



Australian Government

MSFPT3002 Select materials for piano repair and manufacture

Release: 1

MSFPT3002 Select materials for piano repair and manufacture

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers selecting materials used in the manufacture, repair or rebuilding of upright, grand and player pianos. It applies in workplaces and on-site environments for small to large scale enterprises.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Competency Field

Unit Sector

Piano Technology

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine material requirements	1.1	Characteristics of timber, metal and synthetic materials used in piano construction are analysed according to structural and aesthetic requirements
		1.2	Client requirements and desires are reviewed, confirmed and clarified
2	Select and use fasteners	2.1	Work instructions are used to determine job requirements for fasteners, including design, colour, finish process and quality
		2.2	Fasteners are applied according to workplace requirements
		2.3	Worksite is set up according to the task, including preparation of required material and selection of holding and supporting equipment
		2.4	Work is placed and held or supported in position for

		fastener application
	2.5	Tools are selected and used to attach fasteners according to their safety and effecting intended purposes
	2.6	Personal protective equipment is selected, correctly fitted and used
3	Select and use adhesives	
	3.1	Adhesives are selected according to workplace requirement
	3.2	Worksite is set up according to the task, including preparation of required materials and selection of holding and supporting equipment
	3.3	Work is placed and held or supported in position for adhesive application
	3.4	Personal protective equipment is selected, correctly fitted and used
	3.5	Work health and safety (WHS) requirements that apply to the safe application of adhesives are identified and followed
	3.6	Adhesives are applied using clamping techniques, as required
4	Identify surface coatings and finishes for pianos and identify hardware needs	
	4.1	Surface coatings used for both interior and exterior finishing on piano components are identified, with preparation, application and durability
	4.2	Furniture finishes used are investigated for requirements
	4.3	Work requirements are used to determine hardware needs for piano construction and repair
5	Clean up work area	
	5.1	All tools, materials and other equipment are checked, cleaned and returned to their appropriate location
	5.2	Work area is cleared and waste removed
	5.3	Workplace documentation is completed and filed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

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| Unit context includes: | <ul style="list-style-type: none">• WHS requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent• work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements• work requires individuals to demonstrate some discretion, judgement and problem solving |
| Timbers include: | <ul style="list-style-type: none">• spruce• ebony• beech• birch• hardwood• softwood• veneers• chipboard• medium density fibreboard (MDF) |
| Metals include: | <ul style="list-style-type: none">• aluminium• steel• solders• cast iron• brass |
| Felts include: | <ul style="list-style-type: none">• wool• synthetic |
| Synthetics include: | <ul style="list-style-type: none">• plastic (keys, bushings, damper head, damper flanges, hammer butt, jack, jack flange and capstone) |

- Other materials include:**
 - ivory
 - leather
- Characteristics of timber include:**
 - density
 - moisture content
 - grain
 - shrinkage
 - knots
- Structural requirements include:**
 - hardness
 - density
- Aesthetic requirements include:**
 - growth rings
 - veneers
 - medullary rays
 - colour
 - grain patterns
- Fasteners include:**
 - screws (head, slot, machine and thread types)
 - nails (panel pins)
- Adhesives include:**
 - animal (horse and fish)
 - polyvinyl chloride (PVC)
 - contact
 - epoxy
 - casein
 - latex
- Worksites include:**
 - workshop or factory location or onsite at client's premises
- Holding and supporting equipment includes:**
 - portable workbench
 - clamps
 - vices
 - gripper mats
- Clamping techniques include:**
 - sash
 - 'G' clamp
 - spring
 - pipe
- Surface coatings include:**
 - shellack
 - single pack
 - polyurethane (two pack)
 - nitro-cellulose and pre-catalysed lacquers
 - woodgrain fillers
 - stains
 - oils
 - enamels
 - acrylics

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| Finishes include: | <ul style="list-style-type: none">• high gloss• gloss• satin• matt• limed• pigmented |
| Hardware includes: | <ul style="list-style-type: none">• locks• hinges (butt and escutcheon inserts)• sliding rollers/runners• knobs• handles• finger guards• castors |
| Personal protective equipment includes: | <ul style="list-style-type: none">• that prescribed under legislation, regulations and enterprise policies and practices |
| Information and procedures include: | <ul style="list-style-type: none">• workplace procedures relating to the use of tools and equipment• work instructions, including job sheets, cutting lists, plans, drawings and designs• workplace procedures relating to reporting and communication• manufacturer specifications and operational procedures |

Unit Mapping Information

Supersedes and is equivalent to LMFPPT3002A Select materials for piano repair and manufacture.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFPT3002 Select materials for piano repair and manufacture

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Performance Evidence

- Interpret work order and locate and apply relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Follow work instructions, operating procedures and inspection processes to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
- Locate, interpret and apply information relevant to selection and use of materials, fasteners, hardware and adhesives for piano repair and manufacture, including:
 - identifying, selecting and applying at least three (3) types of fasteners and adhesives to appropriate materials
 - identify surface coatings and finishes used in piano repair and manufacture
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Avoid backtracking, work flow interruptions or wastage
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- State or territory WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for selecting materials for piano repair and manufacture
- Organisational and site standards, requirements, policies and procedures for selecting materials for piano repair and manufacture
- Reading and interpreting workplace documents including work orders, work instructions and operator instructions
- Environmental protection requirements relating to the disposal of waste material
- Established lines of communication and protocols
- Types, characteristics, uses, limitations and preparation of materials and equipment used in piano repair and manufacture
- Types of tools and equipment used to repair and manufacture pianos and procedures for their safe use, operation and maintenance

- Characteristics of hardware and materials and their use
- Relevant problem identification and resolution
- Set-up and operation of tools and equipment used to repair and manufacture pianos
- Storage systems and labelling
- Procedures for the recording, reporting and maintenance of workplace records and information
- Appropriate mathematical procedures for estimation and measurement

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to hand and power tools used in the repair and manufacture of pianos, materials used in the repair and manufacture of pianos, safety and personal protective equipment, and holding and supporting equipment.

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