



# Victorian Certificate of Education 2010

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

## STUDENT NUMBER

Letter

Figures

Words


# VCE VET FURNISHING (CABINET MAKING)

## Written examination

Thursday 11 November 2010

Reading time: 9.00 am to 9.15 am (15 minutes)

Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)

## QUESTION AND ANSWER BOOK

### Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	20	20	20
B	13	13	50
C	6	6	40
			Total 110

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers and one scientific calculator.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.

### Materials supplied

- Question and answer book of 21 pages. There is a detachable insert for Section C in the centrefold.
- Answer sheet for multiple-choice questions.

### Instructions

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, **and** sign your name in the space provided to verify this.
- All written responses must be in English.

### At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

**Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**

**SECTION A – Multiple-choice questions****Instructions for Section A**

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1, an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

**Question 1**

Which hand tool would you select to 'fit' a solid timber dovetailed drawer?

- A. spokeshave
- B. battery drill
- C. sanding block
- D. smoothing plane

**Question 2**

Which tool is most appropriate for removing excess laminate?

- A. router
- B. trimmer
- C. belt sander
- D. impact drill

**Question 3**

Which is the best bench **height** for assembling kitchen cabinets?

- A. 200 mm
- B. 450 mm
- C. 900 mm
- D. 1 200 mm

**Question 4**

Which of the following should be used to assemble 'knock-down' furniture?

A.



C.



B.



D.



**Question 5**

Which tool would you use to measure up for kitchen cabinets?

A.



B.



C.



D.

**Question 6**

Which is the safest tool to use to cut out a sink recess in a bench top?

- A. router
- B. jigsaw
- C. drop saw
- D. belt sander

**Question 7**

You have an orthogonal drawing of a knock-down shelving unit that has to be assembled.

Which of the following gives you the most information about the design of the unit?

- A. plan
- B. cutting list
- C. front elevation
- D. work instructions

**Question 8**

Why is the version number of a drawing important?

- A. you know who to ask about the drawing
- B. you are sure you are using the current drawing
- C. you are able to refer back to previous versions
- D. you can contact the client easily

**Question 9**

You are making a leg and rail table base that has 50-mm square legs. The plans and set out do not specify the joint type to use.

Which joint is most appropriate?

- A. butt joint
- B. finger joint
- C. biscuit joint
- D. mortise and tenon joint

**Question 10**

Which chisel should you select for the task of chiselling away waste on a 50-mm wide tenon?

- A. 9 mm
- B. 18 mm
- C. 25 mm
- D. 32 mm

**Question 11**

When re-sharpening a damaged chisel, the two processes, in the correct order, are

- A. cutting and honing.
- B. honing and grinding.
- C. grinding and honing.
- D. grinding and stropping.

**Question 12**

What is the 'acceptable' industry gap around a solid timber framed door?

- A. 3 mm on the opening side
- B. 2 mm on the hinge side
- C. 3 mm all around
- D. 1 mm all around

**Question 13**

How would you calculate the amount of plywood in a cutting and costing sheet?

- A. add length and width in metres and add the number of pieces
- B. multiply length by width in metres times the number of pieces
- C. multiply width by thickness in metres times the number of pieces
- D. divide the thickness by the length in metres and divide by the number of pieces

**Question 14**

You need a number of finished pieces of timber 42 mm wide by 18 mm thick.

Which rough sawn standard measurement would you need to order?

- A. 45 mm wide × 25 mm thick
- B. 50 mm wide × 25 mm thick
- C. 45 mm wide × 45 mm thick
- D. 42 mm wide × 18 mm thick

**Question 15**

When completing the final sand to a table ready for polishing, which grade of abrasive paper should you use?

- A. 80 grade
- B. 120 grade
- C. 180 grade
- D. 220 grade

**Question 16**

When assembling legs and rails for a table, sash cramps and cramping blocks

- A. apply pressure to the joint to make the assembly square.
- B. press the legs and rails together to make them square and parallel.
- C. apply pressure to achieve alignment of all components.
- D. save time in the assembly process.

