loads** and **8-500 Acceptability of EVEMS** for additional information.

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Section 8 Circuit loading and demand factors

Manitoba Electrical Code Technical Interpretation

8-500 Acceptability of EVEMS

Rule 8-500 Electric vehicle energy management systems

All field-assembled Electric Vehicle Energy Management Systems (EVEMS) must undergo a SPE-1000 field evaluation. The evaluation report must reference all applicable standards and documents to confirm compliance with CSA C22.2 No. 343, Electric Vehicle Energy Management Systems.

This requirement may apply to EVEMS incorporating remote current transformers or similar remote components.

Refer to the EVEMS Acceptance Informative Bulletins on the Manitoba Hydro Codes and Standards webpage and on the City of Winnipeg Construction information bulletins webpage.

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Section 8 Circuit loading and demand factors

8-106 Use of demand factors

Note that there are several additional Technical Interpretations regarding Section 8 Circuit loading and demand factors.

Installers are encouraged to review these important items.

Section 8 Circuit loading and demand factors

Example: **8-106 D Load increases to existing services**

Rule 8-106 Use of demand factors

Manitoba Hydro requires notification prior to any load increase to an existing service including within the City of Winnipeg. See hydro.mb.ca/service/connections/ for further information.

Section 8 Circuit loading and demand factors

8-304 Maximum number of outlets per circuit

The 2021 CSA CEC recognized that overcurrent devices are rated for either 80% or 100% continuous load.

8-304 1) Except as permitted by other Rules of this Code, the maximum number of outlets on any 2-wire branch circuit shall not exceed the following:

a) 12 outlets for a 15 A branch circuit where the fused switch or circuit breaker is marked for continuous operation at 80%;

c) 16 outlets for a 20 A branch circuit where the fused switch or circuit breaker is marked for continuous operation at 80%; and

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MEC Rule 8-304 2)

Equals 2 outlets

Equals 1 outlet

Equals 1.5 outlets

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Section 10 Grounding and bonding

There have been some changes to the CSA CEC Part 1 in 2021 and 2024 to restore bonding rules that were previously omitted in 2018.

Generally, Section 10 will be applied as written except for the following Manitoba Electrical Code Amendments.

Be aware there are also two new and important definitions that will affect installations.

Section 10 Special Terminology

Solidly grounded system — an electrical system in which a point of that system is connected, without inserting an impedance grounding device,

a) to a system bonding jumper; **and**

b) to a grounding electrode or to a conductive body that extends the ground connection.

The grounding conductor shall be without joint or splice as per Manitoba Electrical Code Amendment

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Solidly grounded system

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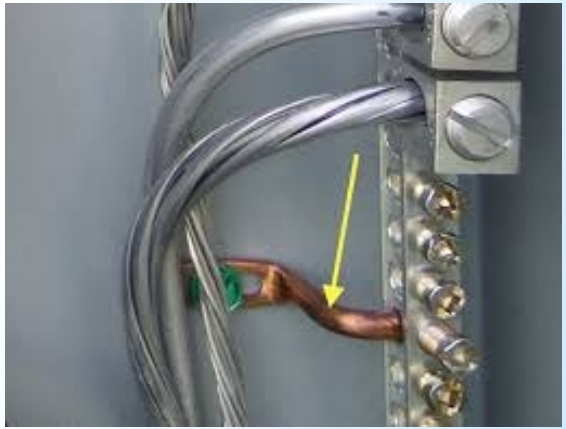
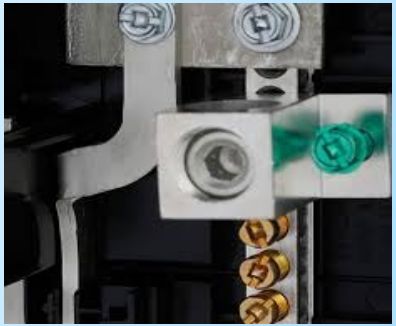
Section 10 Special Terminology

System bonding jumper — a connection between the point of an electrical system to be solidly grounded and the non-current-carrying conductive parts of that electrical system.





Where the system bonding jumper provided by the manufacturer is removed or missing, a field-installed system bonding jumper is sized in accordance with Rule 10-616.

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Section 10 — Grounding and bonding

Manitoba Electrical Code Amendment

Item 10-102 2) a) (Grounding electrodes) is replaced with the following:

a) in the case of a rod grounding electrode, consist of two rod electrodes that are

i) copper-bonded, copper-clad or stainless steel;

ii) not less than 15.8 mm in diameter;

iii) approved to the CSA C22.2 No. 41(Grounding and bonding equipment) standard;

iv) spaced not less than 3 m apart;

v) interconnected with a grounding conductor sized as prescribed for grounding conductors; and

vi) driven to the full length of the rod;

Section 10 — Grounding and bonding

Manitoba Electrical Code Amendment

Subrule 10-116 1) (Installation of grounding conductors) is replaced with the following:

1) The grounding conductor for a system shall be without joint or splice throughout its length, except in the case of busbars, thermit-welded joints or compression connectors applied with a compression tool compatible with the particular connector.

Section 10 — Grounding and bonding

Manitoba Electrical Code Amendment

Subrule 10-116 5) is amended, in the part before Item a), by striking out "service conductors" and substituting "other conductors".

This change requires a grounding conductor installed in the same raceway with any conductors shall be insulated, except that an uninsulated grounding conductor shall be permitted where the length of the raceway does not exceed 15 m between pull points and two 90° bends or equivalent between the pull points.

Section 10 — Grounding and bonding

10-206 AC systems required to be solidly grounded

1) Except as permitted by Subrule 2), ac systems exceeding extra-low voltage shall be **solidly grounded.**

2) AC systems in other than dwelling units shall be permitted to be ungrounded or impedance grounded.

