



Australian Government

Department of Education, Employment and Workplace Relations

FPICOT2216B Visually stress grade softwood

Release: 1

FPICOT2216B Visually stress grade softwood

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the outcomes required to visually stress grade softwood by testing material for strength and durability against set classifications 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 FPICOT2216A Visually stress grade softwood
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Application of the Unit

Application of the unit	The unit involves visually stress-grading softwood 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
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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 stress-grading	1.1. Applicable occupational health and safety (OHS), environmental, legislative and organisational requirements relevant to visually stress-grading softwood are identified and followed 1.2. Work order is reviewed and clarified with appropriate personnel 1.3. Grading requirements are identified in line with site procedures, standards and specifications 1.4. Materials, hardware items, tools and equipment requirements are identified from work order and obtained in line with workplace procedures 1.5. Softwood to be graded is positioned to provide appropriate access and facilitate efficient workflow 1.6. Communication with others is established and maintained in line with OHS requirements and site procedures
2. Evaluate softwood	2.1. Species is identified and status of seasoning is checked in line with site procedures 2.2. Size and tolerance measurements are recorded accurately in line with site requirements 2.3. Characteristics are established and evaluated in line with standards and product specifications 2.4. Moisture content is checked, measured and evaluated against standards and seasoning requirements
3. Grade softwood	3.1. Softwood is visually stress graded based on grading standards and criteria in line with required structural grade 3.2. Characteristics with the greatest limiting effect on the grade are diagnosed and checked 3.3. Appearance criteria are assessed and timber is marked, segregated and disposed of in line with site procedures and environmental requirements 3.4. Results of grading are recorded and reported in line with workplace procedures

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 identify and apply correct methods and procedures when preparing, evaluating and grading softwood; use and maintain relevant tools, machinery and equipment; efficiently and safely visually stress grade softwood
- Communication skills sufficient to use effective communication and interpersonal techniques with colleagues and others; locate, record and report information
- Literacy skills sufficient to follow legislation, regulations, standards, codes of practice and established safe practices and procedures when visually stress-grading softwood; access, identify and apply information relevant to softwood grading
- Numeracy skills sufficient to estimate, measure and calculate sizes and time required to complete a task
- Problem solving skills sufficient to review and identify work requirements; identify problems, malfunctions and defects; 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 visually stress-grading softwood
- Environmental protection requirements, including the safe disposal of waste material (including preservative treated timber)
- Organisational and site standards, requirements, policies and procedures for visually stress-grading softwood
- Environmental risks and hazards
- Criteria for recycling and re-using timber with inappropriate defects or contamination
- Visual stress-grading techniques
- Grading markings and standards
- Methods of visual inspection
- Characteristics and properties of softwood
- Stress-grading equipment calibration and grade thresholds
- Storage systems and labelling procedures
- Established communication channels and protocols
- Problem identification and resolution strategies, and common fault finding techniques
- Types of tools and equipment, and procedures for their use, operation 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 visually grade softwood by following stress-grading rules and regulations

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 visually stress-grading softwood
- following organisational policies and procedures relevant to visually stress-grading softwood
- communicating and working safely with others in the work area
- preparing for stress-grading, including accurately interpreting grading requirements
- stress-grading softwood in readiness for storage or processing

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 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

EVIDENCE GUIDE

- 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.

OHS requirements: are to be in line with applicable commonwealth,

RANGE STATEMENT

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
- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures

RANGE STATEMENT

	• ethical standards • recording and reporting requirements • equipment use, maintenance and storage requirements • environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)
Work order is to include:	• instructions for visually stress-grading material
	and may include:
	• type • width • length • thickness • quantity • 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
Grading	is the process of visually evaluating material characteristics for classification into various strength and structural grades
Standards may include:	• Australian Standards • requirements established by the client • requirements established by the producer
Equipment may include:	• vernier callipers • profile gauges • moisture meters (resistance and capacitance) • tapes • marking implements
Softwood:	• is non-pored wood that usually comes from trees with needle-like foliage and a more uniform cell structure
	and may include:

RANGE STATEMENT

	• native timber species • imported timber species • dressed timber • in-the-rough timber • preservative treated timber
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
Species may include:	• native species • imported species
Seasoning	is the process of drying timber either with kilns or air-drying methods
Tolerance	is the enterprise-accepted deviation from the perfect specifications
Characteristics may include:	• knots • borer holes • stain • checks • tight resin pockets • shakes • wane • want • heart and heart shakes • termite galleries • decay • lyctus susceptible sapwood and compression failures and fractures • colour • density • texture • grain • figure

RANGE STATEMENT

- qualities
- uses

Moisture content

is the amount of moisture maintained in timber after kiln drying or production to avoid cracking and deforming

Structural grade is to include:

- structural conformity of the timber
- consistency of the structural quality
- free of defects which may weaken strength, such as knots, shakes and short grain

Appearance is to include:

- assessing the appropriateness of:
- defects
- contamination
- timber colours
- surface characteristics
- colour
- grain pattern

Disposing of may include:

- recycling timber with inappropriate defects or contamination
- re-using timber with inappropriate defects or contamination
- redirecting timber with inappropriate defects or contamination for energy recovery

Records and reports may include:

- stress-grading requirements
- product type and size
- inspection information
- grading and marking outcomes
- storage locations
- quality outcomes
- hazards
- incidents
- equipment malfunctions

and may be:

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

Unit Sector(s)

Not Applicable

Competency field

Competency field Common Technical