

GRADE 8: TERM 1

UPHOLSTERY

Chapter 1

INTRODUCTION

1. Furniture Upholstery

Upholstery is the work of providing furniture, especially seats, with padding, springs webbing, and fabric or leather covers. The subject covers four elements common to most upholstered items:

1) The frame; 2) the support system; 3) the cushioning and 4) the covering

Upholstery in general means covering put on furniture. This in most cases also includes the padding that is necessary to make the upholstery sit well on furniture. The entire process of upholstering furniture is the finishing touch needed to make it stand out. The frame may be simple and only structural but the decorative element is the upholstery put on it. This adds colour, definition and character to a home's décor. The padding is extra special since it gives the furniture a comfortable feel.

Upholstery fabrics come in different textures and designs. Plain coloured upholstery fabric can be mixed with printed fabric to add definition to the furniture. Heavier upholstery fabrics usually add greater character to the room and a luxurious feel. Lighter ones are, however, easier to work with and can be cleaned easily since they also dry faster.

Examples of upholsterer Titles:

- Aircraft interior technician
- Automobile upholsterer
- Furniture upholsterer
- Upholstery repairer

2. Career opportunities

Upholstering as a skill will allow the learners an opportunity to explore work in many sectors of the economy and is not limited to:

- Employment in Upholstery field:
 - Producing upholstered domestic furniture e.g. lounge suite
 - Commercial upholstery e.g. replacing fabric on restaurant seating, dining room chairs, office chairs etc.
 - Automotive and marine
- Entrepreneurship opportunities
- Learner ship and apprenticeship

Chapter 2

Safety

Introduction to general safety in the workshop:

The upholstery workshop must have adequate lighting. It must properly be demarcated for each workstation

The tools must be displayed on the profile board and learners taught to care and maintain them, as well as replacing them back to their profile boards after each daily activity. The learners must after every upholstery activity clean their workstations.

3. SAFETY (OHS) Act AND HOUSE KEEPING

The upholstery workshop is governed by safety rules and housekeeping in order to keep a healthy environment in the workshop.

The learners must always observe the following rules in the workshop:

- They must practice personal safety rules, housekeeping and general safety in an upholstery workshop
- The learners must always keep the workshop and their workstations clean.
- They must report damaged tools and equipment as well as keeping environmental practices and legal requirements when working with machines and equipment
- The educator must explain to the learners the meaning of colour coding systems.
- The educator must demonstrate the relevant safety and protective equipment, clothing and machine guards common to CTFL sector

- The educator must explain to the learners' procedures in the event of an accident or hazards and applying health and safety legislation and safety policies and procedures

4. Safety clothing, protective equipment and machine guards

The learners must always practice the preventive measures by Wearing the following protective clothing:

Name of Safety Apparel and Use	Picture
Overalls: for dust not to settle on personal clothing	
Hard tip boots: for protecting the feet	
Safety glasses: to protect their eyes against fabric dust and when cutting pieces of timber	
Helmet: protecting their heads against any objects from the above their heads.	

5. Safety workshop practices when working with the following basic upholstery equipment, clothing and machine guards:

Upholstery tools like any other should not be a replacement for toys. Extra care must be observed whenever learners use them. They may be small in size but they are very dangerous when mishandled. Every tool must be used for the purpose for which it is made.

Personal safety

Personal safety refers to safety with regards to one's personal wellbeing and one is not exposed to danger

Clothing

- It refers to correct safety clothing, like safety overalls, safety boots, safety goggles, safety gloves, earmuffs, dust mask and respiratory, etc. as one works in the workshop

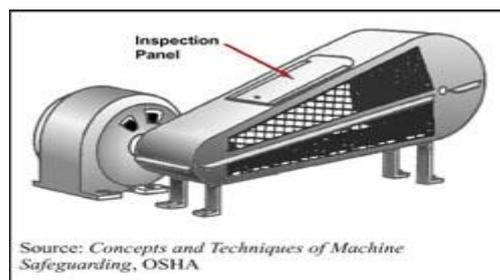


Safety measures when using machine guards common to CTFL (Clothing, Textile, Footwear and Leather) sector

THREE BASIC TYPES OF GUARDS USED ON MACHINES

1. Fixed Guard

This type of guard is used especially on transmission machinery and does not move with each operation. It is also used on power presses. The guard is adjusted to accommodate various sizes of work and after adjustment, is fixed into position.



2. Interlocking Guards

This type of guard prevents the operation of the controls, which set the machine in motion, until the guard is moved into place. Thus, the operator cannot place his hands in the danger area. These guards may be interlocked mechanically, electrically, pneumatically or by a combination of all three.