3) Extra-low-voltage ac systems shall be solidly grounded where

a) run overhead outside;

b) supplied by transformers energized from systems of more than 150 volts-to-ground; or

c) supplied by transformers energized from ungrounded systems.

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Section 10 Grounding and bonding

Rule 10-210 Manitoba Electrical Code Amendment

This rule has been amended in its entirety to continue the practice in Manitoba of solidly grounding AC systems by being connected to a grounding conductor at each consumer's service with the connection being made on the supply side of the service disconnecting means in the service box.

Consumer service grounding is not permitted in metering equipment.

This Amendment and Rule 10-206 require that all residential services are to be solidly grounded at the service box.

Section 10 — Grounding and bonding

Manitoba Electrical Code Amendment

Rule 10-210 (Grounding connections for solidly grounded ac systems supplied by the supply authority) is replaced with the following:

10-210 Grounding connections for solidly grounded ac systems (see Appendix B)

1) The grounded conductor of a solidly grounded ac system supplied by the supply authority shall
   a) be connected to a grounding conductor at the consumer's service with the connection being made on the supply side of the service disconnecting means in the service box;
   b) have a minimum size as specified
      i) for a bonding conductor; and
      ii) for a neutral conductor when the grounded conductor also serves as a neutral;
   c) be connected to the equipment bonding terminal by a system bonding jumper; and
   d) have no other connection to the non-current-carrying conductive parts of electrical equipment on the load side of the grounding connection.

2) Where two or more buildings or structures are supplied from a single consumer's service,
   a) the grounded circuit conductor at each of the buildings or structures shall be connected to a grounding electrode and be connected to the equipment bonding terminal by a system bonding jumper; or
   b) the non-current-carrying conductive parts of the electrical equipment in or on the building or structure shall be bonded to ground by a bonding conductor run with the feeder or branch circuit conductors.

3) Where the system is grounded at any point, the grounded conductor shall be run to each service.

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Section 10 — Grounding and bonding

10-212 Grounding connections for solidly grounded separately derived ac systems (see Appendix B)

There is a new Subrule 3)

10-212 3) A separately derived ac system operating at 750 V or less shall be permitted to be grounded by the **system bonding jumper** that is connected to the bonding conductor included in the primary supply.

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Section 10 Grounding and bonding

New Manitoba Electrical Code Technical Interpretation

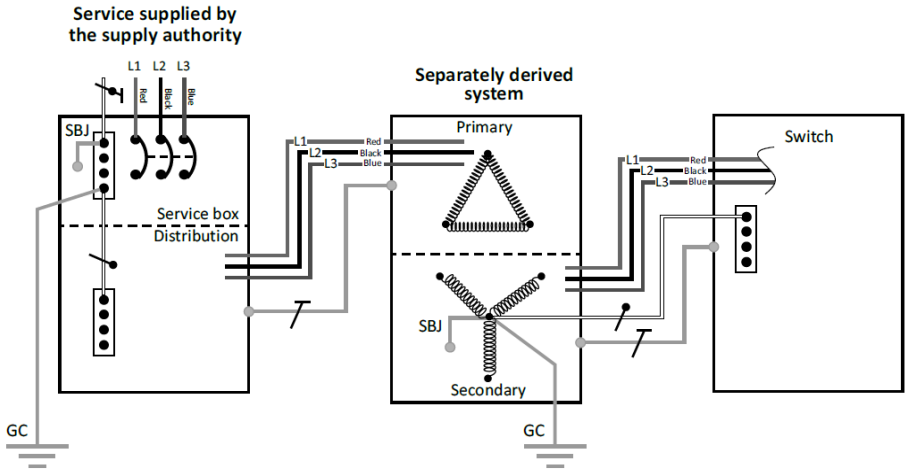
Rule 10-212 3)

The use of the bonding conductor supplied in the primary circuit may be used for grounding a transformer and is not required to meet the grounding conductor rules provided both the primary and secondary are 750 Volts or less. Refer to Appendix B and Figure B10-11.

When using a system bonding jumper as permitted in Subrule 3 ensure that it is sized to Table 16 using the secondary current rating.

Section 10 — Grounding and bonding

Figure B10-7
Separately derived system grounded at the source



Appendix B

The system bonding jumper (SBJ) must be sized to Table 16

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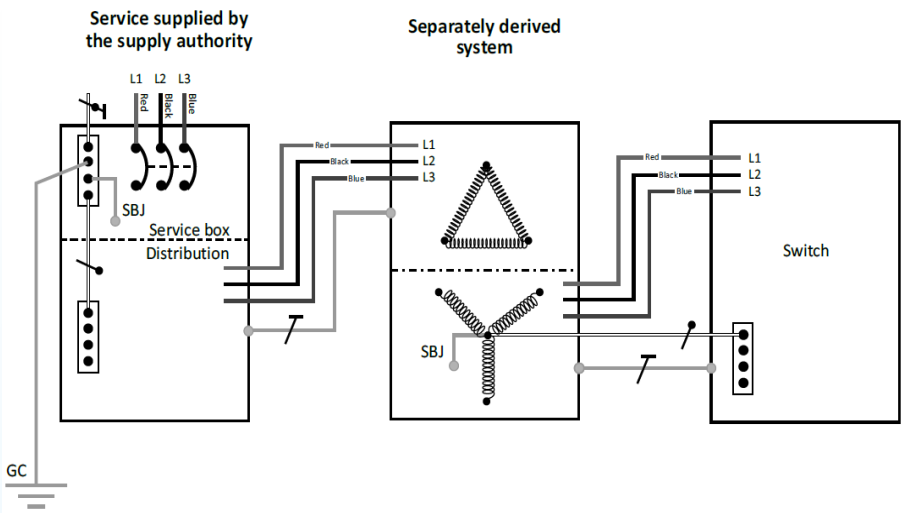
Section 10 — Grounding and bonding

Figure B10-11
Grounding alternative for a separately derived system operating at 750 V or less



Appendix B
This method is permitted by 10-212 Subrule 3)
The system bonding jumper (SBJ) must be sized to Table 16

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Section 10 — Grounding and bonding

New Manitoba Electrical Code Technical Interpretation

10-600 Bonding of metallic sleeves for extra low voltage cables

Rule 10-600 Bonding for fixed electrical equipment

Short lengths of metallic raceways used as sleeves for extra low voltage cables (e.g.: communication, data, video, thermostats, etc.) shall not be required to be bonded. This is limited to conduit stubs that do not leave the room they serve.