**Question 17**

To make one piece of furniture accurately

- A. the cutting list should be completed when you have finished the job.
- B. the scale drawing must always be completed before the set out.
- C. the cutting list should be taken from the set out.
- D. you do not need a set out or cutting list.

**Question 18**

Which of the following will best show you the details for joining a leg and rail table frame?

- A. JSA
- B. set out
- C. MSDS
- D. scale drawing

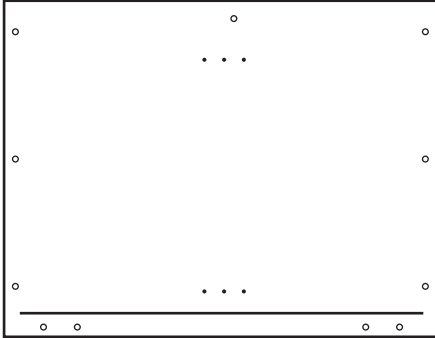
**Question 19**

The seat of a chair should be

- A. completely flat.
- B. whatever looks best.
- C. at a 5 degree angle sloping back.
- D. at a 5 degree angle sloping forward.

**Question 20**

The label below is on a piece of white melamine-coated particle board that you are edge banding.

Job: <b>Mrs Jones</b>	16/02/2009 05:50 PM
Room: <b>Kitchen</b>	
Part: <b>5: Left End</b>	<b>2 Door Base</b>
Cab: <b>1</b>	
Size: <b>717 × 559 × 16</b>	
Material: <b>White_HMR_PB_16 mm</b>	
Edging: <b>1L</b>	
Door Edge:	
Ext	
Int: <b>1 mm × 22 mm Colour</b>	
Other:	
Comment: <b>End exposed in Dishwasher space</b>	

Which edge tape should be applied?

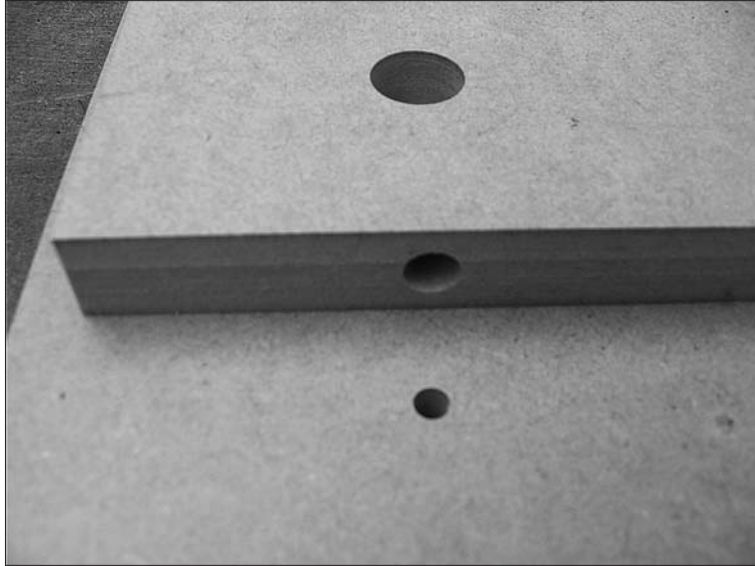
- A. 2 mm white PVC or similar
- B. 1 mm colour as specified
- C. 16 mm HMR particle board
- D. 4 mm solid timber as specified

**SECTION B – Short answer questions****Instructions for Section B**

Answer **all** questions in the spaces provided.

**Question 1**

You have to assemble the following parts.



- a. What hardware will you use?

---

1 mark

- b. What tool will you need to assemble the parts?

---

1 mark

**Question 2**

Put the following assembly operations or tasks in the correct order (1, 6 and 13 have been completed).