Source: Pinterest

3. Automatic Guards

This type of guard prevents the operator from coming into contact with dangerous parts of a machine whilst it is moving. Other automatic guards stop machines when danger arises, e.g. an electronic beam system which stops machines as soon as the beam is interrupted by a person or object.



SAFETY

Activity

- 1.1 What responsibilities do you have as learner to minimize the hazards in the workshop?
- 1.2 How does following housekeeping make our lives easier and safer?
- 1.3 Provide THREE benefits of housekeeping:
- 1.4 Write ONE reason each for wearing each of the following Personal Protective Clothes:
 - * Hard hat
 - * Safety boots
 - * Safety goggles
 - * Overalls
- 1.5 List the consequences that can be brought by the following hazards:

Hazard	Consequence
Nails and screws on floor	
Machines without safety guards	
Open, flammable chemicals in the workshop	
Unidentified chemicals stored in unmarked containers	
Tools stacked on top of each other	
Protruding nails in pieces of wood lying on the floor	

Chapter: 3

Hand tools, Equipment and materials

1. Classification of upholstery tools:

The learners must observe and practice the following rules when using the hand tools:

- Use tools for the specific purpose and not for anything else
- Tools must not be put on the edge of the tables
- Sharp tools must kept sharp, as blunt tools can course injuries when working with them
- Never throw tools to your fellow learner, rather give them by hand
- Always concentrate on the point of action

Basic Upholstery Hand Tools



As the learner you can be able to name a few tools amongst the one shown in the above diagram

2. Identification of different tools, equipment and materials

Hand tools

- Scissors
- Claw hammer
- Side cutter
- Tenon saw
- Upholstery tack hammer

Machines

- Sewing machines

Air tools and Equipment

- Staple gun
- Air screw gun

- Air drill
- Bench drill
- Foam cutter
- Spray glue gun
- Jig saw

Measuring tools

- Measuring tape
- 1-meter rule
- Combination square

Materials /Consumables

- Foam
- Upholstery fabrics
- Staples
- Marking chalk
- Cotton

Hand tools	Machine tools	Air tools and Equipment	Measuring tools	Consumables	
Scissor	Sewing machine	Staple gun	Measuring tape	Foam	
Claw hammer		Air screw gun	Meter ruler	Upholstery fabrics	
Side cutters		Air drill	Square ruler	Staples	
Ten-non saw		Bench drill	Combination square	Marking chalk	
Staple remover		Foam cutter		Cotton	
Rubber mallet		Spray glue gun		Foam glue	
G-clamps		Jig saw		Wood glue	
Hand screw drivers		Cutting table		Thinners	
Circular needles		Working tables		Wood(chipboard and pine)	

Upholstery Tack hammer		Air Compressor 150 L		Wood screws	
		Brad nail gun		Brass studs	
				Brad nails	
				Webbing	
				Poly-prop	

HAND TOOLS, EQUIPMENT AND MATERIALS

Activity

1.5 Name the tools you would select for each of the following operations

- Measuring the material to cover the ottoman
- To cut materials to the required size and shape
- To extract nails from timber and knock nails into timber
- To remove the staples from the fabric to carry out the upholstery operations

1.6 Name any FIVE consumables you would require in the Upholstery workshop

1.7 Name FOUR air tools and equipment used in the Upholstery workshop

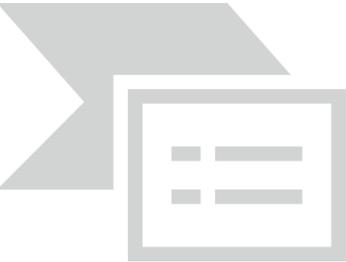
Chapter: 4

Maintenance and care of hand tools

1. Caring of tools

Name of Hand Tool	Care
Scissor 	Clean with clean dry cloth after every use to remove fabric dust
Side cutters	Return to the profile board after every use

	
<p>Measuring tape</p> 	<p>Clean with clean dry cloth after every use to remove fabric dust</p>
<p>Combination square</p> 	<p>Clean with clean dry cloth after every use to remove fabric dust Return to the profile board after use</p>
<p>Ten-non saw</p> 	<p>Wipe with clean cloth to remove timber debris</p>
<p>Staple remover</p> 	<p>Return to the drawer or profile board after each use</p>
<p>Staple lifter</p> 	<p>Ensure that you use it for the specific purpose. Return to the drawer or profile board after each use</p>
<p>Rubber mallet</p> 	<p>Ensure the rubber head is firmly secured to the wooden handle</p>

<p>Meter ruler</p> 	<p>Ensure the metal head is firmly secured to the wooden handle</p>
<p>G-clamps</p> 	<p>Wipe with clean dry cloth to remove any debris after each use</p>
<p>Hand screw drivers</p> 	<p>Clean both handle and metal part if dry clean cloth</p>
<p>Circular needles</p> 	<p>Always put in the cabinet after each use</p>
<p>Upholstery Tack hammer</p> 	<p>Ensure the metal head is firmly secured to the wooden handle</p>

Machines

Machine	
	Dust off with clean cloth.

