



Australian Government

CPCPPS5002 Design gas reticulation 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 CPCPPS5002B Design gas reticulation systems. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to design and size gas reticulation systems, including determining material, placement and ventilation requirements.

The unit also covers the analysis and interpretation of relevant gas codes and standards, the preparation of documentation for testing and commissioning and creating associated operation and maintenance manuals.

The role involves interaction with architects, builders, suppliers, clients and relevant planning authorities and requires a sound understanding of applicable legislation, standards and codes.

This unit applies to experienced people such as hydraulic design consultants and plumbers or persons in a supervisory capacity who work in plumbing services on new or existing sites.

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 and Fire Services

Elements and Performance Criteria

Elements describe the essential outcomes.

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

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| 1 Evaluate design parameters. | 1.1 Establish scope of work for gas reticulation systems. |
| | 1.2 Establish system performance requirements. |
| | 1.3 Determine design requirements from plans, specifications and client brief. |

- 1.4 Review and analyse statutory and regulatory requirements and Australian and New Zealand Standards for the design of gas reticulation systems.
 - 1.5 Conduct research, including a desktop study to identify a range of system options.
 - 1.6 Interpret manufacturer requirements and trade and technical manuals for gas reticulation systems.
 - 1.7 Conduct a cost-benefit analysis to compare materials and system designs.
- 2 Plan and detail system components.
 - 2.1 Plan layout of pipework systems including the type and location of fittings and valves.
 - 2.2 Calculate pipe sizes for a range of applications.
 - 2.3 Specify ventilation and flue requirements of applications.
 - 2.4 Conduct gas metering and measurement of gas consumption.
 - 2.5 Detail distribution pressures and specifications of regulators and appliances for applications.
 - 2.6 Design and detail cylinder and tank systems.
 - 2.7 Specify safety, ignition, thermostat and gas control devices in compliance with relevant standards and codes.
 - 2.8 Plan pipe fixings for applications.
 - 2.9 Specify approved materials, jointing methods and installation requirements for gas reticulation systems.
- 3 Design and size systems.
 - 3.1 Design and size range of gas reticulation systems.
 - 3.2 Design and size pressure loss through pipework, valves and meters.
 - 3.3 Design and size ventilation systems for gas systems and appliances.
 - 3.4 Design and layout plantroom containing liquefied petroleum gas (LPG) appliances.

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| 4 Prepare documentation. | 4.1 Prepare plans for gas reticulation systems. |
| | 4.2 Prepare specification for gas reticulation systems. |
| | 4.3 Prepare testing and commissioning schedule. |
| | 4.4 Produce operation and maintenance manual. |

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 CPCPPS5002B Design gas reticulation systems.

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>