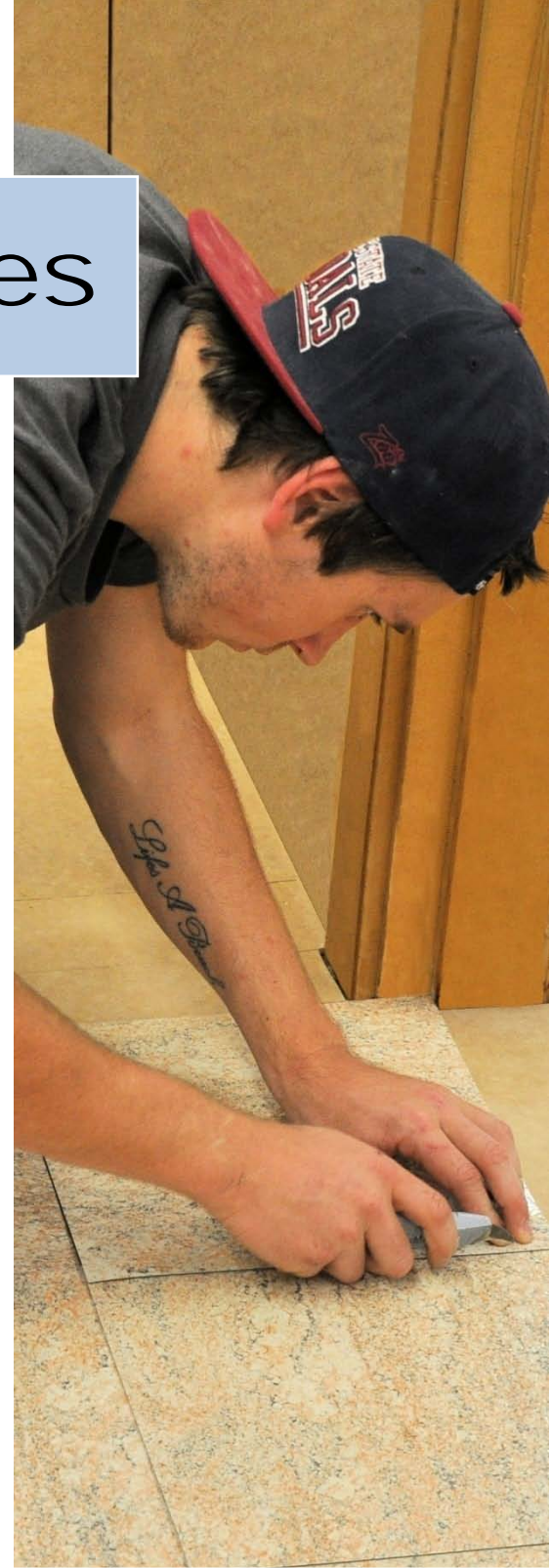


# Resilient tiles

Supporting:

*MSFFL2022: Install resilient tiles  
using standard installation  
procedures*



## Workbook



Name:



# Resilient tiles

## Workbook

Containing learning activities and assignments for the unit of competency:

***MSFFL2022: Install resilient tiles using standard installation procedures***

The assignment templates are also available in an electronic 'Word' version, downloadable from the INTAR website at:

[www.intar.com.au](http://www.intar.com.au)



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This training resource forms part of the **Flooring Technology project**, developed and coordinated by INTAR (Industry Network Training and Assessment Resources). To see the on-line versions of the resources available under this project, please go to the INTAR website and follow the links.



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In all cases, users should consult the original source documents before relying on any information presented in the resource. These source documents include manufacturers' installation guides, Australian Standards, codes of practice and other materials produced by specialist industry bodies and government agencies.

## Acknowledgements

The INTAR project team comprises the following people: David McElvenny (Workspace Training) – lead writer and project manager; Kath Ware (Workspace Training) – instructional designer and graphic artist, Jim Vaughan (VCSS) – technical developer and programmer; Alex Vaughan (VCSS) – assistant programmer and voice-over narrator.