<b>Assembly operation or task</b>	<b>Order</b>
<b>Clear the work area</b>	<b>1</b>
Insert the cams into the cam holes	
Join assembled parts to RH side	
Insert shelf pins	
Check all parts are available as per plans	
<b>Fit plinth rail to assembled parts</b>	<b>6</b>
Install shelves	
Assemble top and bottom to LH side	
Fix back with nails provided	
Knock dowels in holes	
Tighten all cams	
Screw pins into pin holes	
<b>Check and return all tools and equipment</b>	<b>13</b>

5 marks

**Question 3**

You have to carry the packaged parts for a shelf unit 5 metres to the assembly area. The total weight is 32 kg and the total length of the package is 1800 mm.

Explain how you will move the package safely.

---



---



---

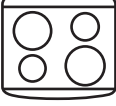

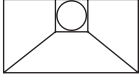
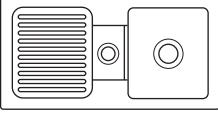
2 marks



**Question 4**

On the plans for a kitchen you see the following symbols.

Describe what each of the symbols mean in the space provided.

Symbol	Description
	
	
	
	

4 marks

**Question 5**

Use the photograph below to answer the questions that follow.



a. What type of PPE should be used when undertaking the operation in the photograph?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

3 marks

b. Suggest three other ways to make the operation in the photograph safer.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

3 marks

- c. You have three pieces of timber to make into a coffee table top. Each join has 5 biscuits in it. How many will you need overall?

---

2 marks

- d. Which attachment for power tools could be used to help ensure a dust-free workplace?

---

---

2 marks

- e. Describe the steps required to successfully join the three solid timber parts shown in the photograph on page 10 for a coffee table top.

- ---

---
- ---

---
- ---

---
- ---

---

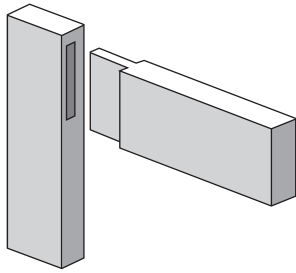
4 marks

**Question 6**

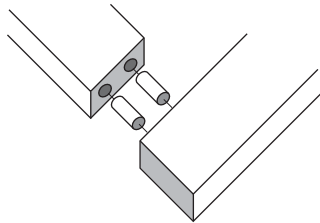
Identify the following three joints.



i. \_\_\_\_\_



ii. \_\_\_\_\_



iii. \_\_\_\_\_

1 + 1 + 1 = 3 marks

**Question 7**

List three standard sizes for rough sawn Victorian Ash.

i. \_\_\_\_\_

ii. \_\_\_\_\_

iii. \_\_\_\_\_

1 + 1 + 1 = 3 marks

**Question 8**

Give two reasons for completing a scale drawing for a new project.

i. \_\_\_\_\_

ii. \_\_\_\_\_

1 + 1 = 2 marks

**Question 9**

Consider the following joints: biscuit joint, dowel joint, mortise and tenon joint, bridle joint, halving joint. Choose the strongest joint for making the leg and rail joints for a chair and explain why you have selected that joint.

i. Joint \_\_\_\_\_

ii. Reason \_\_\_\_\_

1 + 2 = 3 marks

**Question 10**

What information should be included in the **title block** of the plans for a job?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

4 marks

**Question 11**

You have completed a job.

What should you do with the drawings, cutting lists, work instructions and specifications?

\_\_\_\_\_

1 mark

**Question 12**

MSDS is an acronym for

M \_\_\_\_\_ S \_\_\_\_\_ D \_\_\_\_\_ S \_\_\_\_\_

1 mark

**Question 13**

You have to complete a Job Safety Analysis worksheet for the task shown in the photograph on page 10. Use the template provided and fill in the blank areas.

