



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **CPCPFS3013A Fit off sprinkler heads, controls and ancillary equipment**

**Release: 1**

## CPCPFS3013A Fit off sprinkler heads, controls and ancillary equipment

### Modification History

Not Applicable

### Unit Descriptor

**Unit descriptor** This unit of competency specifies the outcomes required to install sprinkler heads, system controls and ancillary equipment for sprinkler fire protection systems.

### Application of the Unit

**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

Not Applicable

### Pre-Requisites

#### Prerequisite units

CPCPCM2023A

Carry out OHS requirements

## Employability Skills Information

**Employability skills**      This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

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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

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work.	<p>1.1. Approved plans and specifications are obtained from relevant authority.</p> <p>1.2. <b>Safety (OHS)</b> requirements associated with installing sprinkler heads, system <b>controls</b> and ancillary equipment, and workplace <b>environmental requirements</b>, are adhered to throughout the work.</p> <p>1.3. <b>Quality assurance</b> requirements are identified and adhered to in accordance with workplace requirements.</p> <p>1.4. Tasks are planned and sequenced in conjunction with others involved in or affected by the work.</p> <p>1.5. <b>Tools and equipment</b> for installing sprinkler heads, system controls and ancillary equipment, including personal protective equipment, are selected and checked for serviceability.</p> <p>1.6. Work area is prepared to support efficient installation of sprinkler heads, system controls and ancillary equipment.</p>
2. Identify installation requirements.	<p>2.1. Class of sprinkler system and associated design data are identified from system design specifications.</p> <p>2.2. Components are selected in accordance with job requirements, plans and specifications or other relevant codes or standards.</p> <p>2.3. <b>Materials</b> and equipment are identified, ordered and collected in accordance with workplace procedures.</p> <p>2.4. Materials and equipment are checked for compliance with standards, docket and order form, and for acceptable condition.</p>
3. Install and test sprinkler system.	<p>3.1. System is set out in compliance with plans, specifications and job instructions.</p> <p>3.2. Fixing and pipe supports are installed to plans, manufacturer specifications, standards or regulations.</p> <p>3.3. Sprinkler system components and ancillary equipment are installed in accordance with plans, specifications and standards.</p> <p>3.4. Sprinkler system is pressure tested in accordance with standards and job specifications.</p> <p>3.5. Test data is recorded in format required by job specifications and quality assurance procedures.</p>
4. Clean up.	<p>4.1. Work area is cleared, with materials disposed of or recycled in accordance with state or territory</p>

**ELEMENT****PERFORMANCE CRITERIA**

*statutory and regulatory authority* legislation.

4.2. Tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and workplace procedures.

4.3. *Information* is accessed and documentation completed in accordance with regulatory authorities and workplace requirements.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

Required skills for this unit are:

- communication skills to:
  - access information
  - complete workplace documentation
  - determine requirements
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - follow and give instructions
  - plan and sequence tasks with others
  - read and interpret:
    - documentation from a variety of sources
    - drawings and specifications
  - record test results in writing
  - use language and concepts appropriate to cultural differences
  - use and interpret non-verbal communication, such as hand signals
- identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- installing and testing sprinkler heads, controls and ancillary equipment of an automated sprinkler system
- numeracy skills to apply measurements and calculations
- organisational skills, including the ability to plan and set out work
- teamwork skills to work with others to action tasks and relate to people from a

## **REQUIRED SKILLS AND KNOWLEDGE**

range of cultural and ethnic backgrounds and with varying physical and mental abilities

- technological skills to:
  - access and understand site-specific instructions in a variety of media
  - use mobile communication technology.

### **Required knowledge**

Required knowledge for this unit is:

- accessing information and the processes for calculating material requirements
- fire sprinkler systems for commercial, industrial, domestic or residential application
- functions and operation of a range of taps and valves
- job safety analysis (JSA) and safe work method statements (SWMS)
- pressure test systems and procedures
- process of installing and testing sprinklers, controls and ancillary equipment
- properties and characteristics of water pressure and flow rates
- relevant statutory and authority requirements related to installation of sprinkler heads, controls and ancillary equipment
- SI system of measurement
- workplace and equipment safety requirements.

# Evidence Guide

## EVIDENCE GUIDE

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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 install and test sprinkler heads, controls and ancillary equipment
- applying safety requirements throughout the work sequence, including the use of personal protective clothing and equipment
- as a minimum the ability to, given the plans and specifications of a simple automated fire sprinkler system, install and test at least two sprinkler heads, a flow switch and a pressure switch, ensuring:
  - correct identification of location, design and details of proposed installation
  - 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.

## EVIDENCE GUIDE

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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 working 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



## EVIDENCE GUIDE

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- 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

### RANGE STATEMENT

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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.

***Safety (OHS)*** is to be in accordance with 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:

## RANGE STATEMENT

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- hazardous materials and substances
  - service lines
  - surrounding structures and facilities
  - trip hazards
  - use of tools and equipment
  - work site visitors and the public
  - working at heights
  - working in proximity to others
  - use of firefighting equipment
  - use of first aid equipment
  - workplace environment and safety.
- Controls** include:
- flow switches
  - multiple jet controls (MJC)
  - pressure switches.
- Environmental requirements** cover water quality management and may include:
- clean-up protection
  - stormwater 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:
- chain blocks
  - cutting and threading equipment
  - elevated work platforms
  - forklifts
  - hand and power tools
  - hand trolleys
  - hoists and jacks
  - ladders
  - lifting and load shifting equipment
  - rollers
  - scaffolds
  - testing equipment
  - welding equipment.
- Materials** may include:
- flow switches
  - MJC

## RANGE STATEMENT

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**Statutory and regulatory authorities** include:

**Information** may include:

- pressure switches
- sprinkler heads.
- statutory gasfitting authority
- statutory plumbing authority
- state or territory statutory authority.
- charts and hand drawings
- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions
- material safety data sheets (MSDS)
- memos
- organisation work specifications and requirements
- regulatory and legislative requirements, particularly those pertaining to:
  - building codes
  - OHS and environmental requirements
  - plumbing regulations
- relevant Australian standards
- safe work procedures relating installing sprinkler heads, controls and ancillary equipment
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

## Unit Sector(s)

**Unit sector** Plumbing and services

## Co-requisite units

**Co-requisite units** Nil

**Co-requisite units** Nil

## **Functional area**

**Functional area**