



Australian Government

CPCPFS5010 Design fire-compliant hydraulic services

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 CPCPFS5010A Design fire-compliant hydraulic services. Updated to meet the Standards for Training Packages 2012.

Application

This unit of competency specifies the skills and knowledge required to design fire protection systems for hydraulic services in wide span and high-rise buildings. The fire protection systems ensure that hydraulic services maintain integrity, insulation and structural adequacy in case of fire.

It involves interpretation of plans and specifications and the design, detailing and documentation of fire-compliant hydraulic services for applications including residential, commercial and industrial and may be for new projects or an existing structure being renovated, extended, restored or maintained.

This unit is suitable for those using specialised knowledge to complete routine and non-routine tasks and using their own judgement to deal with predictable and sometimes unpredictable problems.

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

Pre-requisite Unit

Nil.

Unit Sector

Plumbing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- 1 Evaluate design parameters.

- 1.1 Evaluate fire and non-fire-rated compartments of buildings and specify the application of evaluation to hydraulic services.

- 1.2 Determine design requirements from plans, specifications and client brief.
 - 1.3 Conduct cost-benefit analysis, comparing a range of pipe materials, system designs and penetration protection systems.
 - 1.4 Interpret and apply statutory, regulatory, Australian and New Zealand standards and relevant building code requirements for the design of fire-compliant hydraulic services.
 - 1.5 Interpret and apply manufacturer requirements and trade and technical manuals.
 - 1.6 Conduct additional research, including a desktop study, and establish performance requirements.
- 2 Plan and detail system components.
 - 2.1 Plan layout of pipework systems and type and location of fire check materials.
 - 2.2 Specific approved fire-rated materials, penetration techniques, insulation and filler materials to appropriate fire-resistance level.
 - 2.3 Design pipe fixings for a range of applications.
 - 2.4 Design pipework for sprinklered and non-sprinklered areas for a range of applications.
 - 2.5 Specify installation requirements.
 - 2.6 Conduct compliance inspection in accordance with workplace procedures.
- 3 Design and size systems.
 - 3.1 Design fire-compliant hydraulic services for a range of wide span and high-rise building applications.
 - 3.2 Design a range of fire-compliant duct systems using fire-rated building materials.
 - 3.3 Design hydraulic services using non fire-rated materials to comply with building fire ratings.
 - 3.4 Design and size fire-compliant hydraulic distribution

- systems using computer software packages.
- 3.5 Apply sustainability principles and concepts when preparing for and undertaking work process.
- 4 Prepare documentation.
- 4.1 Prepare and detail plans for a range of fire-compliant hydraulic services.
- 4.2 Prepare specifications for fire-compliant hydraulic services.
- 4.3 Prepare compliance report in accordance with workplace procedures.
- 4.4 Produce operation and maintenance manual in accordance with workplace procedures.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCPFS5010A Design fire-compliant hydraulic services.

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>