

Comm 18 Appendix

This appendix contains materials of an advisory nature and provides additional information that is intended to help the reader understand the requirements or processes delineated in this chapter. The paragraph numbers correspond to the sections, subsections, paragraphs, subdivisions and subparagraphs of the chapter, and therefore, may not be consecutively numbered.

A-18.21 INSTALLATION OF PIPES OR DUCTS CONVEYING GASES, VAPORS OR LIQUIDS IN HOISTWAYS, MACHINE ROOMS OR MACHINERY SPACES. The following information provides the intent of the requirements relating to the installation of sprinklers in the elevator machine rooms and elevator hoistways.

The intent of s. Comm 18.21 and the following adopted national standards, ASME A17.1, NFPA 13 and NFPA 72 as they relate to fire sprinklers installed in elevator machine rooms and elevator hoistways is threefold and sequential. When smoke and rapid temperature rise from a fire is detected in either the machine room or the hoistway, the following sequence of events must occur:

1. Smoke detectors are provided in machine rooms and elevator hoistways to initiate fire fighters' service. A smoke detector is required because it is a type of fire detector that has a fast response time in reaction to fire growth. The purpose of fire fighters' service is to dispatch elevators to a specific floor designated by the fire department when the smoke detector alarm is activated. The elevator cars will remain at the designated floor for use by emergency personnel only.

2. Heat detectors are provided to initiate the disconnection of the primary electrical power source to the elevator. The heat detector responds to a specific temperature by tripping an automatic circuit breaker, which must be of the manual reset type. Heat detectors used to initiate the elevator shutdown must have both a lower temperature rating and a faster response time index

(RTI) as compared to the automatic fire sprinklers installed in the hoistway or in the machine room.

3. Fire sprinklers are provided to control and suppress the fire. When the fire sprinkler responds to a specific temperature, water is released and distributed over the fire, thereby wetting, smothering, cooling and extinguishing the fire.

Summary:

1. Prior to water flow from the fire sprinklers, the power must be disconnected. This is the reason a heat detector must be located within 2 feet of each sprinkler installed in the hoistway or in the machine room.

2. A preaction sprinkler system may be installed to comply with s. Comm 18.21, but the use of a preaction system is not required.

3. The required acceptance test should be performed in the presence of the owner's representative, the local fire inspector and the elevator inspector who will be issuing the certificate to operate the elevator. The owner's representative may be the responsible design professional or the elevator contractor. The local building inspector may also want to witness this acceptance test. Bringing all interested parties together for one acceptance test will help avoid delays in the required approval process.

4. The acceptance test must verify that each smoke detector installed in the hoistway, in the machine room, and in the elevator lobbies will initiate fire fighters' service. The heat detectors installed in the hoistway and in the machine room must disconnect the power to the elevator. If these actions are verified, the requirements have been met and the systems may be accepted and placed into operation. If deficiencies are discovered, correction must be made and followed by another acceptance test.

5. For elevators without sprinklers, see the requirements of s. Comm 18.31.