



Australian Government

Department of Education, Employment and Workplace Relations

FPICOT3246B Test heavy structural/engineered products

Release: 1

FPICOT3246B Test heavy structural/engineered products

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to test heavy structural and engineered products in line with product quality specifications. The unit includes establishing specifications and test methods, conducting and interpreting tests, and reporting findings

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 FPICOT3246A Test heavy structural/engineered products

Application of the Unit

Application of the unit

The unit involves testing heavy structural/engineered products in a forest products factory 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 for testing	<p>1.1. Applicable <i>occupational health and safety</i> (OHS), <i>environmental</i>, <i>legislative</i> and <i>organisational requirements</i> relevant to <i>testing heavy structural and engineered products</i> are identified and followed</p> <p>1.2. <i>Work order</i> is reviewed and clarified with <i>appropriate personnel</i></p> <p>1.3. Type and quantity of products to be tested are acquired from the <i>storage location</i></p> <p>1.4. <i>Equipment</i> is selected appropriate to work requirements and checked for operational effectiveness in line with manufacturer recommendations</p> <p>1.5. Testing <i>process</i> is planned in line with workplace procedures and environmental requirements</p> <p>1.6. <i>Communication</i> with others is established and maintained in line with OHS requirements</p>
2. Test heavy structural and engineered products	<p>2.1. Appropriate heavy structural and engineered products are selected for testing in line with work order and workplace procedures</p> <p>2.2. Test is conducted in line with established test methods, quality assurance procedures and OHS requirements</p> <p>2.3. Testing problems are identified and resolved or reported in line with workplace procedures</p> <p>2.4. Test results are obtained and comparisons of collected data are made against product specifications in line with workplace procedures</p>
3. Report findings of test	<p>3.1. Potential or existing problems are identified and appropriate recommendations on product quality are made in line with workplace procedures</p> <p>3.2. Testing outcomes are <i>recorded and reported</i> in line with workplace procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

REQUIRED SKILLS AND KNOWLEDGE

Required skills

- Technical skills sufficient to use and maintain relevant tools, machinery and equipment; operate testing equipment to test products
- Communication skills sufficient to use appropriate communication and interpersonal techniques with colleagues and others
- Literacy skills sufficient to record and report workplace information; maintain documentation
- Numeracy skills sufficient to apply mathematical and estimation processes
- Problem solving skills sufficient to identify problems and faults in testing methods; demonstrate appropriate response procedures; identify problems and faults with the products tested

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 testing heavy structural and engineered products
- Environmental protection requirements, including the safe disposal of waste material
- Organisational and site standards, requirements, policies and procedures for testing heavy structural and engineered products
- Environmental risks and hazards
- Problem identification and resolution
- Types of testing equipment and methods
- Industry and enterprise standard tests and strength specifications
- Established communication channels and protocols
- Problem identification and resolution strategies, and common fault finding techniques
- Types of tools and equipment, and procedures for their safe use and maintenance
- 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 safely and efficiently test heavy structural and engineered products in line with product specifications and organisational requirements

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 testing heavy structural and engineered products
- following organisational policies and procedures relevant to testing heavy structural and engineered products
- preparing for testing of heavy structural and engineered products, including identifying product specifications, testing methods and potential problems likely to affect test results
- conducting testing procedures and interpreting the results
- using records and reported test processes and results to make recommendations on product quality

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 follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to

EVIDENCE GUIDE

Method of assessment

- undertaking work applicable to this unit
- specifications and work instructions
- 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. **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

RANGE STATEMENT

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:

- 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
- safe forest practices, including required actions relating to forest fire
- manual handling including shifting, lifting and carrying

Environmental requirements may include:

- legislation
- organisational policies and procedures
- workplace practices

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

Organisational requirements may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance

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- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures
- ethical standards
- recording and reporting requirements
- equipment use, maintenance and storage requirements
- environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)

Testing may include:

testing of properties such as:

- modulus of elasticity
- surface hardness
- modulus of rupture
- sheer strength
- compression strength

Heavy structural and engineered products may include:

- laminated beams
- I beams
- composite products
- posi struts
- box beams
- braced beams
- cross arms for overhead lines
- decking for wharves and bridges
- poles
- other heavy structural or engineered products

Work order may include:

- instructions for receiving, despatching and testing heavy structural or engineered products to and from the designated storage location
- specifications for product quality and testing methods
- instructions for the environmental monitoring of work and procedures
- environmental care requirements relevant to the work

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers

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Storage locations may include:

- storage racks
- storage bays
- bins
- stacks
- pallet boxes
- modularised storage components
- temporary stacking bays (stand, frame or ground)

and may be divided into:

- standard product classification
- product designation
- size
- dimension
- stack number
- weight
- grade
- shelf life
- stock rotation position

Equipment may include:

- measuring devices
- lifting equipment for the movement of material

Process may include:

- identification of product quality specifications
- test methods

Communication may include:

- verbal and non-verbal language
- constructive feedback
- active listening
- questioning to clarify and confirm understanding
- use of positive, confident and cooperative language
- use of language and concepts appropriate to individual social and cultural differences
- control of tone of voice

Records and reports may include:

- product type and size
- quality
- testing method
- inspection and testing outcomes
- storage locations
- problems
- recommendations

RANGE STATEMENT

- hazards
- incidents
- equipment malfunctions

and may be:

- manual
- a computer-based system
- other appropriate organisational communication system

Unit Sector(s)

Not Applicable

Competency field

Competency field

Common Technical