

INTERIOR STAIRWAYS FOR ROOF ACCESS

PURPOSE

This STANDATA has been developed to allow the use of fixed attic folding stairs, rung-type ladders or “ship’s ladders/fixed industrial stairs” in place of the interior stairways required by the Alberta Building Code 2014 (ABC 2014).

DISCUSSION

When access through a roof assembly is required by the ABC 2014 to facilitate the servicing of HVAC equipment, or if it is required to gain access to tie-back and anchor systems for window cleaning platforms, Article 3.6.4.7. specifies the access is to be provided by an interior stairway.

In buildings which are more than 3 storeys in building height and which have a low pitched or flat roof, Article 3.2.5.3 requires that an interior means be provided for firefighters to gain access to the roof. This may be accomplished by a stairway or a suitable fixed ladder and hatchway.

Normally, where ramps and stairways form part of an access to exit, then those ramps and stairways must conform to the dimensional, guard, and handrail requirements that apply to exits. However, if the ramps and stairways are only intended for occasional use for servicing equipment and machinery, Sentence 3.3.1.14.(2) specifies that they do not need to conform to those requirements.

CODE REFERENCES

1. Article 3.2.5.3. states:

3.2.5.3. Roof Access

(See also Article 3.6.4.7.)

- 1) On a *building* more than 3 storeys in *building height* where the slope of the roof is less than 1 in 4, all main roof areas shall be provided with direct access from the *floor areas* immediately below, either by
 - a) a stairway, or
 - b) a hatch not less than 550 mm by 900 mm with a fixed ladder.

2. Article 3.3.1.14. states:

3.3.1.14. Ramps and Stairways

- 1) Except as permitted by Sentence (2), Article 3.3.4.7. and Subsection 3.3.2., ramps and stairways that do not serve as *exits* shall conform to the dimensional, *guard*, handrail and slip-resistance requirements for *exit* ramps and stairways stated in Sentence 3.4.3.2.(8) and Articles 3.4.3.4., and 3.4.6.1. to 3.4.6.8.
- 2) Ramps and stairways that do not conform to the requirements of Sentence (1) are permitted to serve *service rooms* and *service spaces* and in *industrial occupancies*, provided the ramps and stairways are intended only for occasional use for servicing equipment and machinery.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2014.

Issue of this STANDATA is authorized by
the Building Administrator

[Original Signed]
Paul Chang



3. Article 3.6.4.7. states:

3.6.4.7. Roof Access

- 1) A *building* shall be provided with direct access to the roof by an interior stairway if
 - a) heating, ventilating or air-conditioning equipment is installed on the roof, and
 - b) the roof elevation is more than 4 m above *grade*.
- 2) Access shall be provided to roof areas in which tie back and anchor systems are provided for window cleaning suspended power platforms and if access is through
 - a) the roof, it shall be by means of an interior staircase, or
 - b) a wall, the panels shall be openable from the outside without the use of keys or any specialized device or knowledge.

(See Appendix A)

- 3) Fixed access shall be provided to rooftop heating, ventilating or air-conditioning equipment that is installed on a sloped roof.

Occupational Health and Safety Code (OHS Code):

“fixed ladder” is defined in the OHS Code as “a ladder that is permanently fixed to a supporting structure in a vertical position or at an angle of not more than 15 degrees from vertical and that does not lean back”

VARIANCE

This variance provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by the Safety Codes Act and the ABC 2014.

The interior stairways and staircases required by Sentences 3.2.5.3.(1) and 3.6.4.7.(1) and (2) are permitted to be provided, alone or in combination, by any of the following methods:

1. a fixed staircase similar to that depicted in Figure 1 in Appendix A (note that this is also known as a “ship’s ladder” or “fixed industrial stairs”) with a maximum vertical height of 3.7 m,

Note: Readers interested in design specifications for fixed industrial stairs should consult the following source (there are many other types that could also prove useful):
<http://www.dir.ca.gov/title8/3234.html>,

2. a suitable folding stair with a maximum vertical height of 3.7 m, certified load rating suitable for its intended use, but no less than minimum certified load rating of 300 lbs, complete with handrails.
3. a rung-type fixed ladder at an interior location meeting the requirements of section 130 of the OHS Code for fixed ladders. <http://www.qp.alberta.ca/documents/OHS/OHS.pdf>

Where the methods are used in combination, a landing conforming to Articles 3.4.6.3. and 3.4.6.4. (for Part 3 buildings) or Subsection 9.8.6. (for Part 9 buildings) shall be provided between each different type of access method.