<p><b>Activity</b> List the tasks required to perform the activity in the sequence they are carried out.</p>	<p><b>Hazards</b> Against each task, list the hazards that could cause injury when the task is performed.</p>	<p><b>Risk control measures</b> List the control measures required to eliminate or minimise the risk of injury arising from the identified hazard.</p>
<ul style="list-style-type: none"> <li>• Ensure that the tool is correctly set up</li> </ul>	<ul style="list-style-type: none"> <li>• Rotating cutter</li> </ul>	<ul style="list-style-type: none"> <li>• _____</li> <li>• Ensure all blade guards are fitted securely, stops set correctly and all fastenings tightened</li> </ul>
<ul style="list-style-type: none"> <li>• Connect the power</li> </ul>	<ul style="list-style-type: none"> <li>• _____</li> </ul>	<ul style="list-style-type: none"> <li>• Check the electrical safety tag date for currency</li> </ul>
<ul style="list-style-type: none"> <li>• Secure the timber</li> </ul>	<ul style="list-style-type: none"> <li>• Pinching and crushing</li> </ul>	<ul style="list-style-type: none"> <li>• Use suitable lifting techniques and ensure that the material is placed correctly</li> </ul>
<ul style="list-style-type: none"> <li>• Cut the biscuit slots</li> </ul>	<ul style="list-style-type: none"> <li>• Rotating blade</li> <li>• Noise</li> <li>• Flying chips</li> <li>• Airborne dust</li> </ul>	<ul style="list-style-type: none"> <li>• _____</li> <li>• _____</li> <li>• _____</li> <li>• Use hearing and eye protection</li> <li>• Use dust extraction</li> </ul>
<ul style="list-style-type: none"> <li>• Remove the timber</li> </ul>	<ul style="list-style-type: none"> <li>• Lifting/Manual handling</li> </ul>	<ul style="list-style-type: none"> <li>• _____</li> <li>• _____</li> <li>• _____</li> <li>• _____</li> </ul>

1 + 1 + 2 + 2 = 6 marks

**SECTION C – Case study****Instructions for Section C**

Remove the insert from the centre of this book before answering this section. Answer all questions in the spaces provided. Refer to Figures 1 and 2 in the insert when answering Questions 1–4 in this section. Use explanatory diagrams, charts and sketches if you believe they will improve your answer.

**Question 1**

Using the specifications for the ash timber coffee table and Figure 1 and Figure 2 in the insert complete the cutting list below.

