
STANDATA bulletin 20-PCB-013

Plumbing

Drainage of water from elevator pits

Date Issued: April 2023

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Purpose

This bulletin informs the plumbing industry of the requirements associated with the installation of pit drains located in elevator pits.

Discussion

Installers are reminded that the National Plumbing Code of Canada (NPC) 2020, as adopted by the Plumbing Code Regulation (119/2007) and the ASME A17.1-2019/CSA-B44-19 Safety Code for Elevators and Escalators, both have requirements for the drainage of water from elevator pits.

The Elevator Code ASME A17.1-2019/CSA-B44-19, permits the installation of a sump or pump in the elevator pit. Oil interceptors may require external installations as space restrictions in an elevator shaft may make installation prohibitive.

The requirements in the NPC 2020 must be considered when an elevator pit drain is installed.

Code References

NPC 2020 2.4. Drainage Systems

2.4.3.6.(1) Div “B” - Where a drain is provided in an elevator pit

- (a) it shall be connected directly to a sump located outside the elevator pit, and
- (b) the drain pipe that connects the sump to the *drainage system* shall have a *backwater valve*.

2.4.4.3.(2) Div “B”- Where the discharge from a *fixture* may contain oil or gasoline, an oil *interceptor* shall be installed.

Issued by the Provincial Plumbing Administrator

[Original signed]

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Note: To correctly size an oil interceptor, contact the elevator manufacturer to provide calculations regarding the maximum amount of oil that can escape from the hydraulic system.

Sentence **2.4.5.5.(1) Div “B”** – Provision shall be made for maintaining the *trap* seal of a floor drain by,
 (a) the use of a *trap* seal primer,
 (b) using the drain as a receptacle for an *indirect connected* drinking fountain, or
 (c) other equally effective means. (See Note A-2.4.5.5.(1).)

Sentence **2.4.6.3.(1) Div “B”** – Piping that is too low to drain into a *building sewer* by gravity shall be drained to a sump or receiving tank.

Sentence **2.4.6.3.(4) Div “B”** – Equipment such as a pump or ejector that can lift the contents of the sump or tank and discharge it into the *building drain* or *building sewer* shall be installed.

Sentence **2.4.6.3.(7) Div “B”** – The discharge pipe from every pumped sump shall be equipped with a union, a *backwater valve* and a shut-off valve installed in that sequence in the direction of discharge.

Sentence **2.4.6.4.(1) Div “B”** – Except as provided in Sentences (2) and (3), where a *building drain* or a *branch* may be subject to *backflow*, a *backwater valve* shall be installed on every *fixture drain* connected to them when the *fixture* is located below the level of the adjoining street.

Additional requirements set out in excerpts from the ASME A17.1-2019/CSA-B44-19 Safety Codes for Elevators and Escalators must be considered.

Code References

ASME A17.1-2019/CSA-B44-19 Safety Codes for Elevators and Escalators

Clause 2.1.2.2 Construction at bottom of hoistway

Pits extending to the ground shall have non-combustible floors, and shall be designed to prevent entry of ground water into the pit. The pit floor of any hoistway **not** extending to the ground shall be of construction having a fire-resistance rating at least equal to that required for the hoistway enclosure.

Clause 2.2.2.3 – Permanent provisions shall be made to prevent accumulation of groundwater in the pit (See 2.1.2.2).

Clause 2.2.2.4 – Drains and sump pumps, where provided, shall comply with the applicable plumbing codes, and they shall be provided with a positive means to prevent water, gases, and odors from entering the hoistway.

Clause 2.2.2.5 – In elevators provided with Firefighters’ Emergency Operation, a drain or sump pump shall be provided. The sump pump/drain shall be required to remove a minimum of 11.4 m³/h (3,000 gal/h) per single hoistway or multiple hoistway.

NOTE: The diagrams on the attached page illustrate arrangements that have been accepted by Safety Services, Alberta Elevating Devices and Amusement Rides Safety Association (AEDARSA), the Safety Codes Council’s Plumbing Sub Council and Elevator Sub Council.

ACCEPTABLE OPTIONS FOR DRAINAGE OF ELEVATOR PITS