Note that while Sentence 3.3.1.14.(2) exempts these stairs from the dimensional, guard, handrail and slip-resistance requirements of the ABC 2014, the OHS Code may contain additional dimensional and handrail requirements. Refer to the OHS for more specific information.

This VARIANCE applies throughout the province of Alberta.

APPENDIX A

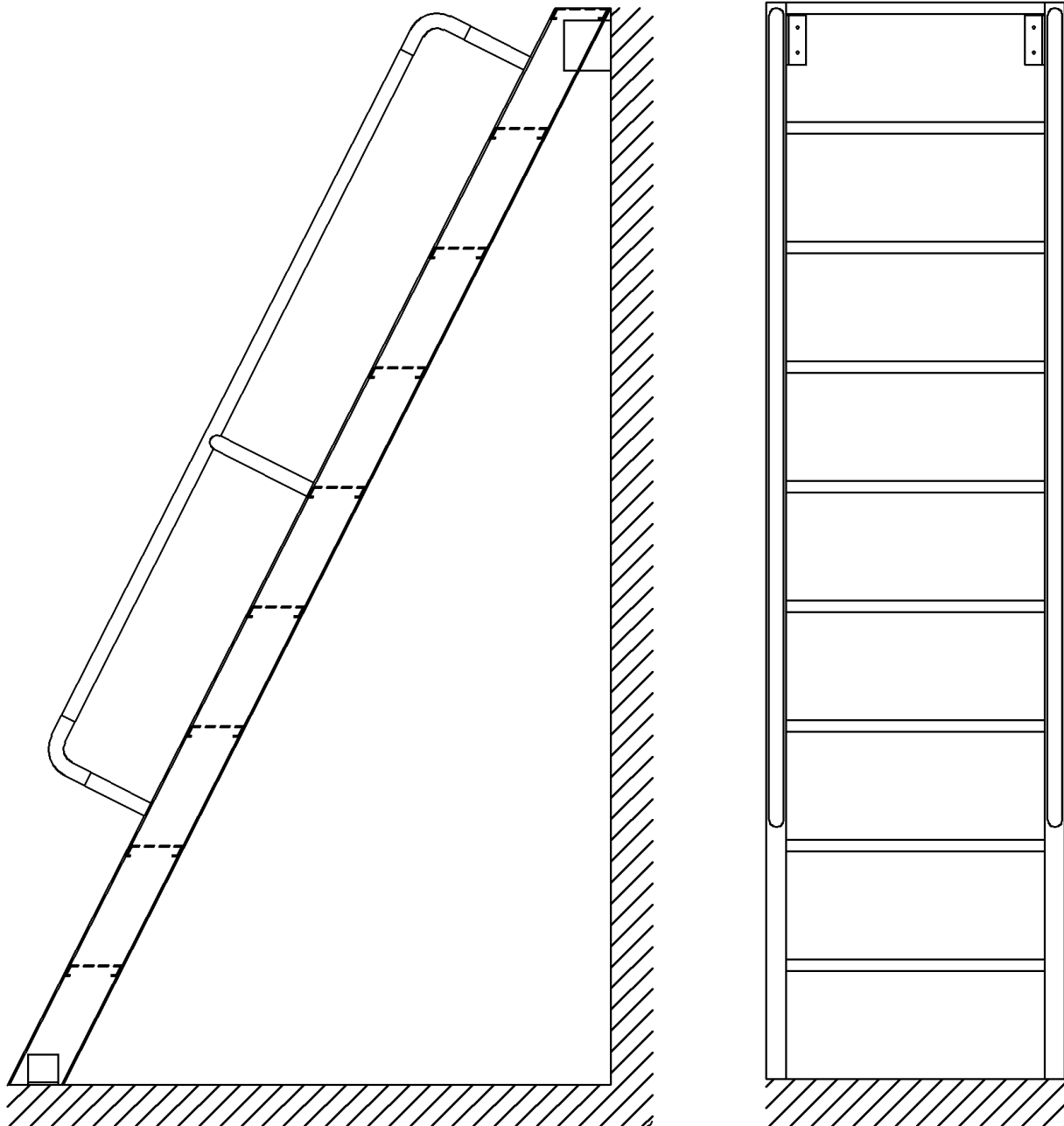


Figure 1- SHIP'S LADDER/INDUSTRIAL STAIRS

NOTE: Figure provided for illustration purposes only.
Not intended to limit the design or configuration of any proposed design.

- Maximum vertical height 3.7 m
- OHS requirements for handrails
- Readers interested in design specifications for fixed industrial stairs should consult the following source (there are many others that could also prove useful): <http://www.dir.ca.gov/title8/3234.html>,