**Cutting list for coffee table**

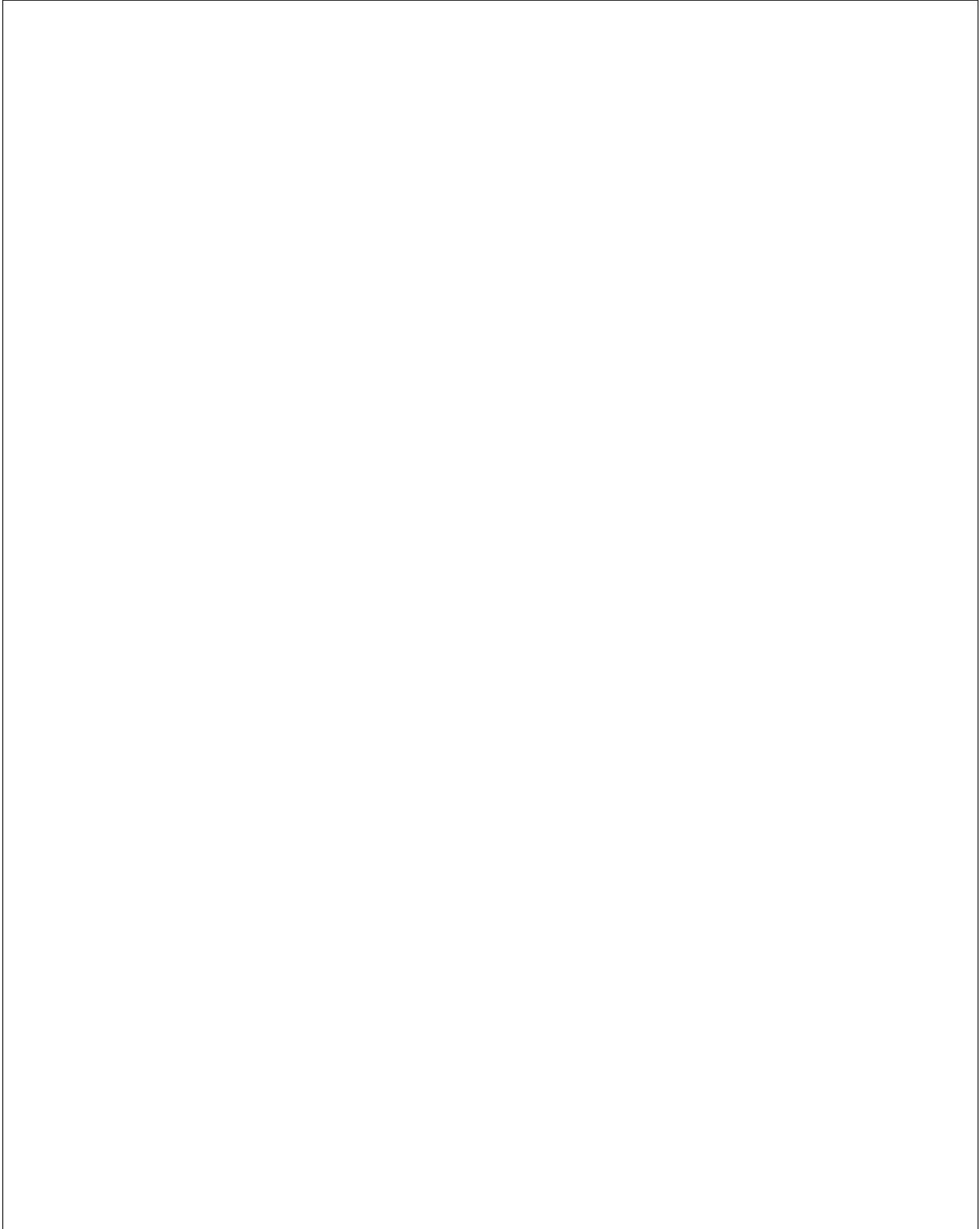
Item No.	Item	No. of pieces	Length	Width	Thickness	Material	Machining/Remarks
1	top	1		1056	33	ash	machine from 8 equal pieces
2	leg	4		60	60	ash	8/440 × 62 × 31 mm to be laminated
3	shelf	1	1010		19	ash VPB	iron-on veneer edging
4	top rail	3	890		20	ash	dowel to legs
5	drawer front	1	890	70		ash	screw to drawer
6	drawer guide	2	890	25	15	ash	fix to 2 top rails to support metal drawer slides
7	lower top rail	4	890	40	20	ash	glue to top rail, dowel to legs
8	bottom rail	4		70	20	ash	dowel to legs/cut to shape
9	drawer side	2		50	12	ash	screw to front, back, groove for ply bottom
10	drawer front/back	2		50		ash	groove for ply bottom
11	drawer bottom	1	851	586		ash plywood	fit to groove in drawer sides, back and front
12	top fixing cleat	3	890	20	20	ash	screw and countersink to top rail and top

10 marks

**Question 2**

In the space provided below, using a plan diagram of the top of the coffee table, explain

- how the top is to be joined
- what type of adhesive will be used
- what size each board will be dressed to enable the final size of the top to be achieved
- how the sash cramps will be applied to reduce cupping of the timber during the drying process when glued and cramped.



4 marks

**SECTION C** – continued



**Question 3**

Calculate the cost of the following items for the coffee table. Use the space below to show the working out processes.

