



Australian Government

MEM23145 Apply codes and regulations to air conditioning designs

Release: 1

MEM23145 Apply codes and regulations to air conditioning designs

Modification History

Release 1. Supersedes and is equivalent to MEM23145A Apply codes and regulations to air conditioning designs.

Application

This unit of competency defines the skills and knowledge required to apply standards, codes of practice and regulatory requirements to produce air conditioning designs for typical large-scale plant and multi-zone applications.

It applies to heating, ventilation, air conditioning and refrigeration (HVACR) technicians in organisational that design air conditioning systems and it can be applied to working within a design team or to individual design tasks.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MEM23004 Apply technical mathematics

MEM23006 Apply fluid and thermodynamics principles in engineering

MEM23140 Determine operational parameters for building HVAC hydronic systems

MEM23142 Determine psychrometric processes and system performance

Competency Field

Engineering science

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for design compliance analysis	1.1 Obtain and implement work health and safety (WHS) and environmental requirements for the work area 1.2 Identify air conditioning codes and regulations relevant to zoning and usage, together with environmental requirements, from the client design brief 1.3 Consult with appropriate personnel to ensure that work is

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	coordinated effectively with others 1.4 Obtain equipment and resources needed for the task in accordance with organisational procedures
2. Analyse design for compliance	2.1 Check and validate proposed air conditioning system compliance against relevant codes and regulations 2.2 Prepare recommendations on any identified compliance issues relating to codes and regulations 2.3 Discuss recommendations on any proposed design modifications with appropriate personnel, as required 2.4 Consider and propose alternative design and other solutions required to meet codes and regulation requirements in accordance with organisational procedures
3. Record findings	3.1 Document outcomes of the analysis in accordance with organisational procedures 3.2 Document recommendations for any design rectifications, including details of all findings, calculations and assumptions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

WHS requirements include:	• legislation • protective equipment • material safety management systems • hazardous substances and dangerous goods code • local safe operation procedures
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	• awards provisions.
Air conditioning codes and requirements include:	• National Construction Code (NCC) • state/territory regulations • local government by-laws • emergency service requirements • codes of practice.
Environmental requirements include:	• relevant legislation, regulations and codes • correct handling and disposal of liquid and solid waste • elimination or minimisation of gas, fume, vapour and smoke emissions, including fugitive emissions • dust elimination, minimisation and control • minimisation of energy and water use • elimination or control of excessive noise • use and recycling of refrigerants.
Appropriate personnel include:	• supervisor, leading hand, foreman or manager • engineer • technician • trainer or mentor • team member • customer.
Zoning and usage include:	• air conditioning system • building construction features • occupancies • energy conservation techniques.
Resources include:	• scientific calculator • technical charts and tables • building plans • suitable software.
Organisational procedures include:	• the use of tools and equipment • instructions, including job sheets, plans, drawings and designs • reporting and communication • manufacturer specifications • operational procedures • industry standards.
Equipment includes:	• computer workstation and software, either stand alone or networked • appropriate tools of trade, equipment and materials.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM23145A Apply codes and regulations to air conditioning designs.

Links

Companion Volume Implementation Guides are available on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>