

UNIT CODE	NAT10913004
UNIT TITLE	Apply building biology principles to assess and recommend building materials
APPLICATION	<p>This unit applies to building biologists or individuals who, as part of their occupation or work role, provide advice on building material selection to build healthy homes.</p> <p>It requires knowledge of common construction systems, life cycle analysis, and the ability to assess materials using the Building Biology rating tool for their impact on human health, indoor air quality, electro climate and vapour control. It also requires knowledge of suppliers of suitable building materials. This information is well suited to architects, draftspersons, building biologists and owner/builders who renovate and/or build healthy homes.</p> <p>No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.</p>
COMPETENCY FIELD	050999 Environmental Studies, nec
ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes of the unit	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Identify building materials, sealants and finishes used in the construction of a home	<p>1.1 Identify and document the age of the home</p> <p>1.2 Identify the cladding (exterior), window frames, internal walls and doors unique to the house</p> <p>1.3 Identify the foundation and floor coverings unique to the house</p> <p>1.4 Identify the roof type and sarking unique to the house</p> <p>1.5 Identify the type of insulation used</p> <p>1.6 Identify the sealants and finishes used in the construction of the home</p>



<p>2. Assess building materials using the building biology rating tool</p>	<p>2.1 Research the impact of building materials on indoor air quality</p> <p>2.2 Identify building materials that influence the electroclimate of the built environment</p> <p>2.3 Research the hygroscopic properties of building materials</p> <p>2.4 Research toxicants present in building materials</p> <p>2.5 Identify building materials that may be radioactive</p> <p>2.6 Research adverse health effects arising from exposure to toxicants in building materials</p> <p>2.7 Conduct a life cycle analysis of building materials</p> <p>2.8 Use the building biology rating tool to provide a score for each building material used in the construction of the home</p>
<p>3. Select building materials that comply with building biology principles</p>	<p>3.1 Use the building biology rating tool to identify suitable building materials to construct the building envelope</p> <p>3.2 Use the building biology rating tool to identify suitable building materials for the wet areas of the home</p> <p>3.3 Use the building biology rating tool to identify suitable building materials for the living areas of the home</p> <p>3.4 Use the building biology rating tool to identify suitable building materials for the bedrooms of the home</p> <p>3.5 Provide a list of suppliers of suitable building materials</p> <p>3.6 Document assessment findings and recommendations</p>

FOUNDATION SKILLS

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

Skill	Description
Reading skills to:	Follow instructions and technical drawings presented in material data information.



	<p>Read text which includes specialised vocabulary to gather information and create questions to be answered.</p> <p>Understand text which includes symbols and embedded technical information in relation to building materials.</p> <p>Reference authoritative sources to support claims.</p>		
Writing skills to:	<p>Produce, edit and proofread documents to ensure clarity of meaning, accuracy and consistency of information</p> <p>Address the context, purpose and audience when generating text</p> <p>Integrate information and ideas from a range of sources, e.g. course materials, photographs, charts, maps</p> <p>Relay/report researched information using clear and direct language appropriate to the reader/audience</p> <p>Validate findings where appropriate</p>		
Numeracy skills to:	Assess building materials using the Building Biology Material Rating Tool		
Problem-solving skills to:	Identify suitable substitute materials and provide reasons for selection		
Initiative and enterprise skills to:	Source additional information, including alternative suppliers of materials which satisfy Building Biology criteria.		
Planning and organising skills to:	Develop a plan for researching building materials and suppliers		
Technology skills to:	Use computer and internet technology to conduct research.		
UNIT MAPPING INFORMATION			
	Code and Title Current Version	Code and Title Previous Version	Comments
	NAT10913004 Apply building biology principles to assess and recommend building materials	BLDBIO604 Apply building biology principles to assess and recommend building materials	Equivalent unit

TITLE	Assessment Requirements for NAT10913004 Apply building biology principles to assess and recommend building materials
PERFORMANCE EVIDENCE	<p>The learner must show evidence of the ability to complete tasks outlined in the elements and performance criteria of this unit and manage tasks and contingencies in the context of the role of a Building Biology Consultant. There must be demonstrated evidence that the learner has completed the following tasks:</p> <ul style="list-style-type: none"> • Documented the age and architectural style of the home (if known) • Identified the building materials, sealants and finishes used in the construction of the home • Researched the impact of building materials on indoor air quality • Identified building materials that influence the electroclimate of the home • Researched the hygroscopic properties of building materials • Researched toxicants present in building materials that impact human health • Evaluated the life cycle analysis of a building material • Used the Building Biology Rating Tool to analyse building materials • Provided a list of suppliers of suitable building materials • Used computer software and documented findings and recommendations
KNOWLEDGE EVIDENCE	<p>The learner must be able to demonstrate essential knowledge required to effectively do the task outlined in the elements and performance criteria of this unit, and manage the task and contingencies in the context of the work role. This includes knowledge of:</p> <ul style="list-style-type: none"> • Common construction systems used in Australian homes

	<ul style="list-style-type: none"> • Building materials used in the building envelope (roof, floor, exterior doors and windows and exterior walls) • Building materials used in the living areas, bedrooms and wet areas of the home • Building materials that contain toxicants that may impact indoor air quality • Vapour barriers, hygroscopicity, diffusion and breathing properties of building materials • Building materials that influence the electroclimate of the home • Radioactive nuclides in building materials • Adverse health effects arising from exposure to hazards in building materials • Life cycle analysis and embodied energy of building materials • Suitable building materials that comply with the Building Biology recommendations • Suppliers of suitable building materials
<p>ASSESSMENT CONDITIONS</p>	<p>Both practical skills and knowledge must be assessed. Skills must be demonstrated in a simulated environment or a real-life working environment, such as the student's home.</p> <p>Assessment methods must include:</p> <ul style="list-style-type: none"> • essay • professional written report • photographic evidence taken of the home <p>Assessor Requirements</p> <p>Assessors must:</p> <ul style="list-style-type: none"> • have a minimum of two years' experience working as a Building Biologist.