All line drawn graphics were produced by Kath Ware. Many of these graphics are based on line drawings or photographs from installation manuals published by floor covering manufacturers.

Most of the on-site work photos were taken by David McElvenny. Some photos showing product samples were supplied by manufacturers, as acknowledged in the text or photo.

Many TAFE teachers, RTO trainers and industry experts have been involved in the development of this resource. Particular thanks go to the following people for providing learning materials, technical advice and feedback:

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# Introduction

*Resilient tiles* is a 'learning unit' from the Flooring Technology training resource. It supports the following competency from the *Certificate III in Flooring Technology* (MSF30813):

- *MSFFL2022: Install resilient tiles using standard installation procedures*

To be assessed as competent, your assessor will use a range of methods to check your understanding of the concepts presented in the Learner guide for this unit and your practical ability to install resilient tiles.

These may include:

- written assignments
- practical demonstrations
- on-the-job discussions about how you go about particular activities
- learning activities undertaken while you're progressing through the unit
- examples of installations you have undertaken
- log book or work diary.

## **Literacy, numeracy and computer skills**

Literacy is the ability to read and write. To complete this qualification, you will need sufficient literacy skills to produce a range of workplace documents. You will also need the skills to be able to read and understand documents such as order forms, installation instructions, project briefs and safe operating procedures.

Numeracy is the ability to work with numbers. Flooring installers need to do lots of measure-ups and calculations, so there will be many opportunities for you to learn and practise your numeracy skills.

When it comes to completing the written assignments for this qualification, a certain level of literacy ability is required to read the questions and write down your answers. There will also be times when you are asked to generate documents on a computer.

Obviously, it's important that you clearly understand what the assignment is asking you to do, and that your work is a good reflection of what you really know. So if you're having trouble reading the questions, writing down your answers, or using certain computer programs, make sure you speak to your trainer before you hand the assignment in.

There are various ways your trainer can help you. For example, they may be able to ask the assignment questions verbally and help you to write down your answers.

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They may also be able to show you sample answers to similar questions, which will let you look at the way they're written and give you hints on how to write your own. You may also be allowed to do the assignment with the assistance of another person.

## Applying for RPL

RPL stands for **Recognition of Prior Learning**. It is a form of assessment that acknowledges the skills and knowledge you have gained through:

- on-the-job experience
- formal training in other courses
- life experience, through your hobbies or other outside activities.

If you believe that you are already competent in some or all of the skills covered in this unit, ask your assessor about how to apply for RPL.

## Using this workbook

All of the lessons in the Learner guide for this unit have learning activities at the end. Their purpose is to provide discussion points and questions to help reinforce your understanding of the concepts being presented.

There are also a range of assignments, which appear at the end of each section. These are designed to test your knowledge of the subject matter and ability to submit written responses in an acceptable format.

This workbook reproduces all of the learning activities and assignments in a format that lets you handwrite your answers to the questions.

