

SAFETY CODES SERVICES BULLETIN

DATE May 18 2018

SUBJECT Luminaires over bathtubs, showers and in damp locations

DISCUSSION

Industry has requested the City of Medicine Hat Safety Codes Services to look at an increasing problem in regards to the installation of low hanging and unprotected luminaires over bathtubs and showers.

BACKGROUND

Recently we are finding fixtures in wet or damp locations that are unsuitable for that location mainly over tubs and showers. Most commonly fixtures hanging too low over bathtubs. The Canadian Electrical Code does not state which areas in a bathroom are wet or damp locations. The area above the bathtub could be classified as a damp location and the area over the shower a wet location where subject to spray. Features on some bathtubs may change this interpretation such as an installation with an attached shower wand etc. Some could argue that even without a shower wand a fixture above a bathtub could be subject to spray. i.e.; kids splashing in the tub.

CODE REVIEW AND ANALYSIS

2-138 Use of Class A ground fault circuit interrupters

Class A ground fault circuit interrupters shall be permitted as supplementary protection from shock hazard but shall not be used as substitute for insulation or grounding except as permitted by rules **10-408(4)** and **26-700(8)**.

2-200 General

Electrical equipment shall be installed and guarded so that adequate provision is made for safety of persons and property and for the protection of the electrical equipment from mechanical or other injury to which it is liable to be exposed.

30-606 Lampholders in wet or damp locations

Where lampholders are installed in wet or damp locations, they shall be of the weatherproof type.

Damp location — an exterior or interior location that is normally or periodically subject to condensation of moisture in, on, or adjacent to electrical equipment and includes partially protected locations under canopies, marquees, roofed open porches, and similar locations.

Wet location — a location in which liquids may drip, splash, or flow on or against electrical equipment.

30-318 Luminaires in damp or wet locations

- (1) Luminaires installed in damp or wet locations shall be approved for such locations and be so marked.
- (2) Luminaires suitable for use in wet locations shall be permitted to be used in damp locations as well.

30-320 lighting equipment in damp locations or near grounded metal

- (1) Where luminaires are installed in damp locations or within 2.5 meters vertically or 1.5 meters horizontally of laundry tubs, plumbing fixtures, or other grounded metal work or grounded surfaces, the luminaires shall be controlled by a wall switch, except as permitted by sub rule (2)
- (2) outlet-box-type luminaires marked for use in damp locations and luminaires marked for use in wet locations with an integral switch shall be permitted to be installed under the conditions of sub rule (1)
- (3) Switches (including wall switches) controlling luminaires covered by sub rules (1) and (2) shall
 - (a) Be located not less than 1 meter from a bathtub or shower stall without piercing a wall, partition, or similar obstacle; or
 - (b) If the condition in item (a) is not practicable, not less than 500 mm from a bathtub or shower stall and be protected by a ground fault circuit interrupter of the class A type.

NON Mandatory Reference, The *National Electrical Code* **NON MANDATORY** – however good reference

410.10 (A) Wet and Damp Locations. Luminaires installed in wet or damp locations shall be installed such that water cannot enter or accumulate in wiring compartments, lamp holders, or other electrical parts. All luminaires installed in wet locations shall be marked, "Suitable for Wet Locations." All luminaires installed in damp locations shall be marked "Suitable for Wet Locations" or "Suitable for Damp Locations."

ALBERTA INFORMATION STANDATA - <http://municipalaffairs.alberta.ca/documents/464-CEC-30-rev7.pdf>

Rule 30-314 Minimum Height of Low Luminaires

Following are guidelines for applying Rule 30-314:

- (a) A rigidly mounted ceiling luminaire in a readily accessible location should be no less than 2.1 m above the floor if the lamp is not guarded.
- (b) A rigidly mounted ceiling luminaire should be located so that the bottom of the luminaire is no less than 2 m above the floor.
- (c) Rigidly mounted wall luminaires with outer globes or other enclosures may be located at a lesser height, since the wall provides some protection against people walking directly under or adjacent to them. In no case should the bottom of the luminaire be less than 1.8m above the floor. Where a wall mounted luminaire is installed over a cabinet or vanity it is considered to be protected by location. A luminaire over the vanity in a bathroom should be kept at least 1m from the tub or shower enclosure.

INTERPRETATION

1. Luminaires over bathtubs shall be installed high enough that they cannot be reached while standing in the tub unless they are rated for damp location and protected by a class A type circuit interrupter.
2. Bathtubs with shower wands are considered damp locations and fixtures shall be rated for damp location and be protected by a class A type circuit interrupter. Unless the fixture is installed high enough that it would be out of the damp location.
3. Luminaires over showers shall be rated for wet location and be protected by a class A type circuit interrupter. Unless the fixture is installed high enough that it would be out of the wet location.

As there are no fixed dimensioned for these heights, common sense must prevail and the final approval of the installation is to be approved by an Electrical Safety Codes Officer. Any concerns or challenges may be appealed to Municipal Affairs.



Dan Beaton
Electrical Safety Codes Officer



Gary Christensen
Electrical Safety Codes Officer

The City of Medicine Hat Safety Codes Services, in an ongoing effort to provide updates to Home Builders, Contractors, Designers and Trades people, regarding the Alberta Construction Codes, provide these bulletins as a service. Any questions regarding this bulletin should be directed to the Electrical Inspections department at 403.529.8210.