

# Timber floor coatings

Supporting:

***MSFFL3023: Apply solvent-based coatings to timber flooring***

***MSFFL3024: Apply water-based coatings to timber flooring***

***MSFFL3025: Apply oil-based coatings to timber flooring***

***MSFFL3046: Apply finishes to cork flooring***



## Workbook



Name:



# Timber floor coatings

## Workbook

Containing learning activities and assignments for the units of competency:

***MSFFL3023: Apply solvent-based coatings to timber flooring***

***MSFFL3024: Apply water-based coatings to timber flooring***

***MSFFL3025: Apply oil-based coatings to timber flooring***

***MSFFL3046: Apply finishes to cork flooring***

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.

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# Introduction

*Timber floor coatings* is a 'learning unit' from the Flooring Technology training resource. It supports the following competencies from the *Certificate III in Flooring Technology* (MSF30813):

- *MSFFL3023: Apply solvent-based coatings to timber flooring*
- *MSFFL3024: Apply water-based coatings to timber flooring*
- *MSFFL3025: Apply oil-based coatings to timber flooring*
- *MSFFL3046: Apply finishes to cork flooring*

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 ability to apply these principles at work.

These may include:

- written assignments
- practical demonstrations
- on-the-job discussions about how you go about particular activities
- activities undertaken while you're progressing through the unit
- 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.

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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. 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: Products and processes

## Types of coatings

Identify one brand name product for each category of floor coating listed below. Also provide a brief description of the product's chemical make-up. Make sure you choose different brand names from the ones shown in the Learner guide photos.

Oil-based finish	
1. Brand name	
2. Manufacturer	
3. Chemical make-up	

Composite finish	
1. Brand name	
2. Manufacturer	
3. Chemical make-up	

Solvent-borne polyurethane	
1. Brand name	
2. Manufacturer	
3. Chemical make-up	

Water-borne polyurethane	
1. Brand name	
2. Manufacturer	
3. Chemical make-up	

## Preparing the floor

Follow the Youtube link shown below and watch the video clip. Then answer the questions underneath. If you have done this sort of work before, you may answer the questions from your own experience.

Video clip:

'How to sand a timber floor using Hiretech floor sanders':

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

1. How do the workers stop dust from floating into other rooms?

2. What grade of sandpaper is recommended for the first cut with a drum sander if the floor is old and in poor condition?

3. What grade of sandpaper should be used on the first cut if the floor is new?

4. What range of grades are recommended for the finish sand with the orbital sander?

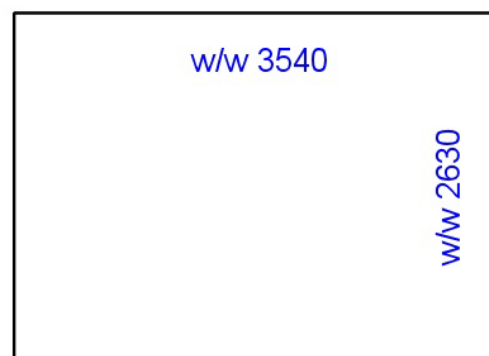
## Applying the coating

Choose a specific floor finish and look up its rate of coverage.

Calculate how many litres will be required to apply the recommended number of coats to the floor area shown in the diagram at right.

Write up the following details in the table provided:

1. Total floor area (in m<sup>2</sup>).
2. Product brand name and manufacturer.



3. Coverage in m<sup>2</sup>/L (state the range, if upper and lower rates are provided).
4. Number of coats recommended by the manufacturer.
5. Estimated total volume of coating product required to finish the floor (in litres).
6. Number of containers required, based on the sizes available for that product.

1. Floor area (m <sup>2</sup> )	
2. Brand name / man.	
2. Coverage (m <sup>2</sup> /L)	
3. Number of coats	
4. Total volume (L)	
5. No. of containers	

### Protecting the finished floor

Select two floor finishing products with different chemical make-ups. Write down the following information for each product:

1. Brand name and manufacturer.
2. Recoat time (drying time between coats).
3. Drying time for final coat (before the floor can take light foot traffic).
4. Full curing time (before the floor can take normal wear).
5. Temperature (and relative humidity, if quoted) applicable to the drying times.

<b>Product 1</b>	
1. Brand name / man.	
2. Recoat time	
3. Final drying time	
4. Full curing time	
5. Temp. and RH	

<b>Product 2</b>	
1. Brand name / man.	
2. Recoat time	
3. Final drying time	
4. Full curing time	
5. Temp. and RH	

### **Safety and environmental care**

Choose one solvent-borne coating product and get a copy of its MSDS. Write down the following information about the product:

1. Brand name and manufacturer.
2. Items of PPE that should be worn when mixing and applying the product.
3. Ventilation requirements in the room while you're working with the product.
4. Disposal procedure for used applicators and leftover liquid products.