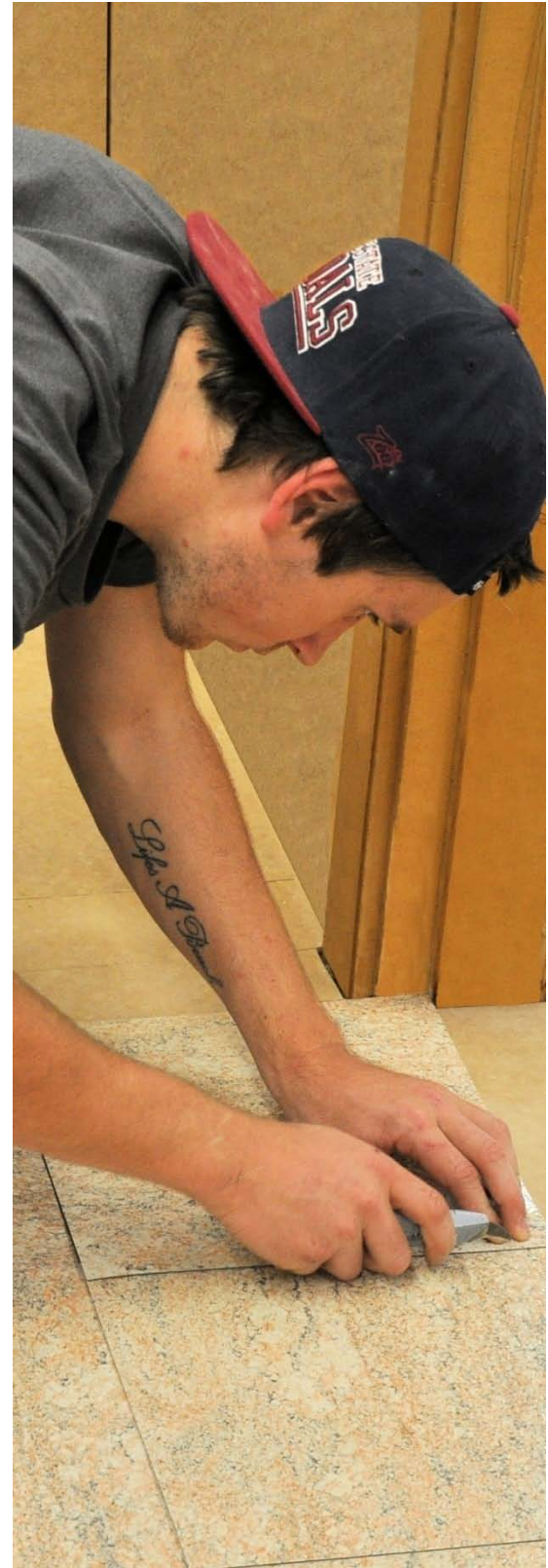
Note that your trainer may ask you to produce a computer-generated document for all of the formal assignments, either printed out in hard copy or submitted electronically. To do this, go to the website version of the unit and look for the *Assignment* link in each section. This will allow you to type your answers into the 'Word' document and then either print it out or email it direct to your trainer as an attachment.

You may also be asked to share your learning activity answers electronically, especially if you are undertaking this unit by distance learning and are linked up with fellow students in other locations. This might be done through group emails or via a social networking site such as Facebook. In these cases, you should use the website resource rather than this workbook.



# Part 1

## Learning activities





## Section 1: Tile basics

### Types of tiles

Use the table below to answer the following questions:

- What are the brand names of one VCT and one LVT?
- Who are the manufacturers?
- Where are they designed to be installed – that is, what are their typical applications?

Example	VCT	LVT
Brand name		
Manufacturer		
Typical applications		

### Types of adhesives

Choose one example each of an acrylic adhesive and a pressure sensitive adhesive.

Get the brochures and answer the following questions in the table provided:

- What types of substrates are they designed for?
- What types of resilient tile products are they most suitable for?

Adhesive type	Recommended substrates	Recommended tile products
Acrylic		
Pressure sensitive		

---

## Applying an adhesive

Go to the video clip called 'Marmoleum tile installation' at:

<http://www.youtube.com/watch?v=UfYMJBu4HI0>

Watch the clip and then answer the following questions.

1. What happens to Marmoleum tiles if they are installed onto adhesive that has already 'flashed off'?

2. When should you roll the tiles with a floor roller?

## Layouts and bonds

Go to the video clip called 'Quality luxury vinyl tiles from Polyflor' at:

<http://tv.polyflor.com/video/quality-luxury-vinyl-tiles-from-polyflor?current-channel=luxury-vinyl-tile>

Watch the clip and then answer the following questions:

1. Write down the names of the different types of bonds you recognise.

2. Are there any bonds shown in the clip that you don't recognise? Write down their names below if you can find them out, or draw the pattern if you don't know what they're called.

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## Preparing the tiles

Manufacturers often specify the recommended temperature range and humidity levels for their products using abbreviations like this:

**Temperature:**  $21^{\circ}\text{C} \pm 5^{\circ}$

**Relative humidity:**  $50\% \pm 10\%$ .

These 'plus or minus tolerances' show the range of measurements allowed by indicating the middle reading and specifying how much higher and lower it is allowed to go.