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Section 10 — Grounding and bonding

10-616 Size of system bonding jumper or bonding conductor

2) The size of a bonding conductor installed in accordance with Rule 10-604 at service equipment shall not be less than that determined in accordance with Table 16 based on the ampacity of the largest ungrounded conductor.

3) The size of a field-installed bonding conductor installed at other than service equipment shall not be less than that determined in accordance with Table 16 based on

a) the ampere rating or setting of the overcurrent device protecting the ungrounded conductors; or

b) the ampacity of the largest ungrounded conductor for installations where the size of the circuit conductors is increased to compensate for voltage drop.

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Table 16
Minimum size of field-installed system bonding jumpers and bonding conductors

(See Rule 10-614.)

4-018 & 10-210 Reduced Neutrals

Ampere rating or setting of overcurrent device protecting conductor(s), equipment, etc. Not exceeding	Allowable ampacity of largest ungrounded conductor or group of conductors.	Minimum size of system bonding jumper and bonding conductor			
		Wire		Bus	
		Copper, AWG or kcmil	Aluminum, AWG or kcmil	Copper, mm²	Aluminum, mm²
20		14	12	2.0	3.5
30		12	10	3.5	5.5
60		10	8	5.5	8.5
100		8	6	8.5	10.5
200		6	4	10.5	21.0
300		4	2	21.0	26.5
400		3	1	26.5	33.5
500		2	0	33.5	42.5
600		1	00	42.5	53.5
800		0	000	53.5	67.5
1000		00	0000	67.5	84.0
1200		000	250	84.0	127.0
1600		0000	350	107.0	177.5
2000		250	400	127.5	203.0
2500		350	500	177.5	253.5
3000		400	600	203.0	355.0
4000		500	800	253.5	405.5
5000		700	1000	355.0	507.0
6000		800	1250	405.5	633.5

use this column when not an electrical service

use this column for Electrical Service reduced neutrals& for voltage drop

10-616 and Table 16

Note we also use this Table to size reduced neutral conductors

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Section 12 Wiring methods

Manitoba Electrical Code Amendment Item 12-000 1) a) (Scope) is repealed.

12-000 Scope (see Appendix B)

1) The provisions of Section 12 apply to all low-voltage and extra-low-voltage wiring installations except for:

~~a) Class 2 circuits unless otherwise specified in Rules 12-2300 to 12-2320 and Section 16;~~

This exception has now been removed.

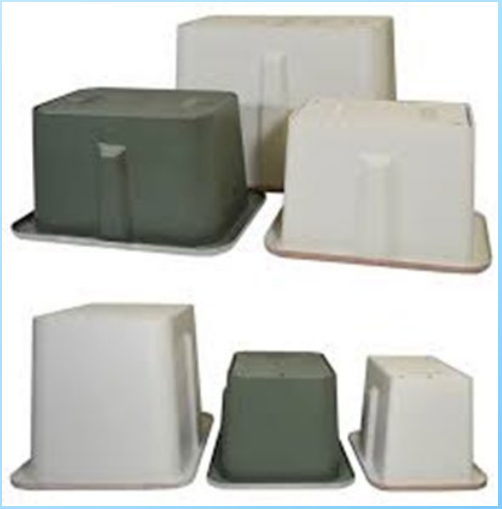
Section 12 applies to Class 2 wiring.

Section 12 Wiring methods

12-002 Special terminology

In this Section, the following definition shall apply:

Grade level in-ground enclosure — a housing for which the top is installed flush with the ground, and which provides access to equipment located therein through a secured cover.



Make sure the enclosure bears the applicable approval marking

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Section 12 Wiring methods

12-012 Underground installations

12-012 14) Grade level in-ground enclosures shall be used in accordance with the manufacturers' design class (tier).

12-012 15) Except for splicing installed in accordance with Rule 12-112, devices such as receptacles and switches shall not be permitted in grade level in-ground enclosures.

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Section 12 Wiring methods

12-012 Underground installations

12-012 1) Direct buried cables or raceways shall be installed to meet the minimum cover requirements of Table 53.

12-012 2) Where the depth specified in Rule 4-004 1) d) to g), or Rule 4-004 2) d) to g) for the purposes of determining the ampacity of direct buried cables or raceways, is less than the depth required by **Table 53**, the requirements of **Table 53** shall apply.

This change could affect underground ampacities, especially high voltage.

