

2021 Virginia Construction Code

CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS

SECTION 3005 MACHINE ROOMS

3005.1 Access.

An *approved* means of access shall be provided to elevator machine rooms, control rooms, control spaces and machinery spaces.

3005.2 Venting.

Elevator machine rooms, machinery spaces that contain the driving machine, and control rooms or spaces that contain the operation or motion controller for elevator operation shall be provided with an independent *ventilation* or air-conditioning system to protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures within the range established for the elevator equipment.

3005.3 Pressurization.

The elevator machine room, control rooms or control space with openings into a pressurized elevator hoistway shall be pressurized upon activation of a heat or smoke detector located in the elevator machine room, control room or control space.

3005.4 Machine and control rooms, control spaces, and machinery spaces.

Elevator machine rooms, rooms and spaces housing elevator controllers, and machinery spaces outside of, but attached to, a hoistway that have openings into the hoistway shall be enclosed with fire barriers constructed in accordance with [Section 707](#) or horizontal assemblies constructed in accordance with [Section 711](#), or both. The fire-resistance rating shall not be less than the required rating of the hoistway enclosure. Openings in the fire barriers shall be protected with assemblies having a fire protection rating not less than that required for the hoistway enclosure doors.

Exceptions:

1. For other than fire service access elevators and occupant evacuation elevators, where elevator machine rooms, rooms and spaces housing elevator controllers, and machinery spaces do not abut and do not have openings to the hoistway enclosure they serve, the fire barrier constructed in accordance with [Section 707](#) or horizontal assemblies constructed in accordance with [Section 711](#), or both, shall be permitted to be reduced to a 1-hour fire-resistance rating.
2. For other than fire service access elevators and occupant evacuation elevators, *inbuildings* four stories or less above grade plane when elevator machine rooms, rooms and spaces housing elevator controllers, and machinery spaces do not abut and have no openings to the hoistway enclosure they serve, the elevator machine rooms, rooms and spaces housing elevator controllers, and machinery spaces are not required to be fire-resistance rated.

3005.5 Shunt trip.

Where elevator hoistways, elevator machine rooms, control rooms and control spaces containing elevator control equipment are protected with automatic sprinklers, a means installed in accordance with Section 21.4 of [NFPA 72](#) shall be provided to automatically disconnect the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of automatic sprinklers outside the hoistway, machine room, machinery space, control room or control space shall not disconnect the main line power supply.

3005.6 Plumbing systems.

Plumbing systems shall not be located in elevator equipment rooms.

3005.7 Machine-room-less designs.

Where machine-roomless designs are utilized they shall comply with the provisions of [ASME A17.1](#) and incorporate the following:

1. Where the elevator car-top will be used as a work platform, it shall be equipped with permanently installed guards on all open sides. Guards shall be permitted to be of collapsible design, but otherwise must conform to all applicable requirements of this code for guards.
2. Where the *equipment* manufacturer's procedures for machinery removal and replacement depend on overhead structural support or lifting points, such supports or lifting points shall be permanently installed at the time of initial *equipment* installation.
3. Where the structure that the elevator will be located in is required to be fully sprinklered by this code, the hoistway that the elevator machine is located in shall be equipped with a fire-suppression system as a machine room in accordance with [NFPA 13](#). Smoke detectors for the automatic initiation of Phase I Emergency Recall

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Operation, and heat detectors or other approved devices that automatically disconnect the main line power supply to the elevators, shall be installed within the hoistway.