1. If the temperature range for a flooring product is listed as  $21^{\circ}\text{C} \pm 5^{\circ}$ , what are the actual upper and lower readings?

2. If the relative humidity is listed as  $50\% + 10\%$ , what are its upper and lower readings?

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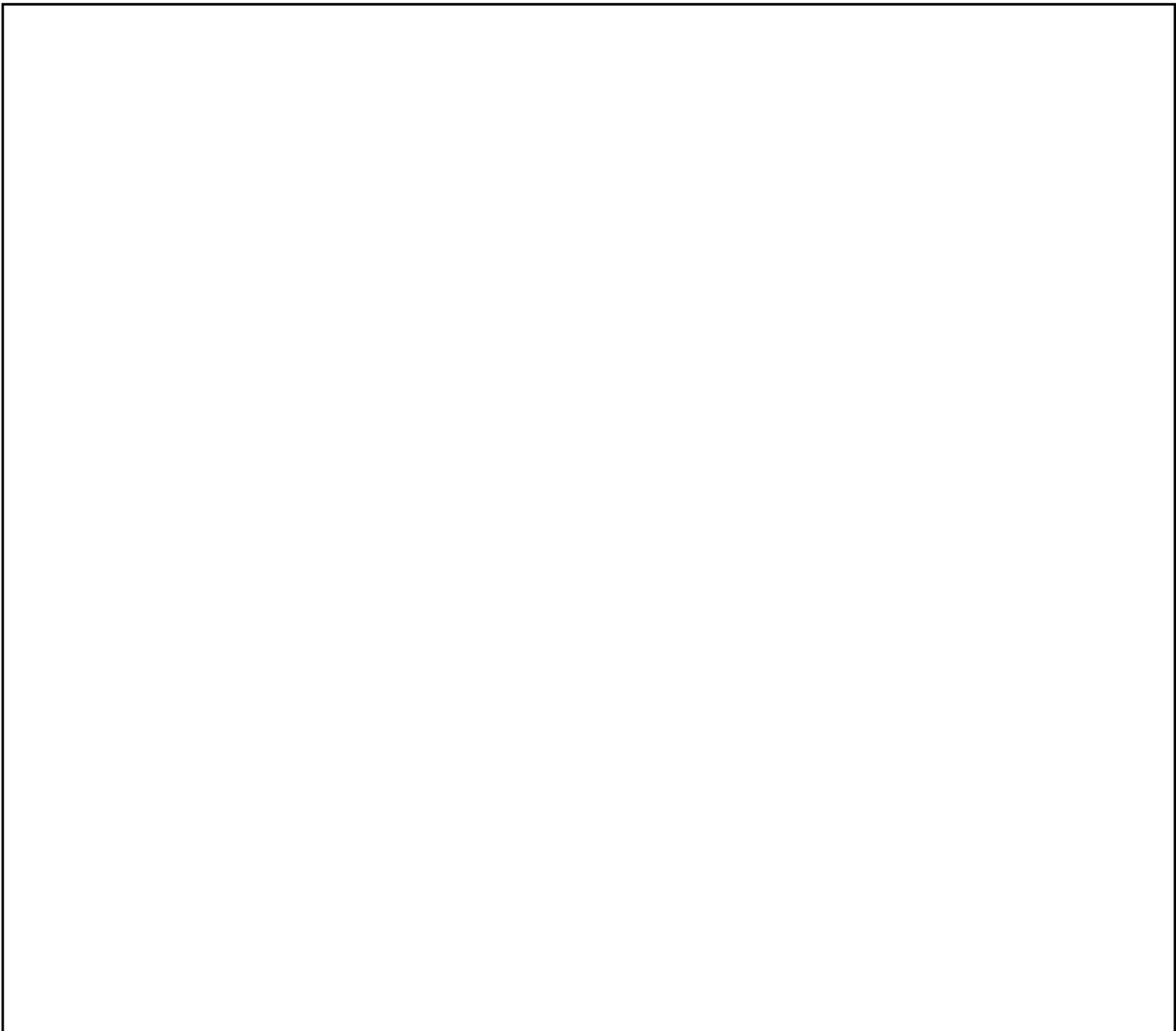
## Section 2: Square layout techniques

### Finding the starting point

Have a go at finding the centre of the room you're in (or a floor area nearby) using the technique described in the lesson in the Learner guide.

