



Fire Alarm Systems Certification

Level I Content Outline

The skills and knowledge listed under each task are suggestive of those involved in that task, but are not intended to constitute an exhaustive listing.

1.1 Installation Tasks

Questions related to these tasks make up 77–82% of the exam.

1.1.1 Properly mount and connect fire alarm system components.

Knowledge:

- Representation of system components, cabling, and dimensions on system drawings
- Terminology related to basic components and installation operations
- Roles of codes and standards in fire alarm systems work
- Scopes of the IBC, IFC, and IRC
- Scopes of NFPA 1 and 101 codes
- Scopes of NFPA 70 and 72 standards
- Types of fire alarm systems and associated devices
- Tools required for mounting and connecting fire alarm system components, and their operation
- Materials required for mounting cables and devices
- Functions performed in a fire alarm system by manual fire alarm boxes, automatic fire detection devices, audible signaling appliances, visible signaling appliances, and annunciators; and how they are operated

Skills:

- Communicate with other team members about the installation process.
- Recognize the on-site hierarchy of authority.
- Properly use hand and power tools to mount and connect fire alarm system components.
- Apply proper installation techniques under supervision.
- Use project plans and specifications to determine dimensions, type of materials, elevations, and locations.
- Mount and fasten field devices, sensors, and video cameras; and connect power and signaling wiring.
- Assist with acceptance testing by activating initiating and notification devices or visually identifying remote annunciation of devices.

1.1.2 Practice correct wiring methods.

Knowledge:

- Representation of system components, cabling, and dimensions on system drawings
- Tools required for mounting cables, wires, conduit, and fixtures, and their operation
- Types of outlet and junction boxes and their applications
- Types of wire and cable, and their applications
- Types of conduit and their applications
- Materials required for mounting cables

Skills:

- Use project plans and specifications to determine dimensions, type of materials, elevations, and locations.
- Properly use hand and power tools to mount cables, wires, conduit, fixtures, and supports.
- Apply proper installation techniques under supervision.
- Feed cables through access holes, roof spaces, and cavity walls to reach fixture outlets.
- Position and terminate cables, wires, and strapping.

1.1.3 Practice work-site safety.

Knowledge:

- OSHA Publications
- American Red Cross First Aid and Safety Handbook
- Potential hazards associated with hand and power tools
- Potential hazards associated with electrical cables and equipment
- Materials that require special handling and/or disposal methods
- Potential hazards associated with lifts, ladders, and other equipment



1.1.3 Practice work-site safety. (Continued)

Skills:

- Alert the supervisor to any unsafe conditions at the work site.
- Practice safe usage of hand and power tools.
- Practice safe usage of work-site equipment in accordance with the manufacturer's guidelines.
- Recognize common injuries or conditions, such as cuts, sprains, electrical shock, heat exhaustion, frost bite, fractured limbs, head injuries, or heart attacks.
- Apply basic first aid for common injuries or conditions utilizing materials found in a typical first aid kit or elsewhere at the work site.
- Practice safe ladder usage.
- Use proper fall protection equipment and practices.
- Properly use head, eye, hearing, and foot protection.
- Read and interpret materials safety data sheets (MSDS), and identify hazards information on those forms.

- Identify any hazardous locations specific to the facility where work will be performed.

1.2 Maintenance Tasks

Questions related to these tasks make up 18–23% of the exam.

1.2.1 Perform simple maintenance tasks and operate basic test equipment.

Knowledge:

- Purpose and operation of basic test equipment
- NFPA 72 test and inspection form

Skills:

- Read, interpret, and follow manufacturers' published instructions for fire alarm system component operation and maintenance.
- Clean fire alarm system components.
- Operate smoke detector testers, heat sources, battery testers, sound pressure meters, VOMs, manometers, and air flow meters in support of the testing of a fire alarm system.