



Australian Government

Assessment Requirements for CPCSF5010

Provide documentation and support for fabrication of fire sprinkler systems

Release: 1

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Modification History

- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCSF5010A Provide documentation and support for fabrication of fire sprinkler systems. Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- producing pipe fabrication documentation for fire sprinkler system design projects for four types of buildings including a:
 - commercial building
 - factory
 - residential nursing home
 - high-rise building.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- workplace design tools and processes
- level of accuracy required in detailed design drawings
- naming conventions for design drawings and drawing register
- relevant current legislation, codes and standards:
 - building Acts
 - building regulations
 - infrastructure supply regulations
 - the Building Code of Australia (BCA)
 - National Construction Code (NCC)
 - Australian standards for fire systems
 - international standards for fire systems
 - jurisdictional authorities in addition to the BCA and NCC
 - other fire system standards commonly required by building insurers

- protection requirements for different buildings, including:
 - low-rise buildings
 - processing building applications
 - warehouse buildings under 13.7 m high
 - warehouse buildings over 13.7 m high
 - medium-rise buildings
 - high-rise buildings (over 25 metres)
 - buildings over 50 metres in height
- fire systems' technology and components, including water-based systems:
 - wet pipe sprinkler systems
 - deluge and drencher systems
 - dry pipe sprinkler systems
 - pre-action sprinkler systems
 - early suppression fast response (ESFR)
 - gaseous suppression systems
 - water spray systems
 - water mist systems
 - wet chemical suppression systems
 - foam suppression systems
 - hangers
 - sprinkler heads
 - nozzles
 - elbows
 - tees
 - pumps
 - tanks
- purpose and operation of fire systems:
 - layout
 - location:
 - ceiling space
 - roof space
 - under-floor
 - under-soffit
 - special products and hazards
 - system operation:
 - deluge and drencher systems
 - dry pipe sprinkler systems
 - pre-action sprinkler systems
 - ESFR
 - gaseous suppression systems

- water spray systems
- water mist systems
- foam suppression systems
- performance requirements and technical issues impacting on fire sprinkler systems designs
- maintenance standards
- system activation:
 - deluge and drencher systems
 - dry pipe sprinkler systems
 - pre-action sprinkler systems
 - ESFR
 - gaseous suppression systems
 - water spray systems
 - water mist systems
 - foam suppression systems
- characteristics and limitations of products and materials used in fire systems and issues relating to material compatibility
- installation risks and constraints impacting on pipe fabrication specifications for fire sprinkler systems
- construction industry terminology
- roles and responsibilities of relevant building project personnel:
 - architect
 - lead contractor
 - structural engineer
 - mechanical engineer
 - hydraulic engineer
 - electrical engineer
 - civil engineer
 - fire engineer
 - building (private) certifier or surveyor
- on-site issues that can arise during the construction phase and impose changes to the designs of fire systems and other services:
 - risks:
 - manual handling
 - confined spaces
 - working at height
- installation methods:
- access requirements:
 - height of pipe
 - length of pipe
 - weight of pipe and materials

- distance from beams
 - distance from walls
- work health and safety (WHS) requirements
- water supplies:
 - common water sources
 - conservation requirements
 - in-ground reticulation
 - booster configurations
- fluid mechanics and hydraulics relating to pipe range
- sustainability requirements and ratings:
 - energy conservation
 - water conservation
- pipe fabrication methods and constraints
- pipe specifications:
 - length
 - dimension
 - pap size
 - material:
 - black steel
 - galvanised
 - hot dip galvanised
 - high density polyethylene (HPDE)
 - chlorinated polyvinyl chloride (CPVC)
- pipe connection specifications:
 - flange
 - roll grooved
 - threaded
 - compression
 - fusion welded
 - chemical (glue)
- valve specifications:
 - sluice
 - gate
 - butterfly
 - globe
 - ball
 - solenoid
 - diaphragm
 - pressure reducing
 - flow restricting

- 3-way
- mathematic principles, equations and calculation methods:
 - financial calculations, for example to assess cost-effectiveness of fire systems
- codes, standards, legislation and regulatory requirements
- access to manufacturer's information.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>