



Australian Government

**Assessment Requirements for CPPHES4001
Research and assess impact of building
elements on thermal performance of
residential buildings**

Release: 2

Assessment Requirements for CPPHES4001 Research and assess impact of building elements on thermal performance of residential buildings

Modification History

Release 2 This version first released with CPP Property Services Training Package Release 14.0.

Updated reference to reflect correction in Modification History from CPC Property Services 5.0 to CPP Property Services 9.0.

Release 1 This version first released with CPC Property Services Training Package Release 5.0.

Supersedes and equivalent to CPPHSA4015A Assess impact of building elements on thermal performance of residential buildings. Updated to meet the Standards for Training Packages.

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by researching and documenting an assessment of the impact of building elements on thermal performance for three different residential buildings involving at least three of the following residential construction methods:

- structurally insulated panels
- pre-fabricated buildings
- brick veneer
- cavity brick
- concrete block masonry
- lightweight construction
- reverse brick veneer.

Knowledge Evidence

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

- building design features that may influence the thermal performance of a building:
 - wall type
 - convection
 - eaves
 - floor types
 - glazing and windows

- insulation
- landscaping
- materials
- orientation
- shading
- siting
- thermal mass
- ventilation
- zoning and layout
- causes of and remedies for condensation
- energy efficiency provisions of building regulations and the National Construction Code (NCC)
- key components of the building envelope
- solar passive building design principles
- passive house building design principles
- properties of building materials that can influence thermal performance:
 - emissivity
 - R-value
 - reflectivity
 - solar absorptance
 - U-value
- properties of glazing units that can influence thermal performance:
 - solar heat gain coefficient
 - U-value
 - visible light transmission
- types of building construction materials used in residential buildings:
 - correct industry terminologies
 - sources of information on their thermal performance
- types of building defects, poor construction techniques and condition of building elements that can impact on the thermal performance of residential buildings:
 - condensation
- methods for testing building envelop efficiency:
 - blower door testing
 - thermal imaging
- types of residential building construction methods:
 - materials used
 - benefits and limitations
 - implications for thermal performance.

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.

Candidates must have access to:

- documentation associated with residential buildings and building products and materials to allow achievement of the performance evidence
- building codes, standards and regulations including the NCC
- computer equipment and software suitable for accessing online catalogues and references to source information on the thermal performance of building products and materials
- reference materials and/or computer equipment to access current information on the thermal performance of building products and materials including:
 - solar passive building design
 - passive house building design
 - thermal performance of building materials and construction methods
 - building envelope thermal performance
 - common building defects including condensation
 - house energy rating schemes
 - blower door testing and thermal imaging
 - manufacturers' product information on building products and materials.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>