



Australian Government

Assessment Requirements for 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.

Performance Evidence

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

- evaluating and documenting design parameters, including client, regulatory, manufacturer, NCC and Australian and New Zealand standard requirements for a range of fire-compliant hydraulic services
- planning and detailing system components, including:
 - applying sustainability principles and concepts
 - conducting a compliance inspection
 - designing fire-compliant hydraulic systems
 - designing fire-compliant systems for fire-rated materials
 - designing fire-compliant systems for non-fire-rated materials
 - ducts
 - fire check collars
 - insulation and filler materials
 - penetrations
 - preparing a compliance report
 - preparing a specification for fire-compliant hydraulic services
 - preparing an operation and maintenance manual.

Knowledge Evidence

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

- sustainability principles and concepts covering the current and future social, economic and environmental use of resources:
 - selecting appropriate material to ensure minimal environmental impact
 - efficient use of material
 - efficient energy usage

- efficient use and recycling of material
- disposing of waste material to ensure minimal environmental impact
- efficient water usage, harvesting and/or disposal
- lifecycle cost-benefit analysis
- consideration of the Green Building Council of Australia rating scheme.
- design requirements:
 - architectural specifications
 - builder specifications
 - design of fire-compliant hydraulic services should ensure that hydraulic services maintain the integrity, insulation and structural adequacy of a building in case of fire
 - owner requirements
 - specialist design applications
- statutory, regulatory, Australian and New Zealand standards and relevant building code requirements:
 - AS/NZS3500 National plumbing and drainage
 - manual of authorisation procedures for plumbing and drainage products (MP52)
 - material and authorisation standards specified by:
 - statutory plumbing authority
 - local authority
 - National Construction Code (NCC)
 - relevant Acts, regulations and local and state government policies
 - relevant fire standards
- manufacturer requirements:
 - material specifications
 - technical and trade manuals
- layout of pipework systems:
 - car park systems
 - concealed pipework
 - duct systems
 - exposed pipework
 - fire-rated pipework
 - non fire-rated pipework
 - sprinklered and non-sprinklered areas
 - should have principles of economy, serviceability, durability and fit for use applied
- fire check materials:
 - fire pillows
 - fire-rated sealants
 - smoke seals
 - range of intumescent collars
- fire-rated materials:

- fittings
- pipework
- valves
- penetration techniques:
 - concrete floors
 - fire and smoke doors
 - fire dampers
 - galvanised decking systems
 - ply formwork systems
 - post and pre-tensioned concrete flooring systems
 - pre-cast flooring systems
- insulation and fill materials:
 - caulking compounds
 - fibreglass
 - fire pillows
 - foams
 - proprietary fill materials
 - rock wool
- fire-resistance level:
 - insulation
 - integrity
 - structural adequacy
- pipe fixings may include fire and load-rated:
 - bedding and thrust blocks
 - corrosion protection
 - cover
 - masonry fixing
 - material requirements
 - pipe supports spacings and locations
 - vertical support fixing
- installation requirements may include:
 - corrosion and element protection
 - installation details
 - jointing requirements
 - supports
 - workmanship and quality control
- compliance inspection:
 - approved materials appropriate to fire-rated compartments and required fire-resistance level are used
 - cladding and insulation comply with regulatory requirements

- fire compartments are not compromised by hydraulic services
- installation is appropriate for the fire-resistance level
- fire-compliant duct systems:
 - brick
 - concrete
 - masonry
 - plasterboard
- fire-rated building materials:
 - brick
 - concrete
 - masonry
 - plasterboard
 - other building materials as applicable.

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>