If you don't have a suitable floor area to carry out this activity, practice using the 3,4,5 rule instead. Go to each of the right-angled corners in the room and check to see whether the walls are exactly square to each other.

Draw up a plan of the floor area below. Mark the basic perimeter dimensions. Indicate on the plan whether you found the centre of the room or whether you checked the right angle corners.



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## Making working lines

Let's say you've been asked to install vinyl tiles with a border in the room you're in right now. If the room you're in is an unusual shape, you may select a particular area of the room that is square.

Measure up the area, do the calculations, and draw up the plan in a diagram like the last one shown in this lesson.

Mark in the two working lines and show their lengths either side of the starting point. Also show the width of the cut piece at each perimeter. If it is too awkward to put all this information on the same drawing, use one drawing to show the full floor plan and a second drawing to show the border tile measurements.

You may base your calculations on 500 x 500 tiles, or choose another size if you prefer.



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## Laying field tiles

Choose a brand of vinyl tile and a compatible brand of pressure sensitive adhesive. Complete the table below by researching the products on the web or in the manufacturers' brochures.

Vinyl tile product name and manufacturer	
Adhesive product name and manufacturer	
Drying time details for the pressure sensitive adhesive, and how that will govern the way you lay the tiles.	

## Laying border tiles

Do your own research to find answers to the following questions:

1. What method could you use to make tiles more 'pliable', and therefore softer and easier to cut?

2. What sized floor roller is best for rolling out vinyl tiles?



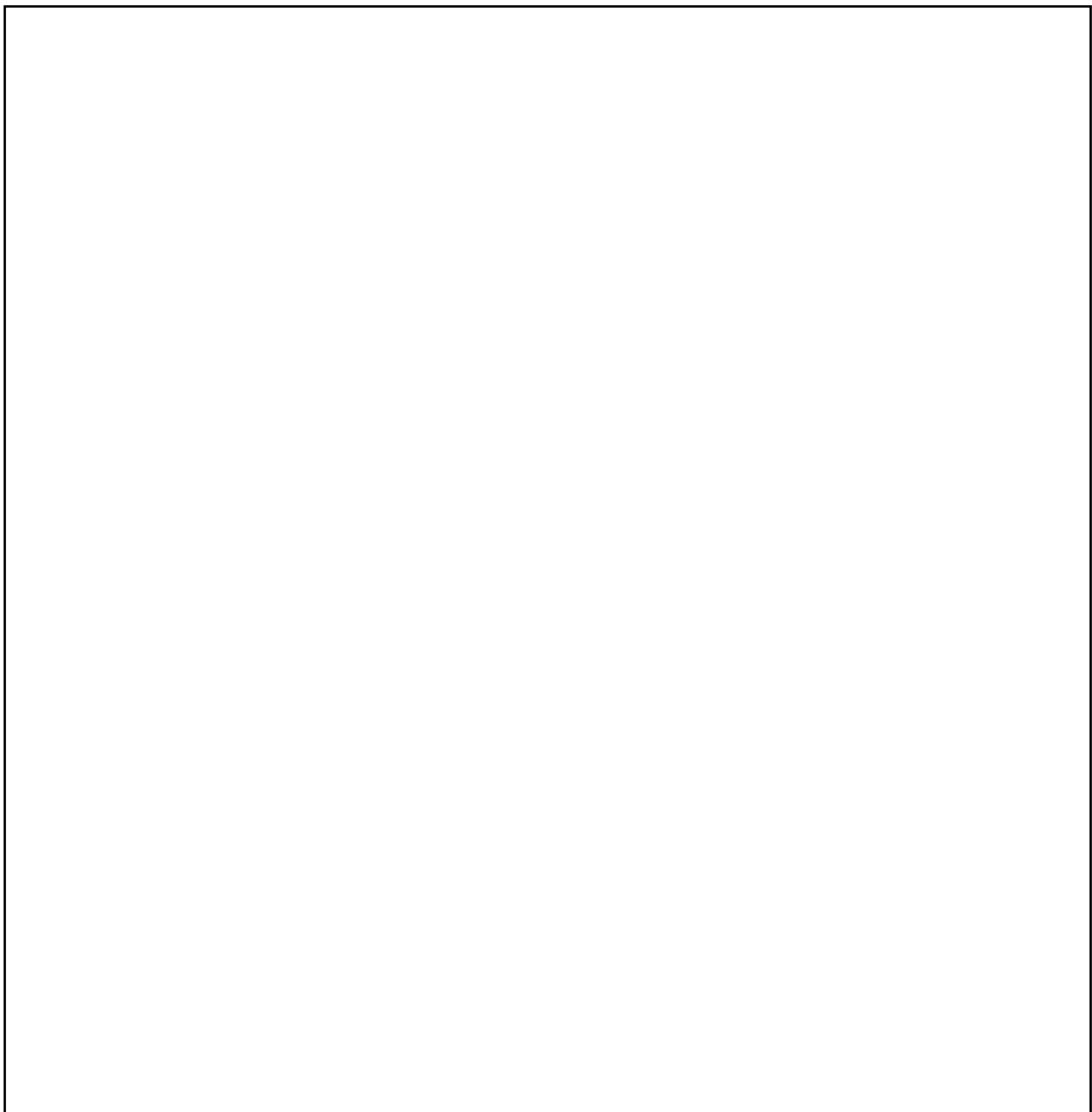
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## Section 3: Other layouts and techniques