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Section 12 Wiring methods

12-022 Cables or raceways installed in roof decking systems

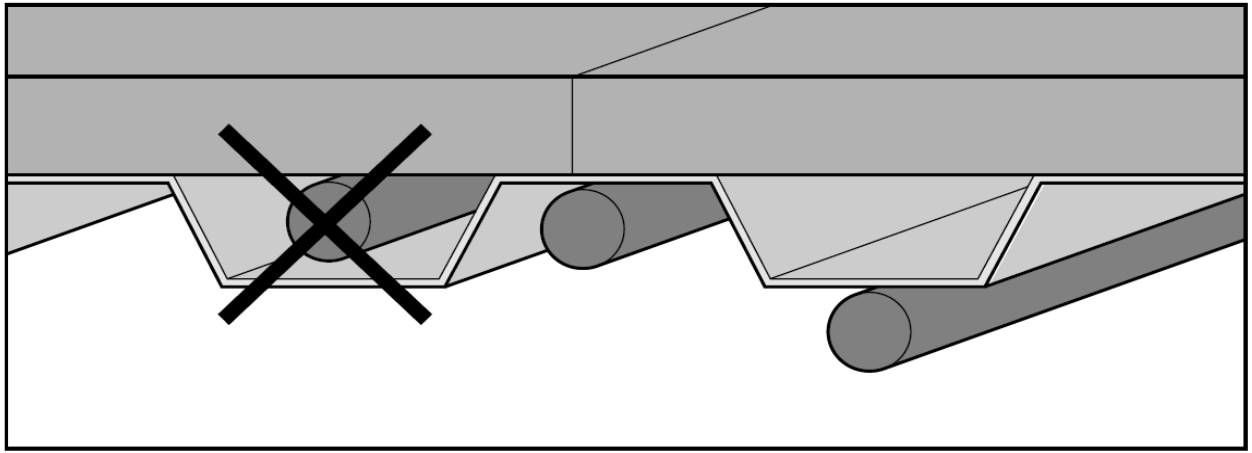
Cables or raceways shall not be installed in locations concealed within a roof decking system where there is possibility of damage from screws or other metal penetrating fasteners.

There are some exceptions such as some Class 2 wiring and trace heating

Where wiring is concealed within the roof decking system a warning label shall be affixed at all permanently installed roof access points and in a conspicuous location in the roof area where the wiring is installed.

12-022 Appendix B

Figure B12-1
Cables or raceways installed in roof decking systems



It is not the intent of this Rule to require the relocation of existing cables or raceways when a roof decking system is repaired or replaced.

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Section 12 Wiring methods

Rule 12-112 Conductor joints and splices

New Subrules 5) and 6) now permit the use of splices with approved splice materials rated for u/ground in grade level in-ground enclosures intended for the purpose and not subject to vehicular traffic.

The splice connectors and materials must be suitable for wet locations.

Section 12 Wiring methods

Exposed wiring on exteriors of buildings and between buildings on the same premises

12-300 Exterior exposed wiring Rules

Rules **12-302** to **12-320** apply only to exposed wiring run on the exterior surfaces of buildings or between poles, and buildings on the same premises.

There are some changes to the rules for exposed wiring. Installers doing these type of installations should review them. We will highlight two important changes.

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Section 12 Wiring methods

12-308 3) now restricts the distance between poles used for supporting neutral supported cables to not more than 40 meters apart.

12-318 1) requires that when neutral supported cables are used, they shall be supported in spans of not more than

40 m in length when attached to other than a mobile home, relocatable structure, or similar structure; or

10 m in length when the final point of attachment is to a mobile home, relocatable structure, or similar structure;

In addition, the sag shall not be less than the minimum sag detailed in Table 72 or as permitted by the manufacturer and AHJ

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Section 12 Wiring methods

12-500 Non-metallic-jacketed cable (see Appendix B)

1) Rules 12-500 to 12-524 apply to non-metallic-jacketed

a) cables other than Types NMD90 and NMWU; and

b) Type FAS cables installed as part of a fire alarm system in accordance with Section 32.

2) Rules 12-500 to 12-524 do not apply to

a) non-metallic-jacketed cables including Types NMD90 and NMWU that are used in Class 2 applications and are installed in accordance with Section 16;

b) cables and flexible cords used in accordance with Rule 12-102 4); and

c) mineral-insulated cable, aluminum-sheathed cable, copper-sheathed cable, and armoured cables with or without a jacket covered by Rules 12-600 and 12-700.

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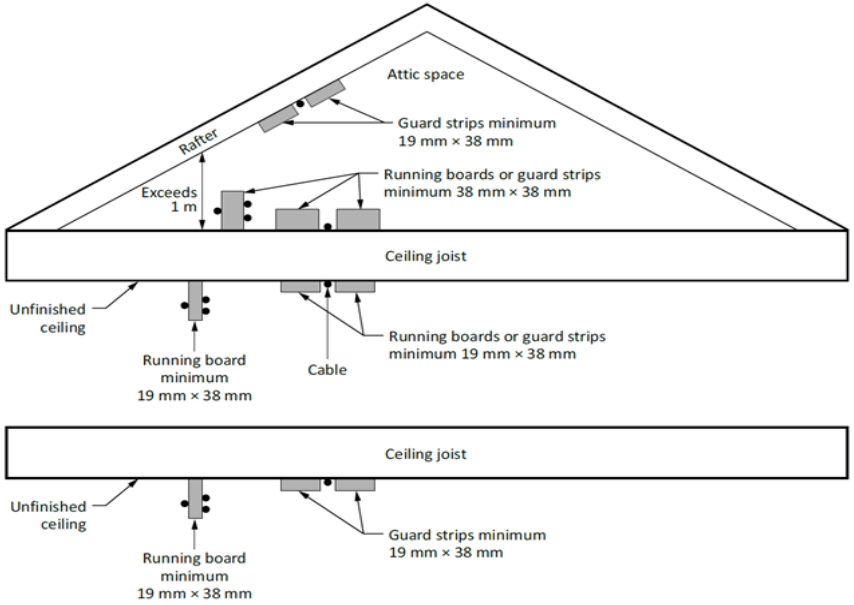
Section 12 Wiring methods

12-564 Protection of cables in non-concealed locations

Figure B12-3
Running boards and guard strips



Guard strips are typically two pieces of wood installed, one on each side of the cable, to prevent someone from standing on or kneeling on the cable as shown in Figure B12-3.

Cables run in non-concealed locations must be supported (fastened) and protected.