1. Brand name / man.	
3. PPE required	
4. Ventilation requirements	
5. Disposal procedure	

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## Section 2: Problems and causes

### Inspecting the floor

Read Appendix B in AS 4786 – ‘Assessment of quality of finish’ and then answer the following question. What are the main suggestions on how to inspect the floor, and the conditions under which it should be inspected?

### Common problems

Carry out an inspection on a finished timber floor. Find two different types of imperfections in the coating system. Name each imperfection, using the correct terminology, and briefly describe how the problem might have occurred. You can also take digital photos to go with the descriptions.

Example 1:

Example 2:





# Part 2

# Assignments





## Assignment 1

Name		Date	
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Provide the following information for each of the coating products you have used in your practical demonstrations. Use the tables provided on the next two pages to write your answers.

If you are undertaking more than one competency in this block of learning, you will need to photocopy the table on the next page for each additional practical demonstration you carry out.

### Coating product used in practical demonstration:

1. Brand name and manufacturer.
2. Category of finish (according to its chemical composition).
3. Main features (that is, characteristics that the client might be looking for when they choose this product).
4. PPE required while mixing and applying the product.
5. Number of coats required and total quantity of coating product needed (including calculations showing square metreage of the floor area and rate of coverage).
6. Recoat drying time, final coat drying time and full curing time.
7. Any special limitations specified by the manufacturer (such as temperature range for usage or compatibility problems with other products).
8. Grade of sandpaper and machines used to sand the floor in between coats (where applicable).
9. Advice to be given to the client on how to protect the floor while it is still curing.
10. Advice to be given to the client regarding on-going maintenance.

<b>Coating product used in 1<sup>st</sup> demonstration</b>	
1. Brand / man.	
2. Category	
3. Main features	
4. PPE required	
5. No. of coats / total quantity / calculations	
6. Drying and curing times	
7. Limitations of product	
8. Sandpaper grade and machines	
9. Advice on protection of new coating	
10. Advice on routine maintenance	

<b>Coating product used in 2<sup>nd</sup> demonstration</b>	
1. Brand / man.	
2. Category	
3. Main features	
4. PPE required	
5. No. of coats / total quantity / calculations	
6. Drying and curing times	
7. Limitations of product	
8. Sandpaper grade and machines	
9. Advice on protection of new coating	
10. Advice on routine maintenance	



## Assignment 2

<b>Name</b>		<b>Date</b>	
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In Assignment 1, you provided descriptions of the coating products you used in the practical demonstrations. For each of these products, provide the following information:

1. Brand name of the product.
2. Type of floor and species of timber that the coating product was applied to. (E.g. blackbutt strip flooring, tallowwood parquetry flooring, cork tiles, etc.)
3. Describe two possible problems that this floor and coating system combination would be susceptible to. (That is, what sorts of things could go wrong if you weren't careful?)
4. Explain how you minimised the risk of these potential problems occurring. (What did you look out for, what techniques did you use, or what were you careful to avoid?)

Coating product used in 1 <sup>st</sup> demonstration	
1. Product name	
2. Type of floor / species	
3. Potential problem and solution to minimise risks – Example 1	Problem:  Solution:
4. Potential problem and solution to minimise risks – Example 1	Problem:  Solution:

<b>Coating product used in 2<sup>nd</sup> demonstration</b>	
1. Product name	
2. Type of floor / species	
3. Potential problem and solution to minimise risks – Example 2	Problem:  Solution:
4. Potential problem and solution to minimise risks – Example 2	Problem:  Solution:



## Practical demonstrations

In this unit we have provided background material to cover the following competencies:

*MSFFL3023: Apply solvent-based coatings to timber flooring*

*MSFFL3024: Apply water-based coatings to timber flooring*

*MSFFL3025: Apply oil-based coatings to timber flooring*

*MSFFL3046: Apply finishes to cork flooring*

The checklists below set out the sorts of things your trainer will be looking for when you undertake the practical demonstrations for this unit. The performance evidence for the individual competencies are listed separately below.

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.

### MSFFL3023: Apply solvent-based coatings to timber flooring

Specific performance evidence	YES
Complete two separate timber floor coating applications using two different solvent-based products to two different timber species.	<input type="checkbox"/>

General performance evidence	YES
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. Select the appropriate solvent-based coating system, with regard to job requirements, client expectations and compatibility of products	<input type="checkbox"/>
4. Select the correct tools and equipment, and carry out all necessary pre-start checks	<input type="checkbox"/>

5. Inspect the surface to be finished to ensure it is ready for coating	<input type="checkbox"/>
6. Erect barrier signs or other forms of traffic control in the area	<input type="checkbox"/>
7. Plan the sequence of work tasks to maintain efficiency and quality	<input type="checkbox"/>
8. Identify hazards and control risks, including ventilation requirements, environmental protection measures and appropriate use of PPE	<input type="checkbox"/>
9. Apply the coating products in accordance with manufacturer's recommendations	<input type="checkbox"/>
10. Follow specified drying times and buffing or sanding procedures between coats	<input type="checkbox"/>
11. Inspect the finished job for imperfections and rectify faults, if necessary	<input type="checkbox"/>
12. Advise client on maintenance procedures and warranty conditions, where required	<input type="checkbox"/>
13. Store or recycle unused materials	<input type="checkbox"/>
14. Clean and store tools and equipment appropriately	<input type="checkbox"/>
15. Clean up work area, dispose of rubbish and remove barriers and signs	<input type="checkbox"/>
16. Accurately complete all required documentation	<input type="checkbox"/>