### Diagonal layouts

Have a go at setting out the working lines for a diagonal tile layout in the room you're in right now. If the room is an unusual shape or unsuitable for this activity, go to a nearby room or floor area. You may use a square section of the overall floor if that is easier.

Draw up a plan below of the floor area you have used and mark the basic perimeter dimensions. Fill in the working lines and relevant measurements.



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## Corridors and columns

Go to the video produced by Armstrong Commercial Flooring at:

<http://www.youtube.com/watch?v=vGIFnUKDUkg&list=PL713C504C52DB1B16>

Watch the clip and then answer the following questions.

1. Why does the installer 'back roll' the adhesive on the subfloor after spreading it with a trowel?

2. Why does he take special care when positioning the first row of planks?

3. How long does he wait after laying the first two rows of planks before proceeding with the remainder of the planks? Why does he wait for this length of time?

## Common problems with tiles

Go to the Forbo video clip on the correct use of adhesives at:

<http://www.youtube.com/watch?v=mvmIm1bFOHs>

Watch the clip and then answer the following questions:

1. What conditions will affect the 'open time' and 'working time' of an adhesive?

2. What does 'fully wet' mean?

3. What does 'semi-wet' mean?

4. What does 'flashed off' mean?

5. At what stage of the drying process should you lay the product into the adhesive?

6. What is one of the most common causes of installation failure in Marmoleum?

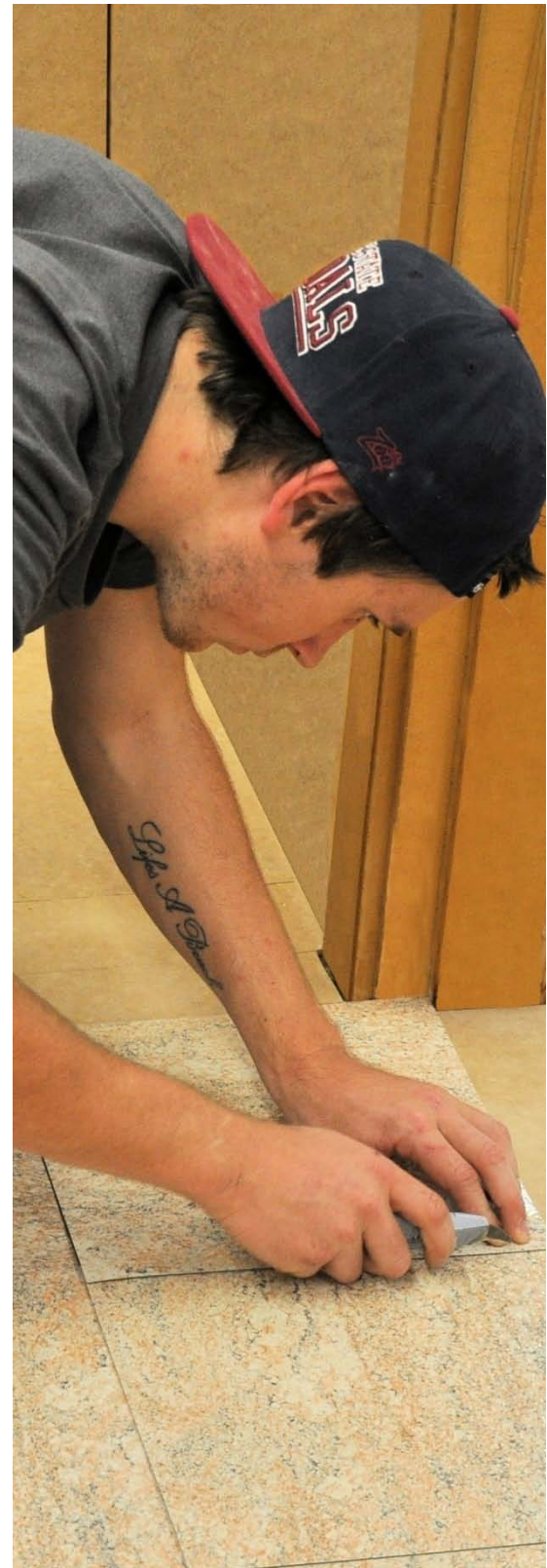
## Finishing the job

Choose a particular brand of vinyl tile and do some research on the manufacturer's guidelines relating to cleaning and maintenance. Complete the table below using your research.

Vinyl tile product name and manufacturer	
Guidelines for cleaning and polishing the flooring immediately after installation	
Guidelines for on-going periodic maintenance	

# Part 2

## Assignments





## Assignment 1

<b>Name</b>		<b>Date</b>	
