

Escalators & Moving Walkways **FACT SHEET**

When do the Standards Apply?

The 2022 Building Energy Efficiency Standards (Energy Code) has requirements for escalators and moving walkways located in airports, hotels, and transportation function areas. The requirements apply to new construction or when adding escalators and moving walkways to an existing building, and to existing escalators and moving walkways undergoing major alterations involving mechanical equipment or controls in these same locations.

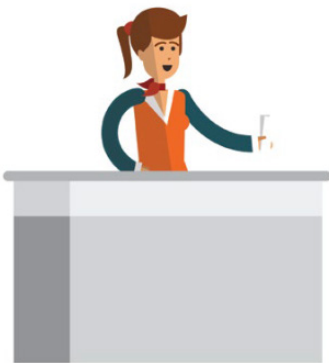
The Energy Code defines a transportation functional area as the ticketing, waiting, baggage handling area, or concourse in an airport, bus, or rail terminal or station, subway or transit station, or marine terminal.

The goal behind this measure is to save motor energy by slowing the escalators and moving walkways when unoccupied. The scope is limited to areas that have intermittent traffic and long periods of nonuse. It would not be cost effective in areas such as shopping malls or amusement parks that typically have steady traffic.

Requirements for escalators and moving walkways can be found in the California Code of Regulations, Title 24, Part 6, Section 120.6(g). The requirements are mandatory and may not be traded off when using the performance method of compliance.

TRANSPORTATION FUNCTION AREAS

Ticketing Area



Waiting Area



Baggage Handling Area



TABLE 1: ASME A17.1/CSA B44-2019 Acceleration and Speed Requirements

Equipment Type	Slope (degrees)	Maximum Acceleration	Maximum Speed	Minimum Speed
Moving Walkway	≤ 8	1.0 ft/S ²	180 ft/min	10 ft/min
	> 8 ≤ 12	1.0 ft/S ²	140 ft/min	10 ft/min
Escalator	All	1.0 ft/S ²	100 ft/min	10 ft/min

What are the Requirements?

Escalators and moving walkways must comply with the control, acceleration, and speed requirements specified in ASME A17.1/CSA B44-2019.

Controls

Occupancy sensors must meet the following installation requirements:

- Variable speed drive is installed on the escalator.
- Sensors must be in locations that minimize false signals.
- Pedestrians on adjacent escalators cannot trigger sensors.
- Sensors must not encounter any obstructions that could adversely affect performance.
- Ultrasonic occupancy sensors must not emit an audible sound.

The intermittent speed controls must meet the following functional requirements:

- Verify the amount of time necessary to ride the entire length of the escalator while standing still.
- After being in an unoccupied condition for more than three times the length of time needed for a full ride, the escalator should slow down to the minimum allowed speed.

- While in an unoccupied condition, passenger detection cannot be bypassed by approaching the entrance from any angle.
- When approaching the escalator or moving walkway in an unoccupied condition at an average walking pace, the escalator or moving walkway must reach full speed before boarding.
- When approaching the escalator or moving walkway at an average walking speed in an unoccupied condition from the wrong direction, an alarm must sound.

Acceleration and Speed Requirements

To ensure maximum passenger safety, escalator and moving walkway accelerations and speeds must comply with the requirements in ASME A17.1/CSA B44-2019. When not conveying passengers, they must slow to the minimum speed allowed by ASME A17.1/CSA B44-2019.

Acceptance Testing

Escalators and moving walkways must meet the installation and functional acceptance testing requirements outlined in this fact sheet. Compliance with these requirements must be documented on the NRCA-PRC-13-F form. Details of the acceptance test procedures are specified in Reference Nonresidential Appendix NA7.15.



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