

Manitoba Electrical Code Inspection Notice

2017-12-01

2-106 Luminaire LED Conversions & Retrofits

Effective Date: Immediately

Scope:

This inspection notice has been issued to explain the Manitoba Electrical Code and electrical permit requirements when converting from traditional luminaire technologies to LED technology.

Definitions:

- Retrofitted luminaire – A luminaire that has been converted with a retrofit kit, such that the original lamp type can no longer be used.
- Retrofit kit – All components used to replace existing parts of an original luminaire where it is necessary to modify the original luminaire for the purpose of luminaire conversion. The components of a retrofit kit may consist of light sources, reflectors, LED drivers, lampholders, wiring, brackets, wire connectors, marking labels, and installation instructions.
- Hazardous location – Premises, buildings or parts thereof in which an explosive gas atmosphere or combustible dusts are or may be present. Common examples of hazardous locations may include but are not limited to petroleum handling facilities, grain handling facilities and woodworking shops.

Requirements:

Wiring Permit – With the exception of screw-in lamps for 120v medium based sockets any luminaire conversion to LED technology requires an electrical wiring permit, including but not limited to the following:

- Tubular LED lamps (TLED) specified as Type A which are intended to replace fluorescent lamps and operate from the ballast that has been provided for the fluorescent lamp, without modifying the existing circuitry.
- LED mogul based lamps, rated 120 to 347 VAC and pin-based bulbs installed without modifying the existing luminaire.

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- Tubular LED lamps (TLED) retrofit kits specified as Type B which are intended to replace fluorescent lamps where modifications to the existing luminaire would include replacement of the original fluorescent ballast and lamps and where the LED driver components are an integral part of the lamp.
- LED mogul based LED retrofit kits, rated 120 to 347 VAC and pin-based bulbs installed with modifications to the existing luminaire.
- Tubular LED lamps (TLED) retrofit kits specified as Type C which are intended to replace fluorescent lamps where modifications to the existing luminaire would include replacement of the original fluorescent ballast and lamps and where the LED driver components are installed remote from the lamp.
- Light Emitting Diode retrofit kits replacing fluorescent tubes and ballasts with an LED array and driver.

Approvals:

All lamps must bear the mark of a recognized certification organization and must be approved and marked for the environment for which they are being installed. Any lamp or bulb installed in a luminaire in a hazardous location must be approved and marked for that hazardous location. All retrofit kits must bear the mark of a recognized certification organization or the converted luminaire must be re-approved. Any retrofit kit installed in luminaire in a hazardous location must be approved and marked for that hazardous location.

When applying for a wiring permit the electrical contractor must provide the electrical inspector with a copy of the manufacturer's installation instructions, model or catalogue number for all LED lighting conversions being installed as well as details of the existing luminaires and what modifications will be required.

Contractors are reminded they must follow the manufacturer's instructions when performing any LED conversions.

Rationale:

To provide clarification regarding Manitoba Electrical Code requirements for the conversion of traditional luminaires to LED technology.



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Supporting Information:

Manitoba Electrical Code:

- 2-106
- 2-024
- Section 18

CSA Standards:

- C22.2 No. 250-16
- C22.2 No. 1993-17
- CSA TIL B-81
- CSA TIL B-79A

Issued By

The Chief Electrical Inspector
Manitoba Hydro