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1. Choose one brand-name product for each of the following types of resilient tile and answer the questions listed in the tables provided below:
  - Vinyl composition tile
  - Luxury vinyl tile
  - Rubber
  - Linoleum
  - (a) What is the product name and who is the manufacturer?
  - (b) What types of end uses is it most suitable for?
  - (c) What are its main features – that is, what characteristics would clients be looking for when they choose this product?
  - (d) What advice is given by the manufacturer on how the product should be conditioned before installation?
  - (e) What brand of adhesive is recommended for the product, and what type of adhesive is it?
  - (f) How is the adhesive applied? If it requires a notched trowel, state the trowel notching size.

### Vinyl composition tile

Product name and manufacturer	
Most suitable end uses	
Main features	
Conditioning advice provided	

Recommended adhesive and type	
Adhesive application and trowel notching size	

### Luxury vinyl tile

Product name and manufacturer	
Most suitable end uses	
Main features	
Conditioning advice provided	
Recommended adhesive and type	
Adhesive application and trowel notching size	

### Rubber

Product name and manufacturer	
Most suitable end uses	
Main features	

Conditioning advice provided	
Recommended adhesive and type	
Adhesive application and trowel notching size	

### Linoleum

Product name and manufacturer	
Most suitable end uses	
Main features	
Conditioning advice provided	
Recommended adhesive and type	
Adhesive application and trowel notching size	

2. What on-site conditions can affect the duration of an adhesive's open time and working time? Name three factors.

1.
2.
3.





## Assignment 2

<b>Name</b>		<b>Date</b>	
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Your trainer will give you a room to measure up for a resilient tile installation. You will also be given a specific tile size to work with. Your task is to produce the following two drawings on a separate sheet of paper.