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12-566 Protection for cables in concealed installations

Where the cable is run along studs, joists, or similar members, the cable shall be kept a minimum of 32 mm from the edges of the members that can be covered by drywall or a similar material;

Section 12 Wiring methods

Manitoba Electrical Code Technical Interpretation

12-608 Bonding bushing in non-metallic enclosures

Rule 12-608 Continuity of armoured cable

It is permissible to omit the bonding bushing in non-metallic enclosures at the final point of termination if the cable is bonded at the supply end and maintained throughout the rest of the run provided the equipment is bonded using the internal bonding conductor of the cable.

Section 12 Wiring methods

12-930 Raceways installed underground or where moisture may accumulate

12-930 1) The requirements for Category 1 locations as specified in Section 22 shall be complied with where raceways are installed

a) underground;

b) in concrete slabs in direct contact with the earth;

c) in the portion of masonry in direct contact with the earth; or

d) in other locations where the conductors are subject to moisture.

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Section 12 Wiring methods

Manitoba Electrical Code Amendment

Rule 12-2208 (Provisions for bonding) is replaced with the following:

12-2208 Provisions for bonding (see Appendix M)

Metal cable trays shall be adequately bonded at intervals not exceeding 15 m and the size of bonding conductors shall be based on the size of the largest ungrounded conductor or equivalent for multiple conductors carried by the cable tray, in accordance with Subrules 10-616 1), 2) and 3).

Section 14 Protection and control

14-100 Overcurrent protection of conductors

14-100 2) indicates that notwithstanding the requirements for overcurrent protection in Subrule 1), consumer's service conductors shall be permitted to be protected by an overcurrent device at the service equipment.

Note that this Subrule does not take precedence over MEC Rule 6-206 Consumer's service equipment location, which requires the service box to be located as close as practicable to where the unfused service conductors enter the building.

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Section 14 Protection and control

New Manitoba Electrical Code Technical Interpretation

14-106 Location and grouping

Suitable permanent access must be provided to serve all overcurrent devices.

Section 14 Protection and Control

Manitoba Electrical Code Amendment

Subrule 14-606 2) (Panelboard overcurrent protection) is replaced with the following:

2) Where the voltage does not exceed 1000 V, the overcurrent protection required by Subrule 1) shall be permitted to be in the primary of the transformer supplying panelboards or splitters, provided that the panelboard or splitter rating in amperes is not less than the overcurrent rating in amperes multiplied by the ratio of the primary to the secondary voltage.

Section 14 Protection and control

New Manitoba Electrical Code Technical Interpretation

14-612 Standby equipment

Rule 14-612 Transfer equipment for standby power systems

When installing an inlet for provision of the connection of a portable generator, a permanently affixed label must be installed indicating the maximum permissible generator overcurrent.

Installers must be aware of the grounding requirements of 10-214.

Section 18 Hazardous Locations

CSA introduced significant revisions to the marking of equipment intended for use in hazardous locations in 2021 and 2024.

Introduction by CSA CEC Section 18 of new terms related to the sealing of conduits and cables (process seals, fluid migration seals, primary process seals, dual process seals, etc.) located in Zone 0, 1 and 2 locations.

The type of seal may have changed slightly, but the sealing requirements have generally been maintained for Zones 0, 1 and 2.

Additional information and explanation has been added to Appendix B regarding the selection of suitable HAZLOC equipment.

Section 18 Hazardous Locations

There have been significant revisions to the previous Section 18 rules.

There is a greater reliance on Appendix B Tables and explanations.

Time does not allow us to go into detail concerning specific requirements that have changed.

There are resources available from CSA and others for training in Section 18.

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Section 18 Hazardous locations

New Manitoba Electrical Code Technical Interpretation Woodworking shops Rules 18-190 to 18-256 Explosive dust atmospheres classification

Previous relaxations in the former T.I. have been removed. Woodworking shops, woodworking industrial arts classrooms, or similar installations shall be classified and/or designed by an engineer.

Residential spaces used for personal use will not be considered woodworking shops (ie: not manufacturing for sale). A declaration letter from the owner will be required.

Installations of equipment added to existing woodworking shops may be designed to the accepted classification established under the previous Code when the shop was constructed provided the conditions have not changed.

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Section 20 Finishing processes

Manitoba Electrical Code Technical Interpretation
20-300 Spray booth field certification
Rules 20-300 to 20-314 Finishing processes

Site assembled spray booths require a field certification by an accredited field evaluation agency.

The agency must be accredited for the certification of electrical equipment intended for use in, or that creates, a hazardous location.

Section 22 Wet and corrosive locations

Manitoba Electrical Code Technical Interpretation
22-704 Classification of sewage lift and treatment plants
Rule 22-704 Classification of areas

Classification of sewage lift and treatment plants must be submitted under seal of an electrical engineer.

The previous drawings supplied as a guide have been removed from the Technical Interpretations.

Section 22 Wet and corrosive locations

Farm buildings housing livestock
22-800 Scope (see Appendix B)

Rules 22-802 to 22-808 apply to electrical equipment and installations in farm buildings housing livestock.

22-802 Special terminology (see Appendix B)

In this Subsection, the following definitions shall apply:

Livestock — farm animals including, but not limited to, cattle, horses, swine, sheep, goats, poultry, ratites, cultured fish, fur-bearing animals, game animals, game birds, deer, elk, and bees.

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Section 22 Wet and corrosive locations

Manitoba Electrical Code Amendment

Subrule 22-806 1) (Electrical equipment, luminaires, and receptacles) is replaced with the following:

1) Electrical equipment shall be installed in accordance with Rules 22-102 to 22-108.

Manitoba Electrical Code Amendment

Item 22-806 3) b) (Electrical equipment, luminaires, and receptacles) is repealed.

These amendments provide clarification for installers.

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Section 22 Wet and corrosive locations

New Manitoba Electrical Code Technical Interpretation
22-808 Wiring methods for buildings housing livestock or poultry
Rule 22-808 Wiring methods

Electrical metallic tubing shall be permitted in areas classified as ordinary location within a building housing livestock. CMG and CMX cables shall be permitted for Class 2 circuits.

