











Fire-resistance rating reference codes:

<u>IBC Section 3002.1 Hoistway Enclosure Protection</u>: Elevator, dumbwaiter and other hoistway enclosures shall be shaft enclosures complying with Section 713. <u>IBC Section 713.2 Construction</u>: Shaft enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 711, or both.

<u>IBC Section 713.4 Fire-resistance rating</u>: Shaft enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more, and not less than 1 hour where connecting less than four stories. The number of stories connected by the shaft enclosure shall include any basements but not any mezzanines. Shaft enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

IBC Section 713.6 Exterior walls: Where exterior walls serve as a part of a required shaft enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply.

<u>IBC Section 3006.4</u>: Elevator machine rooms 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 require rating of the hoistway enclosure served by the machinery. Opening 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. Where machine rooms do not abut and have no openings to the hoistway enclosure they serve the fire barriers 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. In buildings four stories or less above grade plane when machine room do not abut and have no openings to the hoistway enclosure they serve, the machine room are not require to be fire-resistance rated.

<u>IBC Section 3006.5 Shunt Trip.</u> Where elevator hoistways or elevator machine rooms containing elevator control equipment are protected with automatic sprinklers, a means install in accordance with NFPA 72, Section 6.16.4, Elevator Shutdown, shall be provided to disconnect automatically 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 sprinklers outside the hoistway or machine room shall not disconnect the main line power supply.

NFPA 13 Section 8.15.5 Elevator Hoistway and Machine Rooms:

Section 8.15.5.1: Sidewall spray sprinklers shall be installed at the bottom of each elevator hoistway not more than 2 ft above the floor of the pit.

Section 8.15.5.2: The sprinkler required at the bottom of the elevator hoistway by 8.15.5.1 shall not be required for enclosed, noncombustible elevator shafts that do not contain combustible hydraulic fluids.

Section 8.15.5.4: Automatic sprinklers in elevator machine rooms or at the tops of hoistways shall be of ordinary- or intermediate-temperature rating. Section 8.15.5.5: Upright or pendent spray sprinklers shall be installed at the top of elevator hoistways.

Section 8.15.5.6: The sprinkler required at the top of the elevator hoistway by 8.15.5.5 shall not be required where the hoistway for passenger elevators is noncombustible and the car enclosure materials meet the requirements of ASME A17.1.

<u>ASME A17.1 Section 2.8.2.3.2</u> -means shall be provided to automatically disconnect the main line power supply to the affected elevator upon or prior to the application of water from the sprinklers located in the machine room or in the hoistway more than 24 in. above the pit floor.

Information above from 2012 International Building Code, 2016 NFPA 13, and ASME A17.1-2013.

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