



Australian Government

MSFPT4000 Select and use materials for piano repair and manufacture

Release: 1

MSFPT4000 Select and use materials for piano repair and manufacture

Modification History

Release 1. Changes to code, application, elements, performance criteria, assessment requirements. Foundation skills added. Range of conditions removed. Assessment requirements changed.

Application

This unit describes the skills and knowledge required to distinguish between and select materials used to manufacture or repair pianos.

This unit applies to piano technologists who work in accordance with established procedures, using discretion, judgement and problem-solving to apply and communicate technical solutions to resolve predictable and unpredictable issues. They use factual, technical and theoretical knowledge to identify, analyse, compare and act on information from a range of sources.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Piano Technology

Elements and Performance Criteria

Elements	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 Analyse characteristics of timber, metal and synthetic materials used in piano construction to determine structural and aesthetic requirements 1.2 Review, confirm and clarify client requirements to support materials decisions
2. Select and use fasteners	2.1 Determine job requirements for fasteners, including design, colour, finish process and quality, from work documentation and verbal instructions 2.2 Apply fasteners in accordance with workplace procedures 2.3 Set up worksite to meet task requirements, including preparing required material and selecting holding and supporting equipment

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	2.4 Place or support work in position for fastener application 2.5 Select tools and attach fasteners in accordance with their safety and effecting intended purposes 2.6 Identify and follow work health and safety requirements
3. Select and use adhesives	3.1 Select adhesives in accordance with job requirements 3.2 Set up worksite to meet task requirements, including preparing required materials and selecting holding and supporting equipment 3.3 Place or support work in position for adhesive application 3.4 Identify and follow work health and safety requirements including those that apply to safe application of adhesives 3.5 Apply adhesives using required clamping techniques
4. Determine hardware needs	4.1 Assess type, preparation, application and durability of surface coatings used for interior and exterior finishing on piano components 4.2 Use information to determine hardware needs for piano construction and repair
5. Clean up work area	5.1 Check, clean and store equipment and any unused materials in accordance with workplace procedures 5.2 Clean work area, safely dispose of rubbish and identify items for recycling in accordance with workplace procedures and environmental standards 5.3 Complete required workplace records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret familiar workplace procedures and work documentation
- Writing skills to communicate factual information in familiar workplace documents
- Numeracy skills to measure and estimate material requirements.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is not equivalent to MSFPT3002 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 MSFPT4000 Select and use materials for piano repair and manufacture

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- select and use at least three types of fasteners and use three different adhesives to make piano repairs.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- workplace standards, requirements, policies and procedures for selecting materials for piano repair and manufacture
- types, characteristics, uses, limitations and preparation of the following materials, tools, equipment and hardware used in piano repair and manufacture, and where relevant their safe use, operation and maintenance:
 - timber materials, including:
 - spruce
 - ebony
 - beech
 - birch
 - hardwood
 - softwood
 - veneers
 - chipboard
 - medium density fibreboard (MDF)
 - characteristics of piano timbers, including:
 - density
 - moisture content
 - grain
 - shrinkage
 - knots
 - holding and support techniques, including:
 - portable workbench

- clamps
- vices
- gripper mats
- clamping tools and techniques, including:
 - sash
 - G clamp
 - spring
 - pipe
- plastic or synthetic materials, including:
 - keys
 - bushings
 - damper head
 - damper flanges
 - hammer butt
 - jack
 - jack flange
 - capstan
- felts including synthetic and wool
- natural materials including ivory and leather
- metals including:
 - aluminium
 - steel
 - solders
 - cast iron
 - brass
- fasteners including:
 - screws (head, slot, machine and thread types)
 - nails (panel pins)
- adhesives including:
 - animal (horse and fish)
 - polyvinyl chloride (PVC)
 - contact
 - epoxy
 - casein
 - latex
- surface coatings including:
 - shellack
 - single pack
 - polyurethane (two pack)
 - nitro-cellulose and pre-catalysed lacquers

- woodgrain fillers
- stains
- oils
- enamels
- acrylics
- finishes including:
 - high gloss
 - gloss
 - satin
 - matt
 - limed
 - pigmented
- hardware including:
 - locks
 - hinges (butt and escutcheon inserts)
 - sliding rollers/runners
 - knobs
 - handles
 - finger guards
 - castors
- structural requirements including:
 - hardness
 - density
- aesthetic requirements including:
 - growth rings
 - veneers
 - medullary rays
 - colour
 - grain patterns
- how to identify and resolve routine and non-routine problems
- set-up and operation of tools and equipment used to repair and manufacture pianos
- storage systems and labelling, especially for hazardous materials
- procedures for recording, reporting and maintaining workplace records and information
- work health and safety requirements related to materials used in piano manufacture and repair.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources required for performance evidence, including:
 - pianos for repair
 - hand and power tools
 - repair materials
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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