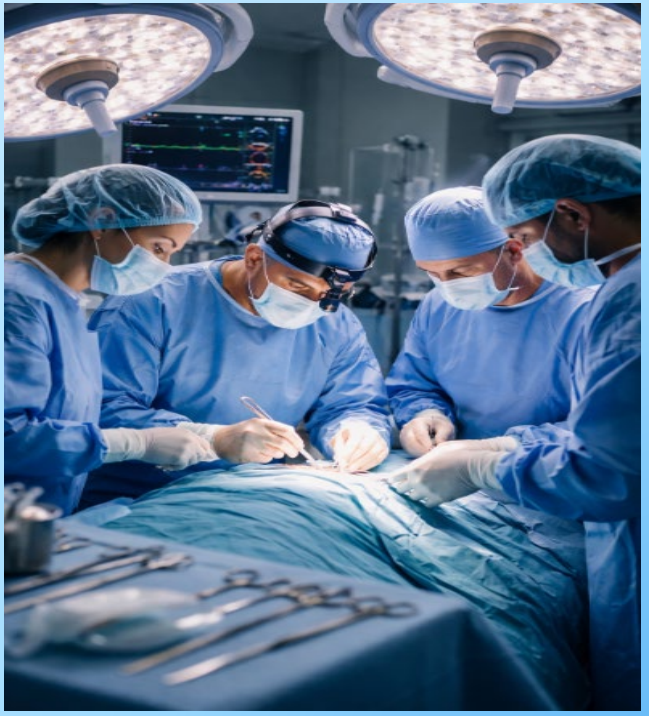
Section 24

Changes to panel board requirements and locations in Patient Care areas.

Changes to wiring methods for patient care: requiring 2 wire circuits in patient care areas except for multi-phase equipment.

Changes to the types of receptacles permitted.

Expanded requirement for tamper resistant receptacles.



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Section 24 — Patient care areas

New Manitoba Electrical Code Technical Interpretation
24-100 Patient care areas
Rule 24-100 Rules for patient care areas

The Patient Care Area Declaration Form identifying patient care areas, or the absence thereof, must be submitted for all projects for health care facilities.

Refer to the Guide to electrical patient care areas for additional information and requirements for the City of Winnipeg and for Manitoba Hydro

Section 26 — Electrical equipment

Revised T.I. for Rule 26-254

A table has been provided as a guideline for acceptable overcurrent protection of transformers.

Section 26 Installation of Electrical Equipment

26-600, 26-602 and 26-656 Clarification of the rules for panel boards and branch circuits serving secondary suites

26-652 Ground Fault Protection is required for circuits located below grade level in buildings located in flood hazard zones

26-700 Clarification on where you can locate receptacles behind sinks

26-712 New requirements for sump pumps in flood hazard zones

26-724 New rules requiring additional outdoor receptacles for dwelling units

Section 26 — Installation of electrical equipment

26-656 clarifies the requirements for the installation of smoke alarms in dwellings with secondary suites.

26-704 requires expanded GFCI protection for outdoor receptacles

Previous MEC Amendments requiring a driveway receptacle and branch circuit have been removed.

Storage batteries have been moved to Section 64.

26-954 and 26-956 Clarification of the wiring methods for submersible pumps and wells

Section 26 — Installation of electrical equipment

New Manitoba Electrical Code Technical Interpretation
26-600 A Suitable access
Rule 26-600 Locations of panelboards

Where required due to differing elevation, permanent means must be installed to provide ready access to panelboards. A portable ladder is not considered as providing permanent access.

Section 26 Installation of Electrical Equipment

New Manitoba Electrical Code Technical Interpretation

TI 26-652 GFCI location in flood hazard zones

Rule 26-652 Branch circuits below ground level in areas designated as flood hazard zones

The GFCI protection required by Rule 26-652 shall be located above the flood hazard zone. For renovations or alterations, the GFCI protection shall not be located at an elevation lower than the existing panelboard feeding the branch circuit.

Section 26 Installation of Electrical equipment

New Manitoba Electrical Code Technical Interpretation

26-704 GFCI protection for vehicle heater or septic/drain pump receptacles

Subrule 26-704 2) Protection of receptacles by a ground fault circuit interrupter of the Class A type

When a written request to the City of Winnipeg designated employee or the Manitoba Hydro Electrical Inspection Department is provided and approved, GFCI protection for vehicle block heater receptacles intended for use by emergency vehicles, fleet vehicles and the like may be omitted. A permanently affixed label reading “no GFCI protection” must be provided.

Ground fault protection shall not be required for septic/drain pump receptacles where the inadvertent operation of the GFCI could cause a health risk or property damage.

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Section 26 Installation of Electrical equipment

New Manitoba Electrical Code Technical Interpretation

26-720 Controlled outlet duplex receptacles

Item 26-720 k) Receptacles for residential occupancies – General

A controlled outlet duplex receptacle will not be acceptable to satisfy the lighting outlet and luminaire requirements in accordance with the Manitoba Building Code (See TI 30-1). Such wireless control shall be permitted as a supplementary device only.

Section 26 Installation of Electrical equipment

New Manitoba Electrical Code Technical Interpretation

TI 26-724 Outdoor receptacles for vehicle parking

Subrule 26-724 1) Outdoor and garage receptacles for single dwellings

At least one duplex receptacle shall be provided for each driveway or other area where there is provision for vehicle parking. Where two outdoor receptacles are required for a single dwelling per Subrule 26-724 1), one of the duplex receptacles may be used for this purpose.

