



Australian Government

CPCPFS3039A Test and maintain automatic fire sprinklers

Release 1

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Modification History

Prerequisite unit updated

Changes to performance criteria, required skills and knowledge, range statement and critical aspects

Not equivalent to CPCPFS3019A

Unit Descriptor

This unit of competency specifies the outcomes required to test and maintain automatic fire sprinkler installations in the full range of domestic and commercial situations.

Application of the Unit

Site location for work application may be either domestic or commercial, and may be a new work site or an existing structure being renovated, extended, restored or maintained.

Licensing/Regulatory Information

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-Requisites

CPCPCM2043A Carry out WHS requirements

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

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|---|--|-----|---|
| 1 | Prepare for work. | 1.1 | Plans, specifications, maintenance manuals, previous maintenance reports and equipment data are obtained. |
| | | 1.2 | Work health and safety (WHS) and environmental requirements associated with testing and maintaining automatic fire sprinklers are adhered to throughout the work. |
| | | 1.3 | Quality assurance requirements are identified and adhered to according to workplace requirements. |
| | | 1.4 | Tasks are planned and sequenced in conjunction with others involved in or affected by the work. |
| | | 1.5 | Tools, equipment and materials for testing and maintaining automatic fire sprinklers, including personal protective equipment, are selected and checked for serviceability. |
| | | 1.6 | Work area is prepared to support efficient testing and maintenance of automatic fire sprinklers. |
| 2 | Perform routine maintenance. | 2.1 | Maintenance tasks detailed in maintenance schedule are performed to specification. |
| | | 2.2 | Mechanical equipment and system components are checked with appropriate instruments according to standards and job specifications. |
| | | 2.3 | Faulty items or components are identified and appropriate service procedure is selected. |
| 3 | Repair and replace faulty components and test job. | 3.1 | Equipment is safely isolated according to regulations and health and safety requirements. |
| | | 3.2 | Faulty items or components are removed using appropriate tools, equipment and procedures. |
| | | 3.3 | Replaceable items are selected from manufacturers' catalogue. |
| | | 3.4 | Replacement or service items are fitted according to manufacturer recommendations and site specifications. |

- 3.5 Adjustments are made to equipment or components to ensure specifications are met.
 - 3.6 Operational check of system is carried out to ensure compliance with job specifications.
 - 3.7 Maintenance report is documented in format required by maintenance specification.
 - 3.8 ***Sustainability principles and concepts*** are observed when preparing for and undertaking work process.
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- 4 Clean up.
 - 4.1 Work area is cleared and materials disposed of, reused or recycled according to legislation, regulation, codes of practice and job specification.
 - 4.2 Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and workplace procedures.
 - 4.3 ***Information*** is accessed and documentation completed according to regulatory authorities and workplace requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - access information
 - determine requirements
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow and give instructions
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication, such as hand signals
- initiative and enterprise skills to identify and report to appropriate personnel any faults in tools, equipment or materials
- literacy skills to:
 - complete workplace documentation
 - read and interpret:
 - documentation from a variety of sources
 - plans and specifications
 - record test results in writing
- numeracy skills to apply measurements and calculations
- planning and organising skills to:
 - plan and sequence tasks with others
 - plan and set out work
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technical skills to:
 - conduct operational checks to confirm system is operating to specification
 - diagnose faults and undertake necessary repairs or replacement of faulty components
- technology skills to:
 - access and understand site-specific instructions in a variety of media
 - use mobile communication technology

Required knowledge

- function and operation of system components
- job safety analysis (JSA) and safe work method statements (SWMS)

- National Fire Protection Association (NFPA) and Factory Mutual performance-based codes of practice
- process for testing flow switch at the control panel where available
- process of testing and maintaining automatic fire sprinklers
- relevant statutory requirements related to testing and maintaining automatic fire sprinkler systems
- SI system of measurement
- structural systems, building materials and building services
- test apparatus and procedures
- workplace and equipment safety requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, standards and specifications to test and maintain automatic fire sprinklers
- applying safety requirements throughout the work sequence, including electrical safety requirements and the use of personal protective clothing and equipment
- given a faulty automatic fire sprinkler system in an office complex, conducting routine testing and maintenance to diagnose and repair faults and perform component service, ensuring:
 - application of sustainability principles and concepts
 - correct identification of the requirement and conduct of testing and maintaining the system
 - correct selection and use of appropriate processes, tools and equipment
 - completing all work to specification
 - compliance with regulations, standards and organisational quality procedures and processes
 - communicating and working effectively and safely with others.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and

practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Work health and safety is to be according to commonwealth, state and territory legislation and regulations and may include:

- handling of materials
- hazard control
- personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including recognising and preventing hazards associated with:
 - electricity
 - hazardous materials and substances
 - service lines
 - surrounding structures and facilities
 - trip hazards
 - use of tools and equipment
 - work site visitors and the public
 - working in proximity to others
- use of firefighting equipment

- use of first aid equipment
- workplace environment and safety.

Environmental requirements may include:

- clean-up protection
- waste management.

Quality assurance requirements may include:

- Australian standards
- Environment Protection Authority (EPA)
- internal company quality assurance policy and risk management strategy
- International Standards Organisation
- site safety plan
- workplace operations and procedures.

Tools and equipment may include:

- elevated work platforms
- hand and power tools
- ladders
- scaffolds
- testing equipment.

Materials may include:

- actuating devices
- alarms
- control valve assemblies
- fittings and connections
- sprinkler heads.

Sustainability principles and concepts:

- cover the current and future social, economic and environmental use of resources
- may include:
 - efficient energy usage
 - efficient use and recycling of material
 - efficient water usage, harvesting and/or disposal.

Information may include:

- charts and hand drawings
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions
- material safety data sheets (MSDS)

- memos
- NFPA and Factory Mutual performance-based codes of practice
- organisation work specifications and requirements
- plans and sketches
- regulatory and legislative requirements, particularly those pertaining to:
 - building codes
 - WHS and environmental requirements
 - plumbing regulations
- relevant Australian standards
- safe work procedures relating to testing and maintaining automatic fire sprinklers
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Unit Sector(s)

Functional area •

Unit sector • Plumbing and services

Custom Content Section

Not applicable.