



Australian Government

Department of Education, Employment and Workplace Relations

FPICOT3220B Quote and interpret from computerised timber manufactured product plans

Release: 1

FPICOT3220B Quote and interpret from computerised timber manufactured product plans

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit describes the outcomes required to design, detail and prepare a quotation for the fabrication of trusses and/or frames and/or floors using a computerised system
General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication
This unit replaces FPICOT3220A Quote and interpret from computerised timber manufactured product plans

Application of the Unit

Application of the unit The unit involves quoting and interpreting from computerised timber manufactured product plans in a timber and wood products production setting
The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select software	<p>1.1. Applicable <i>Occupational Health and Safety (OHS)</i>, environmental, <i>legislative</i> and <i>organisational</i> requirements relevant to drawing and detailing trusses and/or frames and/or floors using computerised systems are identified and followed</p> <p>1.2. <i>Software</i> options are reviewed and evaluated against specified <i>work requirements</i></p> <p>1.3. Appropriate software program is selected appropriate to work requirements</p>
2. Interpret plans and loading conditions	<p>2.1. Plans and work order documentation are obtained and interpreted</p> <p>2.2. Plans are interpreted and work requirements specified, <i>assessed</i> and referred to engineers for calculations</p> <p>2.3. Additional information and data required to estimate <i>assemblies</i> is obtained from <i>appropriate personnel</i> or <i>other sources</i></p> <p>2.4. Functional and pictorial <i>images</i> of structures, trusses and/or frames and/or floors are created</p> <p>2.5. Design requirements outside software limitations are identified and referred to appropriate personnel</p> <p>2.6. <i>Communication</i> with others is established and maintained in line with OHS and organisational requirements</p>
3. Use computer programs to estimate trusses and/or frames and/or floors	<p>3.1. Fixed design details are transferred to layout data in line with software requirements</p> <p>3.2. Truss and/or frame and/or floor types are identified and timber type and species selected in line with material suitability and availability</p> <p>3.3. Design structure is defined by common industry spacing of trusses or frames or floors and their components in line with <i>industry standards</i></p> <p>3.4. Component sizes are fixed to clarify and firm design options</p> <p>3.5. Layouts, spacing and sizing of individual structural members are progressively selected in line with software requirements</p>

ELEMENT

PERFORMANCE CRITERIA

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| | 3.6. Design details are produced in line with software and work order requirements |
| | 3.7. Design options are selected on the basis of feasibility, ease of erection, cost, material availability, customer preference and site standards |
| | 3.8. Design details are reviewed and revised in line with site and customer standards without compromising truss, frame or structure strength |
| 4. Prepare quotation | 4.1. Estimations are <i>calculated</i> and quotation is produced in the designated format using recommended software and computer program |
| | 4.2. Quotation is reviewed and checked for completeness and accuracy in line with organisational requirements |
| | 4.3. Modifications are made to computer design to meet work order requirements, if required |
| | 4.4. Computer records are completed and quotation is prepared for presentation in line with workplace procedures |
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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level required for this unit.

Required skills

REQUIRED SKILLS AND KNOWLEDGE

- Technical skills sufficient to quote and detail trusses and/or frames and/or floors using computerised systems and software and to interpret design and detail of timber trusses and/or frames and/or floors using available materials and meeting the required standards
- Communication skills and interpersonal techniques sufficient to interact appropriately with colleagues and others in the workplace
- Literacy skills sufficient to locate, interpret and apply relevant information, industry terminology and specifications in written, diagrammatic and/or verbal form; ability to accurately record and report workplace information and maintain documentation
- Numeracy skills sufficient to select appropriate mathematical and estimation processes
- Problem solving skills sufficient to identify problems and demonstrate appropriate response procedures

Required knowledge

- Applicable Commonwealth, State or Territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for estimating trusses and/or frames and/or floors using computerised systems
- Organisational and site standards, requirements, policies and procedures for estimating trusses and/or frames and/or floors using computerised systems
- Environmental protection requirements, including the safe disposal of waste material
- Established communication channels and protocols
- Problem identification and resolution strategies and common fault finding techniques
- Types of tools and equipment relevant to quoting and interpreting from computerised timber manufactured product plans and procedures for their use, operation and maintenance
- Procedures for recording, reporting and maintaining workplace information
- Appropriate mathematical procedures for estimation and measurement
- Application of building and structural regulations and site policy
- Range, types and uses of computer programs and software including estimation software
- Common industry terminology for all component types
- Relationship between component loads, supports and spans and component loads, species, type, dimensions and grade
- Industry standard cross-section sizes and profiles, length and spacing dimensions

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can select and use computerised systems to accurately interpret trusses and/or frames and/or floors and prepare a quotation in line with industry and organisational guidelines

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements of this unit and include demonstration of:

- following applicable Commonwealth, State or Territory legislative and regulatory requirements and codes of practice relevant to the full range of processes for estimating trusses and/or frames and/or floors using computerised systems
- following organisational policies and procedures relevant to the full range of processes for estimating trusses and/or frames and/or floors using computerised systems
- effective communication techniques and safe work practices in the work area
- interpreting plans, loading conditions and technical information and conveying information in written, sketch and oral form
- using a scientific calculator and appropriate computer software to estimate truss, beam and frame materials and quantities
- producing quotations within designated timeframes
- applying mathematical procedures such as estimation and measurement

Context of and specific resources for assessment

- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or

EVIDENCE GUIDE

Australian Standards requirements

- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to undertaking work applicable to this unit
 - specifications and work instructions

EVIDENCE GUIDE

Method of assessment

- Assessment must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge
- Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

RANGE STATEMENT

OHS requirements:

are to be in line with applicable Commonwealth, State or Territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- manual handling including shifting, lifting and carrying

Legislative requirements:

are to be in line with applicable Commonwealth, State or Territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care
- lifts and cranes, scaffolding, building codes and regulations

Organisational requirements may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures
- ethical standards

RANGE STATEMENT

- recording and reporting requirements
- equipment use and maintenance and storage requirements
- environmental management requirements (waste disposal, recycling and re-use guidelines)

RANGE STATEMENT

- Software**
- will be a commercial package running on suitable computer hardware and producing designs using specific trusses and/or frames and/or floors assembly hardware requirements
- Work requirements** may include:
- loading requirements
 - applicable codes
 - common industry practices
 - specific customer preferences
 - transport regulations
 - fabricating limitations
- Assessment** may include
- assessment of:
- concentrated loads
 - dimensions defining geometry and loading of individual trusses and/or frames and/or floors
 - drawing views and notes to identify additional design requirements and restrictions
- Assemblies** may include:
- wooden roof trusses
 - floor trusses and wall frames for solid brick, brick veneer and timber frame domestic houses and light commercial structures
- Appropriate personnel** may include:
- supervisors
 - clients
 - colleagues
 - line management
 - software support engineers
- Other sources** may include:
- suppliers
 - manufacturers
 - architect
 - builder
 - local council
- Images** may include:
- details of:
- load support
 - loading transfer mechanisms
 - tying positions
- Communication** may include:
- verbal and non-verbal language
 - constructive feedback
 - active listening
 - questioning to clarify and confirm understanding

RANGE STATEMENT

- use of positive, confident and cooperative language
- use of language and concepts appropriate to individual social and cultural differences
- control of tone of voice and body language

Industry standards may include:

- Australian standards
- international standards
- nail plate provider standards

Calculations may include:

- quantities of timber for trusses and/or frames and/or floors
- quantities of ancillaries and bracing
- costing of materials and labour

Unit Sector(s)

Not Applicable

Competency field

Competency field Common Technical