### MSFFL3024: Apply water-based coatings to timber flooring

<b>Specific performance evidence</b>	<b>YES</b>
Complete two separate timber floor coating applications using two different water-based products to two different timber species.	<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. Select the appropriate water-based coating system, with regard to job requirements, client expectations and compatibility of products	<input type="checkbox"/>
4. Select the correct tools and equipment, and carry out all necessary	<input type="checkbox"/>

pre-start checks	
5. Inspect the surface to be finished to ensure it is ready for coating	<input type="checkbox"/>
6. Erect barrier signs or other forms of traffic control in the area	<input type="checkbox"/>
7. Plan the sequence of work tasks to maintain efficiency and quality	<input type="checkbox"/>
8. Identify hazards and control risks, including ventilation requirements, environmental protection measures and appropriate use of PPE	<input type="checkbox"/>
9. Apply the coating products in accordance with manufacturer's recommendations	<input type="checkbox"/>
10. Follow specified drying times and buffing or sanding procedures between coats	<input type="checkbox"/>
11. Inspect the finished job for imperfections and rectify faults, if necessary	<input type="checkbox"/>
12. Advise client on maintenance procedures and warranty conditions, where required	<input type="checkbox"/>
13. Store or recycle unused materials	<input type="checkbox"/>
14. Clean and store tools and equipment appropriately	<input type="checkbox"/>
15. Clean up work area, dispose of rubbish and remove barriers and signs	<input type="checkbox"/>
16. Accurately complete all required documentation	<input type="checkbox"/>

### MSFFL3025: Apply oil-based coatings to timber flooring

<b>Specific performance evidence</b>	<b>YES</b>
Complete two separate timber floor coating applications using two different oil-based products to two different timber species.	<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. Select the appropriate oil-based coating system, with regard to job requirements, client expectations and compatibility of products	<input type="checkbox"/>

4. Select the correct tools and equipment, and carry out all necessary pre-start checks	<input type="checkbox"/>
5. Inspect the surface to be finished to ensure it is ready for coating	<input type="checkbox"/>
6. Erect barrier signs or other forms of traffic control in the area	<input type="checkbox"/>
7. Plan the sequence of work tasks to maintain efficiency and quality	<input type="checkbox"/>
8. Identify hazards and control risks, including ventilation requirements, environmental protection measures and appropriate use of PPE	<input type="checkbox"/>
9. Apply the coating products in accordance with manufacturer's recommendations	<input type="checkbox"/>
10. Follow specified drying times and buffing or sanding procedures between coats	<input type="checkbox"/>
11. Inspect the finished job for imperfections and rectify faults, if necessary	<input type="checkbox"/>
12. Advise client on maintenance procedures and warranty conditions, where required	<input type="checkbox"/>
13. Store or recycle unused materials	<input type="checkbox"/>
14. Clean and store tools and equipment appropriately	<input type="checkbox"/>
15. Clean up work area, dispose of rubbish and remove barriers and signs	<input type="checkbox"/>
16. Accurately complete all required documentation	<input type="checkbox"/>

### MSFFL3046: Apply finishes to cork flooring

<b>Specific performance evidence</b>	<b>YES</b>
Complete two separate cork floor coating applications using two different coating/finishing products.	<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. Select the appropriate coating system, with regard to job	<input type="checkbox"/>

requirements, client expectations and compatibility of products	
4. Select the correct tools and equipment, and carry out all necessary pre-start checks	<input type="checkbox"/>
5. Inspect the surface to be finished to ensure it is ready for coating	<input type="checkbox"/>
6. Erect barrier signs or other forms of traffic control in the area	<input type="checkbox"/>
7. Plan the sequence of work tasks to maintain efficiency and quality	<input type="checkbox"/>
8. Identify hazards and control risks, including ventilation requirements, environmental protection measures and appropriate use of PPE	<input type="checkbox"/>
9. Apply the coating products in accordance with manufacturer's recommendations	<input type="checkbox"/>
10. Follow specified drying times and buffing or sanding procedures between coats	<input type="checkbox"/>
11. Inspect the finished job for imperfections and rectify faults, if necessary	<input type="checkbox"/>
12. Advise client on maintenance procedures and warranty conditions, where required	<input type="checkbox"/>
13. Store or recycle unused materials	<input type="checkbox"/>
14. Clean and store tools and equipment appropriately	<input type="checkbox"/>
15. Clean up work area, dispose of rubbish and remove barriers and signs	<input type="checkbox"/>
16. Accurately complete all required documentation	<input type="checkbox"/>