



Australian Government

CPCPRF4011 Design and size roof drainage 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 CPCPRF4011B Design and size roof drainage systems. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to design, size and document the layout of roof drainage systems for Class 1 and 6 buildings as defined in the National Construction Code (NCC).

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.
1 Identify roof drainage system requirements.	1.1 Access, read and determine design and size of roof drainage system from plans, job specifications, relevant Australian Standards, codes, manufacturers' instructions and jurisdictional requirements. 1.2 Identify and apply workplace, work health and safety (WHS) and environmental requirements.
2 Design and size	2.1 Design and size system layout in accordance with relevant manufacturers' instructions, Australian

system layout.

Standards and jurisdictional requirements.

- 2.2 Determine roof catchment areas and design flows from rainfall data and current Australian standards.
- 2.3 Determine quantity and size of gutters, sumps, rain heads, overflows and downpipes.
- 2.4 Produce final roof drainage system layout plans according to relevant drawing design standards.

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 CPCPRF4011B Design and size roof drainage 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>

Assessment Requirements for CPCPRF4011 Design and size roof drainage systems

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Performance Evidence

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

- designing, sizing and documenting the layout of a roof drainage system including overflows for two varied roof types:
 - one incorporating eaves gutter for a residential (Class 1) building, and
 - one for a commercial (Class 6) building incorporating a box gutter and sumps or rain heads.

Knowledge Evidence

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

- relevant information sources for designing and sizing roof drainage systems
- processes for calculating catchment areas and design flows
- quantity and size of gutters, sumps, rain heads and downpipes determined according to relevant Australian Standards, plans and specifications
- environmental requirements and sustainability principles including efficient design principles
- drawing instruments and sketching techniques, including the use of conventional symbols
- use of computers and computer-aided design (CAD) software for documentation
- how to access relevant information, including codes and standards
- tools, materials and equipment used to design, size and document the layout of roof drainage systems
- work health and safety (WHS) requirements for designing, sizing and documenting the layout of roof drainage systems.

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

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