

Unit of Competency CPCPMS3040

Install and commission evaporative air cooling systems

Application

This unit specifies the skills and knowledge required to install and maintain evaporative air cooling systems.

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

Prerequisite Unit

CPCPCM2043 Carry out WHS requirements

CPCPCM2055 Work safely on roofs

CPCPCM3021 Flash penetrations through roofs and walls

CPCPWT3029 Install water pipe systems

Elements and Performance Criteria

1. Plan the work.	<ul style="list-style-type: none">1.1 Identify evaporative air cooling system requirements from current approved plans, specifications, standards and codes.1.2 Apply quality assurance requirements, work health and safety (WHS) and environmental requirements and sustainability principles for installing evaporative air cooling systems.1.3 Plan and sequence tasks with others involved in the work.1.4 Calculate material quantities.
2. Prepare the work.	<ul style="list-style-type: none">2.1 Identify work area preparation requirements.2.2 Select and check the serviceability of appropriate tools, equipment and personal protective equipment (PPE).2.3 Receive and check materials for conformity and report any faults or damage.
3. Install and commission unit.	<ul style="list-style-type: none">3.1 Set out for installation and locate existing services and adjust installation process accordingly to avoid any disturbance.3.2 Carry out preparatory work including installation of piping and isolating valve, roof penetration and flashing without unnecessary damage to surrounding structures or environment.3.3 Install structural supports, ducting and control panels.3.4 Test installation and adjust accordingly.
4. Clean up.	<ul style="list-style-type: none">4.1 Clear the work area, and dispose of, reuse or recycle materials in accordance with state and territory legislation and workplace policies and procedures.4.2 Clean tools and equipment, check for serviceability reporting any damage, store and secure.

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 CPCPMS3040A Install and maintain evaporative air cooling systems.

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCPMS3040 Install and

commission evaporative air cooling systems

Performance Evidence

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

- installing and commissioning an evaporative air cooling system on a roof including:
 - o flashing the roof penetration
 - o installing a plenum box and duct work to three diffusers with at least one diffuser positioned three metres from the plenum box, including appropriate duct work support
 - o connecting cold water to an isolation valve within one metre of the appliance
 - o install drain to approved point of discharge
 - o connecting and completing installation testing and commissioning the systems operation.

Knowledge Evidence

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

- characteristics and application of approved materials and components
- terminology relating to evaporative air cooling systems
- effect of bacteria in water, and health implications
- processes, procedures and techniques of:
 - o effective isolation
 - o installing and testing evaporative air cooling systems
 - o roof penetration and flashing
 - o system of measurement and calculations
- types of evaporative air cooling system materials:
 - o control panels
 - o diffusers
 - o ducting materials
 - o evaporative air cooling systems
 - o grilles
 - o insulation
- considerations for work site preparation:
 - o ensuring structural integrity of roof
 - o installing piping and isolating valve
 - o installing piping and isolating valve in roof cavity
 - o installing plinths
 - o installing structural supports
- other services connections to units:
 - o electrical connections
 - o water supply.

Assessment Conditions

Assessors must satisfy the requirements for assessors listed 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.

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