



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **FPIWPP3227B Vacuum paint**

**Release: 1**

## **FPIWPP3227B Vacuum paint**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit descriptor**

This unit describes the outcomes required to paint articles using a vacuum painting line with drying ovens and de-nibbing machines

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 FPIWPP3227A Vacuum paint

### **Application of the Unit**

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The unit involves vacuum painting 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**

#### **Prerequisite units**

## **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 painting	<p>1.1. Applicable <b><i>Occupational Health and Safety</i></b> (OHS), <b><i>environmental, legislative</i></b> and <b><i>organisational requirements</i></b> relevant to vacuum painting are identified and followed</p> <p>1.2. <b><i>Work order</i></b> is reviewed and checked with <b><i>appropriate personnel</i></b></p> <p>1.3. Type and quantity of articles to be vacuum painted is acquired from the <b><i>storage location</i></b></p> <p>1.4. <b><i>Equipment</i></b> is selected appropriate to work requirements and checked for operational effectiveness in line with manufacturer's recommendations</p> <p>1.5. Vacuum painting process, <b><i>feed rates</i></b> and <b><i>paint</i></b> are selected and planned in line with site procedures</p> <p>1.6. <b><i>Communication</i></b> with others is established and maintained in line with OHS requirements</p>
2. Vacuum paint	<p>2.1. Paint products are loaded in equipment in line with manufacturer's specifications</p> <p>2.2. <b><i>Paint templates</i></b> are manufactured and fitted to manufacturer's specifications</p> <p>2.3. Vacuum coater is run in line with recipes and manufacturer's recommendations</p> <p>2.4. Paint is applied with flow rates and <b><i>viscosity</i></b> continually monitored and adjusted in line with site requirements</p> <p>2.5. Paint operations and <b><i>wet film thickness</i></b> are continually checked with blockages and filters cleared to maintain paint coverage to specifications</p> <p>2.6. Products are regularly checked for surface quality and <b><i>contamination</i></b> in line with site requirements and corrective action taken</p> <p>2.7. Sub-standard painted items are removed from the painting process and reviewed for <b><i>further action</i></b></p> <p>2.8. Test equipment is calibrated and used to regularly test samples of paint</p> <p>2.9. Processing and equipment faults are <b><i>recorded and reported</i></b> to the appropriate personnel</p>
3. Operate drying oven	<p>3.1. Ovens are started and brought to operating temperature in line with manufacturer's specifications</p> <p>3.2. Oven drying processes are monitored in line with</p>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	operating procedures
	3.3. Products with oven drying defects are rejected and <i>disposed of</i> in line with site procedures and environmental requirements
	3.4. Adjustments to drying operations are made in response to paint adhesion test results
4. Operate de-nibber	4.1. De-nibbing machine is set-up and started in line with manufacturer's recommendations
	4.2. Profile flap brushes are selected and installed
	4.3. Sample strips are processed and assessed
	4.4. Products with de-nibber defects are rejected and disposed of in line with site procedures and environmental requirements
	4.5. Adjustments to de-nibbing process are made in line with sample results
	4.6. De-nibbing machine is operated and monitored in line with standard operating procedures
	4.7. Routine de-nibbing problems are investigated and resolved
5. Shut down and clean equipment	5.1. <i>Shutdown</i> procedures are coordinated with other line operators and followed in line with OHS legislation and site procedures
	5.2. Vacuum coater, dryer and de-nibber are turned off and equipment flushed in line with organisational standard operating procedures
	5.3. Excess paint and flushing liquid are disposed of in line with statutory requirements and environmental regulations
	5.4. Equipment and paint are stored in line with statutory requirements and environmental regulations

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

- The ability to follow legislation, regulations, standards, codes of practice and established safe practices and procedures relevant to using a vacuum painting line

## **REQUIRED SKILLS AND KNOWLEDGE**

with drying ovens and de-nibbing machines

- Technical skills sufficient to use and maintain relevant tools, machinery and equipment; efficiently and safely vacuum paint
- Communication skills and interpersonal techniques sufficient to interact appropriately with colleagues and others in the workplace
- Literacy skills sufficient to accurately record and report workplace information, and maintain documentation
- Numeracy skills sufficient to estimate, measure and calculate time required to complete a task
- Problem solving skills sufficient to identify problems and equipment faults and demonstrate appropriate response procedures

### **Required knowledge**

- Basic knowledge and understanding of applicable Commonwealth, State or Territory legislation, regulations, standards and codes of practice relevant to the full range of processes for vacuum painting
- Environmental protection requirements, including the safe disposal of waste material, the safe use and storage of chemicals, and the cleaning of plant, tools and equipment
- Organisational and site standards, requirements, policies and procedures for vacuum painting
- Environmental risks and hazards
- Vacuum painting operations
- Paints, their viscosity, film thickness, film wetness and feed rates
- Paint operations and shut sown procedures
- Storage systems and labelling
- 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 safely and efficiently vacuum paint within 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 vacuum painting
- following organisational policies and procedures relevant to vacuum painting
- using vacuum paint in line with the work order and within prescribed organisational requirements
- conducting paint operations and shut-down procedures

### 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
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with

## EVIDENCE GUIDE

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 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
- 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
- ethical standards
- recording and reporting requirements
- equipment use and maintenance and storage

## RANGE STATEMENT

- requirements
- environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)
- Vacuum painting**
- consists of a small box-like chamber with a part profile cut into two opposite sides where preheated parts are passed through the chamber and flooded with paint
  - places this chamber under constant negative pressure to prevent paint escaping from the openings
  - allows the painting operation to easily keep up with the rest of the line by painting at least three parts per minute
  - process conveys parts from the paint station, into a drying oven where they emerge 10 minutes later, dry and ready for packaging
- Work order** is to include:
- instructions for the painting of products
- and may include:
- type
  - size
  - length
  - thickness
  - quantity
  - grade
  - 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
- Storage locations** may include: the use of:
- storage racks
  - storage bays
  - bins
  - stacks
  - pallet boxes
  - modularised storage components

## RANGE STATEMENT

- 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** is to include:

- vacuum painting chambers
- drying ovens
- de-nibbers together with continuous roller conveyors

**Feed rates** is to include:

- the rate of speed the paint is passed through the vacuum painting equipment affecting the risk of equipment blockage
- the finish of the material
- the production output

**Paint** includes:

- paints suitable to vacuum coating

**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
- body language

**Paint template**

- see vacuum painting

**Viscosity**

is the amount of resistance to flow or stickiness of the paint

**Wet film thickness**

is the amount of paint build up, while wet, maintained over the timber product during the

## RANGE STATEMENT

painting process

**Contamination** may include:

- dust
- water spots
- oil spots from equipment or oily finger prints

and may cause:

- orange peel effect
- incomplete cover
- solvent boil
- other coating defects

**Further action** may include:

- re-painting sub-standard painted items
- recycling sub-standard painted items
- re-using sub-standard painted items

**Records and reports** may include:

- product type
- feed rate
- inspection
- grading and labelling outcomes
- storage locations
- quality outcomes
- hazards
- incidents
- equipment malfunctions

and may be:

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

**Disposing of** may include:

- recycling products with defects
- reusing products with defects

**Shutdown** is to include:

- procedures for equipment lock-out, ie protecting operators and co-workers from accidental injury by isolating the machine from the power source cleaning and maintaining all parts
- storage of paints

## Unit Sector(s)

**Unit sector**                      No sector assigned

## **Co-requisite units**

**Co-requisite units**

## **Competency field**

**Competency field**              Wood Panel Products