Section 26 Installation of Electrical equipment

New Manitoba Electrical Code Technical Interpretation

26-722 Receptacles for kitchen counter work surfaces

Rule 26-722 Receptacles for dwelling units

1) Receptacles for kitchen counter work surfaces shall be located in one or more of the following:

a) In, on or above the counter work surface including mounted to the underside of the upper cabinets, but not more than 500 mm above it, providing they are mounted along the wall.

b) For islands and peninsulas, when mounted below the counter work surface, as close as practicable to the counter work surface.

Section 26 Installation of Electrical equipment

New Manitoba Electrical Code Technical Interpretation
26-722 Receptacles for kitchen counter work surfaces
Rule 26-722 Receptacles for dwelling units

2) The Appendix B note to Items 26-722 d) iv) and v) states that a continuous counter surface is one that is not interrupted by sinks, ranges and other built-in equipment.

3) A room or area intended to be used as an extension of the kitchen (e.g. spice kitchen, cooking or food prep area) may be required to meet the requirements of this Rule. The intent of the space should be clarified with the owner.

4) An additional kitchen (with cooking facilities) in another area of the dwelling, shall be provided with counter receptacles meeting the requirements of this Rule.

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Section 26 Installation of Electrical equipment

New Manitoba Electrical Code Technical Interpretation
26-722 Receptacles for kitchen counter work surfaces
Rule 26-722 Receptacles for dwelling units

5) Item 26-722 d) iv) requires that at least one receptacle be installed at each permanently fixed island counter space with a long dimension of 600 mm or greater and a short dimension of 300 mm or greater.

For the purpose of this rule, an island is considered to be permanently fixed unless mounted on wheels.

Refer to the T.I. for diagrams providing additional clarification.

Section 26 Installation of Electrical equipment

New Manitoba Electrical Code Technical Interpretation

26-724 Outdoor receptacles for vehicle parking

Subrule 26-724 1) Outdoor and garage receptacles for single dwellings

At least one duplex receptacle shall be provided for each driveway or other area where there is provision for vehicle parking. Where two outdoor receptacles are required for a single dwelling per Subrule 26-724 1), one of the duplex receptacles may be used for this purpose.

Section 30 Lighting

The biggest change in Section 30 concerns the removal of the rules for residential lighting formerly found in Sub-section 30-500.

The CSA Part 1 Technical Committee had decided that since these rules are also found in the National Building Code, they were an unnecessary duplication in the CSA CE Code.

For your convenience, we have reprinted the Manitoba Building Code lighting requirements from 9.34.2. in new T.I. 30-1.

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Section 32 — Fire alarm systems, smoke alarms, carbon monoxide alarms, and fire pumps

Manitoba Electrical Code Technical Interpretations
32-200 A supply voltage for smoke and carbon monoxide alarms
Rule 32-200 Installation of smoke alarms and carbon monoxide alarms in dwelling units

To meet the requirements of Subrule 32-200 1) a), smoke alarms and carbon monoxide alarms must be 120 Volts.

32-200 B Circuits for heat sensors

Rule 32-200 Installation of smoke alarms and carbon monoxide alarms in dwelling units

Where a heat sensor is required to be installed in attached garages of dwelling units per Manitoba Building Code Article 9.10.19.A., it must be connected to a lighting circuit that is not protected by an AFCI or GFCI.

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Section 36 High voltage

New Manitoba Electrical Code Technical Interpretation
36-000 Applicable CSA Part III standards for high voltage installations
Rule 36-000 Scope

High-voltage installations not covered in the Manitoba Electrical Code shall meet the requirements of the applicable CSA Part III standards.

Section 36 High voltage

36-002 Special terminology

Coupler — a wiring device that provides the means for joining and separating two portable power cables and is intended to be used repeatedly without any further alterations to the cables.

New rules for high voltage couplers starting in 36-400

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Section 36 High voltage

New Manitoba Electrical Code Technical Interpretation

36-204 Accessible ground operated switch handles

Rule 36-204 Overcurrent protection

Each break load interrupting device or break air break switch required by Items 36-204 1) b) and c) shall have a ground operated switch handle located in a readily accessible location. This will apply to single phase and three phase installations.

Section 36 High Voltage

New Manitoba Electrical Code Amendment

Item 36-302 1) a) (Station ground electrode) is replaced with the following:

a) consist of a minimum of four driven copper-clad or copper-bonded ground rods not less than 3 m long and 17.09 mm in diameter spaced at least the rod length apart and, where practicable, located adjacent to the equipment to be grounded;

MEC Amendment Section 38 Rule 38-051

Machine room less elevators

These are elevators without a conventional machine room or area to house equipment related to the elevator. The location of the required disconnecting means can be problematic.

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Section 38 Elevators

New Manitoba Electrical Code Amendment

The following is added after Subrule 38-051 5) (Disconnecting means):

5.1) Notwithstanding Subrule 5), for elevators with no machine room, the disconnecting means shall be

a) permitted to be located in an electrical room;

b) capable of being locked in the open position; and

c) equipped with permanent signage at the elevator being serviced indicating the location of the disconnecting means.

Section 62 Fixed electric heating systems

Most of the changes in Section 62 occurred in 2021.

The majority had to do with heat trace cable installation and similar heating systems.

The term “heat trace” is now referred to as “Trace Heating”.

There are a few unique requirements related to these type of installations.

Please refer to the Technical Interpretations for Trace Heating.

Most of the other Section 62 requirements are unchanged or clarified.

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Section 64 Renewable energy systems, energy production systems, and energy storage systems

Section 64 has undergone significant changes in 2021 and 2024.

There are new definitions for commercial and residential energy storage systems, referring to UL Standards recognized by the CSA.

There have been changes from 2021 to 2024 regarding the structural requirements and fire rating when these systems are installed within residential buildings.

Changes concerning the location of PV inverters and disconnecting means.
Changes to the PV rapid shutdown requirement.

Storage batteries are now in Section 64 with their own subsection.