The table below provides identification of the air tools and equipment and maintenance and care for each equipment

Air tools and Equipment	Care
Staple gun 	Store on the profile board or container and in a dry area away from moist to avoid rust
Air screw gun 	Store on the profile board or container and in a dry area away from moist to avoid rust
Air drill  Source: Pinterest	Store on the profile board or container and in a dry area away from moist to avoid rust

<p>Bench drill</p>  <p>Source: Pinterest</p>	<p>After every use wipe off with clean cloth and blow away the excess dust of the fabric</p>
<p>Foam cutter</p>  <p>Source: Pinterest</p>	<p>Clean the excess dust of the fabric using a clean cloth</p>
<p>Spray glue gun</p> 	<p>Clean the inside of the container and the nozzle of the gun with thinners to remove the glue left in the. Wipe the outside of the container and gun with thinners to remove excess glue.</p>
<p>Jig saw</p>  <p>Source: Pinterest</p>	<p>Remove the blade of the jig saw after every use. Clean the excess wood shavings from the Jig saw.</p>

<p>Cutting table</p> 	<p>Clean the surface of the table with a clean cloth to remove fabric dust.</p>
<p>Working tables</p> 	<p>Clean the surface of the table with a clean cloth to remove fabric dust</p>
<p>Air Compressor 150 L</p>  <p>Source: Pinterest</p>	<p>The casing of the compressor must be cleaned with clean cloth to remove any excess liquid materials</p>
<p>Brad nail gun</p> 	<p>Remove the fabric dust with a clean cloth after every use.</p>

6. MAINTENANCE AND CARE

Activity

1. Explain how you would take care of the following type of tools:

- Brad nail gun
- Jig saw

- Spray glue gun
- Hand screw drivers

Chapter: 5

Measurements, calculations and conversions

1. Estimate, measure and calculate

Basic measuring equipment, tape measure and meter ruler.

Use basic units of measurements; meters, centimeters and millimeters to measure length, width and height and calculate the area of surfaces of rectangular and square shapes

Below are the explanations of basic units of measuring

Use **SI** units of measurements; meters, centimeters and millimeters to measure length, width and height and calculate the area of surfaces

The basic units of measurements and conversions from millimeters to centimeters are explained:

Basic units of measuring

Definitions

mm = Millimeters

cm = Centimeters

m = Meter

Km = Kilometers

The area of the rectangle is calculated using the formula:

Area = $l \times b$, where l is the length and b is the breath and the answer is in squared units (x^2)

Examples

a) Calculate the area (A) of a rectangular material when the length of the material is 50mm and the breath is 20mm

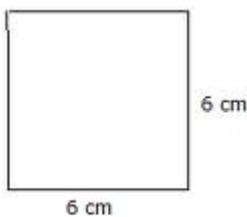
$A = l \times b$, whereby the length (l) is given as 50mm and breath (b) is 20mm

$$A = 50 \times 20$$

$$A = 1000\text{mm}^2$$

b) Find the area of the following shapes

Answers to be given in cm^2



$$\text{Area} = s \times s$$

Where $s = \text{side}$

$$\text{Area} = 6\text{cm} \times 6\text{cm}$$

Therefore, **Area** = 36 cm^2 note that this shape is a square therefore $l \times b$ is the same as $s \times s$

c). Calculate the area of a rectangular material when the measured at 8cm x 5 cm

$$\text{Area} = 8 \text{ cm} \times 5 \text{ cm} \quad \text{Therefore,}$$

$$\text{Area} = 40 \text{ cm}^2$$

Explain basic units of measurements and convert millimeters to centimeters

Conversions

10mm = 1cm (In every 1cm there are 10 mm)

100 cm = 1 m (In every 1m there are 100 cm)

1000mm = 1m (In every 1m there are 1000mm)

1000m = 1 km (In every 1km there are 1000m)

MEASUREMENTS, CALCULATIONS AND CONVERSIONS

Activity

1. Provide the units for the following

millimeter

centimeter

meter

Kilometer

2. Calculate the area (A) of the fabric given the following measurements:

Length = 55cm

Breadth = 30cm

3. Calculate the area (A) of the square leather fabric given the following measurements:

Length = 30mm

Breadth = 30mm