- i.** Cost of the top using  $150 \text{ mm} \times 38 \text{ mm}$  @ \$9.85/lineal metre
- ii.** Cost of the iron-on veneer @ \$3.20/lineal metre
- iii.** Cost of the legs using ash timber ( $75 \text{ mm} \times 38 \text{ mm}$ ) @ \$4.90/lineal metre

**iv.** Total cost of the above items \$ \_\_\_\_\_

4 marks

**Question 4**

Complete four major steps in the construction of the ash timber coffee table (Figures 1 and 2 in the insert) for the work plan below.

**Work plan for the coffee table**

1. Machine dress all the ash to the required sizes to enable joining processes to be done before the construction processes.

2.

3.

4.

5.

6. Sand all surfaces so that dents, scratches and machine marks are removed. The coffee table is now ready for a surface finish to be applied.

8 marks

**Question 5**

From the list below select four hand or power tools you have used during your course this year and list the process for which you used that tool safely, and how it was used.

marking gauge, bevel-edged chisel, orbital sander, trimmer, jack plane, smoothing plane, router, try square, mallet, spokeshave, battery-operated screwdriver, metre rule

<b>Hand/Power tool</b>	<b>Process/How the tool was used</b>
1. _____	
2. _____	
3. _____	
4. _____	

4 + 4 = 8 marks

**Question 6**

Refer to the Material Safety Data Sheet for Working with Wood and Wood Dust on page 21 (opposite).

a. List the potential dangers as a result of coming in contact with wood dust.

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

3 marks

b. Does Victorian Ash have an allergic potential? Explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1 mark

c. List two processes where an allergic reaction may occur.

1. \_\_\_\_\_

2. \_\_\_\_\_

2 marks

## MATERIAL SAFETY DATA SHEET

### Wood and Wood Dust Safety Recommendations

#### When working with wood and wood dust

#### Wood dust

Wood dust will

- burn easily when exposed to an open flame or when it is heated sufficiently
- explode when suspended in the air in sufficient quantities and/or if it comes in contact with an ignition source
- ignite through spontaneous combustion if it is mixed with oils.
  - Wood dust is a potential carcinogen with an increased risk of contracting nasal cancer after repeated and long-term exposure.
  - Wood dust is the medium by which potentially irritant chemicals found in wood can cause allergic contact dermatitis and adverse respiratory reactions. Once finished, wood is basically inert.

#### Allergic reaction

- Most woods, domestic as well as imported, contain chemical compounds that some individuals find irritating during cutting or sanding. While wood alone is not hazardous, skin contact with, or the inhalation of, wood dust can be. Dust is the usual means to convey the potentially irritating compounds found in most woods. Woodworkers, because of their repeated exposure to sanding and sawdust, need to be aware of the possibility of allergic reaction.
- The allergic reaction symptoms come in two forms.
  - It can be respiratory, causing sneezing and/or breathing problems.
  - It can be in the form of a skin irritant, causing itching and, in rare cases, stronger allergic reactions such as painful rashes.

#### Safety recommendations

Preventative measures such as having good dust collectors attached to your sanders, wearing long-sleeved shirts and hats to avoid skin exposure, and showering after being exposed to dust, will minimise the skin irritant potential. Wearing a good dust respirator will reduce the respiratory dangers.

However, those who wish to test their skin's allergic reaction before working with large quantities of dust can perform a skin patch test. Take a small quantity of fine dust from the wood being used and place under a round Band-Aid on the inside of your forearm. Leave in place for 24 hours and then remove. If any serious skin irritation is present – DO NOT proceed.

#### Allergic Reaction Potential Chart

D = Contact Dermatitis

R = Respiratory disorders have been reported

<b>Common woods known to cause irritation</b>		
<b>Species</b>	<b>Allergic potential</b>	
	<b>D</b>	<b>R</b>
Ash White		
Cherry, North American	×	
Maple, North American	×	
Oak, Red	×	
Walnut, American	×	×
Ash, Silky		
Ash, Victorian/Oak, Tasmanian	×	
Beech, European		
Afromosia	×	×

**END OF QUESTION AND ANSWER BOOK**