



Australian Government

Department of Education, Employment and Workplace Relations

FPITMM3204A Interpret designs to prepare timber roof truss drawings and documents using computers

Release: 1

FPITMM3204A Interpret designs to prepare timber roof truss drawings and documents using computers

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to use computer systems to produce roof truss drawings including details of their fabrication
General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication

Application of the Unit

Application of the unit The unit involves interpreting plans and designs to prepare a limited range of roof truss drawings and production documents using computers in a timber products, production or design 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. Prepare to interpret plans or designs	1.1. Applicable Occupational Health and Safety (OHS), environmental, legislative and organisational requirements relevant to interpreting a range of plans and designs to prepare timber roof truss drawings and production documents using computers are identified and followed 1.2. Information about plans or designs, identified standards, design factors and specifications is gathered 1.3. Stakeholders are identified and consulted where clarification is needed 1.4. Drawings and documentation are maintained to identified standards
2. Create roof truss layouts	2.1. Computer software is checked for currency 2.2. Design factors and data are input to the software 2.3. Pitching lines and load bearing points are identified 2.4. Roof shapes are input and roof truss layout is created 2.5. Design requirements outside software limitations are referred to appropriate personnel for resolution
3. Review roof truss layouts	3.1. Roof trusses are designed and proved against identified standards 3.2. Roof truss designs are reviewed and amended to ensure efficiency is met with respect to available materials and production requirements, while maintaining identified standards 3.3. Design variations are referred to appropriate stakeholders following organisational referral procedures, where design varies from identified standards
4. Create outputs	4.1. Drawings and documentation are prepared 4.2. Drawings and documentation are communicated and stored, in line with identified standards
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Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Technical skills sufficient to accurately prepare roof truss drawings and production documents to identified standards using custom software
- Communication skills sufficient to interact with stakeholders
- Literacy skills sufficient to locate, interpret and apply relevant information and to accurately record outputs
- Numeracy skills sufficient to select and use appropriate mathematical techniques
- Problem solving skills sufficient to identify problems and appropriately initiate solutions or referral processes

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 the interpretation of plans and designs to prepare timber roof truss drawings and production documents using computers
- Organisational and site standards, requirements, policies and procedures relevant to interpreting plans and designs to prepare a limited range of timber roof truss drawings and production documents using computers
- Environmental protection requirements, including the safe disposal of waste material
- Limits of ability and authority with respect to non-conforming design
- Common industry standard sizes, profiles and spacing dimensions
- Established communication channels and protocols
- Problem identification and resolution strategies and common fault finding techniques
- Types of tools and equipment relevant to preparing timber roof truss drawings and procedures for their safe use, operation and maintenance

REQUIRED SKILLS AND KNOWLEDGE

- Appropriate mathematical procedures for estimating and measuring including calculating time to complete tasks
- Procedures for recording and reporting workplace information

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 use computer software to prepare timber roof truss drawings and documents from plans and designs provided

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 interpreting plans and designs to prepare timber roof truss drawings and production documents using computers
- following organisational policies and procedures relevant to interpreting plans and designs to prepare a limited range of timber roof truss drawings and production documents using computers
- preparation of roof truss drawings and production documents suitable for manufacture of roof trusses

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 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

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

EVIDENCE GUIDE

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.

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:

RANGE STATEMENT

- 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
- management of hazardous materials and substances
- ergonomic office layouts and practice
- manual handling including shifting, lifting and carrying

RANGE STATEMENT

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
- Building Code of Australia
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

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
- recording and reporting requirements
- equipment use and maintenance and storage requirements
- environmental management requirements (waste disposal, recycling and re-use guidelines)
- procedures relating to economical design with respect to production and materials

Roof trusses must include:

- "A" type truss
- truncated standard truss
- girder truss
- truncated girder
- jack truss
- rafter truss
- gable truss
- saddle truss

Roof trusses may include:

- raking truss

RANGE STATEMENT

- parallel chord truss
- vaulted truss
- truncated saddle truss
- scissor truss

RANGE STATEMENT

Identified standards may include:	• Building Code of Australia • Australian Standards • organisational quality standards
Design factors may include:	• roof material loads • wind zone and applied loads • commercial or residential output • additional roof loading • post disaster structures • roof shape • roof lines
Stakeholders may include:	• clients • builders • manager • supervisor • production staff • engineers • architects and designers • building certifiers • software providers
Drawings and documentation may include:	• drawing views • drawing notes • records of conversation • records of amendments • functional and pictorial images • design records • component cutting details
Computer software must include:	• software capable of developing a design outcome to an identified standard
Roof shapes may include	• hipped • gabled • bowstring • mansard • skillion • dual pitch • bell
Available materials may include:	• timber dimensions, grades and treatments • nail plate and other hardware dimensions
Production requirements	• plant availability • labour availability

RANGE STATEMENT

may include:

- production schedules

Unit Sector(s)

Not Applicable

Competency field

Competency field

Timber Manufactured Products and Timber Merchandising