1. Basic proportional sketch of the room, showing all measurements required to calculate and set out the working lines for the tiled floor.
2. Second sketch showing the following set-out details:
  - chalk lines required to find the centre point of the room
  - additional chalk lines required to move the starting point away from the centre point (if needed)
  - finished size of the cut border tiles against all four walls
  - lengths along the working lines between the walls and the starting point.

The sketches do not need to be drawn perfectly to scale. However, they should be well set out with straight lines and information that's clearly marked and easy to read. You will probably need to produce a rough version first and then re-draw it when you have worked out the details.



## Assignment 3

<b>Name</b>		<b>Date</b>	
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1. Briefly describe how you would scribe tiles around a door jamb and architrave using the direct scribe method. Write your answer in the table below. You may use drawings if you wish to illustrate your answer. Also list the tools required for the job.

Description	Tools required

2. Briefly describe how you would scribe tiles around a toilet pedestal using a template. You may use drawings if you wish. Also list the tools required for the job.

Description	Tools required

3. Name two problems that could occur in a tiled floor as the result of adhesive failure. For each one, state what steps you could take during installation to avoid the problem in the first place.

Problem 1	
How to avoid it	

Problem 2	
How to avoid it	

4. Give two reasons why a tiled floor may creep out of bond during installation. For each one, state what steps you could take during installation to rectify or avoid the problem.

Reason 1	
How to avoid it	

Reason 2	
How to avoid it	

- 
5. What advice would you give to the client about protecting and cleaning their new floor immediately after installation?



## Practical demonstrations

The checklist below sets out the sorts of things your trainer will be looking for when you undertake the practical demonstrations for this unit. Make sure you talk to your trainer or supervisor about any of the details that you don't understand, or aren't ready to demonstrate, before the assessment event is organised. This will give you time to get the hang of the tasks you will need to perform, so that you'll feel more confident when the time comes to be assessed.

When you are able to tick all of the YES boxes below you will be ready to carry out the practical demonstration component of this unit.

<b>Specific performance evidence</b>	<b>YES</b>
Install resilient tiles, where cutting and fixing is required on either a timber or concrete sub-floor to complete a minimum of:	
<ul style="list-style-type: none"> <li>• 1 homogeneous resilient tile installation using single direction pattern, including the appropriate trim and accessories (Installation 1)</li> </ul>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 1 heterogeneous resilient tile installation using single direction pattern, including the appropriate trim and accessories (Installation 2)</li> </ul>	<input type="checkbox"/>

<b>General performance evidence</b>	<b>YES</b>
1. Follow all relevant WHS laws and regulations, and company policies and procedures	<input type="checkbox"/>
2. Read and interpret plans and written instructions relevant to the tasks	<input type="checkbox"/>
3. Assess the condition of the subfloor to determine its suitability for the installation job	<input type="checkbox"/>
4. Select the appropriate adhesives, trims and accessories	<input type="checkbox"/>
5. Select the correct tools and equipment, and carry out all necessary pre-start checks	<input type="checkbox"/>
6. Plan the sequence of work tasks to maintain efficiency and quality	<input type="checkbox"/>
7. Check the specifications of the tiles against the work order	<input type="checkbox"/>
8. Acclimatise the tiles according to the manufacturer's recommendations	<input type="checkbox"/>
9. Identify hazards and control risks when handling materials	<input type="checkbox"/>



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10. Establish starting point and set out working lines	<input type="checkbox"/>
11. Lay out the tiles to achieve grain and pattern matches or contrasts	<input type="checkbox"/>
12. Mark and cut the tiles to the required pattern and shape, with minimal waste	<input type="checkbox"/>
13. Use adhesives and edge strips/accessories according to instructions	<input type="checkbox"/>
14. Inspect finished installation for problems and rectify faults, if necessary	<input type="checkbox"/>
15. Store or recycle unused materials	<input type="checkbox"/>
16. Clean and store tools and equipment appropriately	<input type="checkbox"/>
17. Clean up work area and dispose of rubbish properly	<input type="checkbox"/>
18. Accurately complete all required documentation	<input type="checkbox"/>