Section 64 Renewable energy

Please refer to the Manitoba Electrical Code Technical Interpretations and the respective City of Winnipeg and Manitoba Hydro websites for further information regarding renewable energy installations and the technical requirements.

Section 68 Pools, spas, and hot tubs

Manitoba Electrical Code Technical Interpretation
68-058 A Bonding requirements for pools
Rule 68-058 Pool bonding

Code users should be aware that when using encapsulated reinforcing steel (rebar) for pools, a copper bonding grid must be installed per Item 68-058 4) c). This includes splash pads.

Please refer to the **Information Bulletin Section 68 Bonding Requirements** for additional important information.

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Section 68 Pools, spas, and hot tubs

Spas and hot tubs

68-058 Pool bonding There are now additional bonding requirements for spas and hot tubs located under the pool bonding rules.

Rule 68-072 Disconnecting means for pool pumps, spas, and hot tubs now requires a readily accessible disconnecting means at least 1.5 meters from the equipment, including one located outside when the equipment is located outside, and lockable if not within sight of the equipment.

Section 72 Mobile home and recreational vehicle parks

New requirements for the location of RV supply equipment (outlets) installed in RV lots.

New definitions such as back in, drive in and drive thru spaces.

New Appendix B drawings to assist in the proper placement of these outlets.

Clarification on the requirements for calculated loads in RV parks.

New Technical Interpretation 72-102

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Section 86 Electric Vehicle Charging Systems

Increase in the voltages permitted for Electric Vehicle Supply Equipment (EVSE) for commercial use

Changes to the required disconnecting means for two or more EVSE.

Provisions to use the Electric Vehicle as an alternate power source for a residence.

Increased reliance back to Section 8 on the Electric Vehicle Energy Management System (EVEMS) equipment to protect service equipment, conductors, and feeders from overload.

Overcurrent and Receptacle Requirements for EVSE and MEC 26-700 2)

Installations that include the use of a 50 A receptacle configuration of either 14-50R or 6-50R for a cord connected EVSE will be required to be protected with a 50 A rated overcurrent device in accordance with Rule 26-700. Installations requiring a 40A overcurrent device shall be hard-wired.

Some manufacturer instructions have provided direction to install a 40 A overcurrent device to protect their equipment. Currently there is no receptacle available for a 40 A configuration and as such, a 14-50R or 6-50R receptacle is typically installed. This is contradictory to Rule 26-700 2) which requires receptacles with configurations in accordance with Diagrams 1 and 2 of the MEC to be matched with their corresponding voltage and current rating.

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86-306 EVSE Receptacles

Manitoba Electrical Code Technical Interpretation
86-306 EV rated receptacles
Rule 86-306 Receptacles for electric vehicle supply equipment

Receptacles as stipulated in Section 86-306 b), must be rated for electric vehicles (EV) when specified by the manufacturer

86-306 EV rated receptacles

The Canadian Electrical Code (CEC) does not define a unique "EV rated" receptacle configuration; rather, it specifies that receptacles used for electric vehicle supply equipment (EVSE) must be certified to specific CSA standards, such as CSA C22.2 No. 282. Products are available that are cULus listed and specifically designed for the demands of EV charging.

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Tables

Table 38 for EV loads has been deleted

Table 39 has been deleted

Table 11 deleted but replaced by 2 new **Tables 11A** and **11B**

Expanded **Table 18** for equipment in Hazardous Locations

Table 12E for DLO cables permanently installed in cable tray

Slight changes to **Table 16, 53** and **65** to acknowledge changes in terms.

Table 19

Table 19 Conditions of Use has been revised and improved to better indicate where conductors can be installed and in what conditions.

Conductor and cable types are listed together by general categories

The information is now easier to navigate, making conductor and cable selection easier and more accurate

Table 19

Δ

Table 19
Conditions of use for insulated conductors and cables other than flexible cords, portable power cables, and equipment wires
(See Rules 12-100, 12-302, 12-406, 12-602, 12-606, 12-902, 12-904, 12-1606, 12-2104, and 22-202, and Tables 1, 2, 3, 4, D1, and D3.)

Group or Classification		Thermoset insulated conductor				Thermoset cable			Thermoplastic insulated conductor				Thermoplastic cable	
CSA Type designation		R90	RW75	RW90	RPV90	RWU75	RWU90	RPVU90	T90 Nylon	TW	TW75	TWN75	TWU	TWU75
Maximum conductor temperature (unless otherwise marked)		90 °C	75 °C	90 °C	90 °C	75 °C	90 °C	90 °C	90 °C	60 °C	75 °C	75 °C	60 °C	75 °C
Location	Dry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Damp	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Wet	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓
Can be used for	Consumer's services	—	✓	✓	—	✓	✓	—	✓	✓	✓	✓	✓	✓
	Feeders	✓	✓	✓	—	✓	✓	—	✓	✓	✓	✓	✓	✓
	Branch circuits	✓	✓	✓	—	✓	✓	—	✓	✓	✓	✓	✓	✓
	Control and instrumentation circuits	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Class 2 circuits (Section 16)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Fire alarm systems	✓ [* 32-100 and 32-102]												
When installed	Exposed	—	—	—	—	—	—	—	—	—	—	—	—	—
	Concealed	—	—	—	—	—	—	—	—	—	—	—	—	—
	In raceways	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	In cable trays	✓ [* 12-2202 5)]			—	✓ [* 12-2202 5)]		✓ [* 64-210]	—	—	—	—	—	—
	As direct burial	—	—	—	—	✓	✓	✓	—	—	—	—	✓	✓
	Exposed to sunlight	—	✓ [* 2-136]		—	✓ [* 2-136]			—	✓ [* 2-136]		—	✓ [* 2-136]	
	In plenums	✓ [* 2-130]												
	Outdoor overhead	—	✓ [* 12-308]						—	✓ [* 12-308]				

Information is arranged by temperature rating and conditions of use

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Thank You.

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