

National Certificate in Building, Construction and Allied Trades Skills (BCATS)
Teacher Information & Resources

**Demonstrate knowledge of the
roofing industry within a BCATS
environment**

Unit Standard – 25334

Level 2, Credit 2





Teaching and assessment tips

Intent – The intent of the unit standard is that the learner is able to demonstrate basic knowledge of the roofing industry including:

- major industry sectors
- industry work processes
- industry clients, supply and inter-trade relationships
- the impact of regulatory and trade bodies on the industry and
- industry jobs and their training requirements.

It is intended that a learner who has an interest in a particular industry can achieve credits for their exploration of that industry by completing the relevant unit.

Unit standard Interpretation

No more than 2 of the Demonstrate Knowledge units that relate to BCATS industries can be incorporated in the qualification.

A worksheet that covers the assessment requirements for this unit standard is included in this document. Also included are model answers for that worksheet.

Assessment



Assessment of this unit standard consists of:

- Completion of the worksheet

Worksheet US 25334

Student Name: _____

1. Place the following words in the sentences below to complete the sentences: insulation, installation, flashing, reroofing.

- (a) _____ involves all the work required to install roofs on new buildings.
- (b) _____ refers to the complete replacement of an existing roof, or a large section of a roof.
- (c) _____ is material installed to reduce the amount of heat escaping from or entering a building.
- (d) A _____ is a covering used to weatherproof or seal a roof at corners, edges and other places where the roof covering is interrupted.

2. Put the letter beside the roofing material or product that best describes it from the following list.

Description

- A Metal or plastic sheets of roofing material
- B Interlocking metal sheets (usually steel) that have been pressed into shapes that resemble tiles, shakes or shingles.
- C Individual overlapping elements. Normally flat rectangular shapes that are laid in rows.
- D Interlocking tiles manufactured in a range of profiles, colours and finishes.
- E Non-metallic material generally used on flat or nearly flat roofs.

Roofing material or product

- Concrete tiles _____
- Membrane _____
- Metal and translucent cladding _____
- Shingles _____
- Metal tiles _____

3. In the table below, mark the statement as True or False.

	True/False
There is no need to visit the site as part of the planning process, as all the information needed is included in the plans and specifications.	
Materials delivered to the site need to be checked to make sure that the materials delivered match what was ordered.	
The lifting equipment used to lift materials onto the roof may depend on the type and packaging of the roofing material.	





Components such as underlay, netting or safety mesh, battens, and insulation, are installed by other trades after the roofer has installed the roofing material.	
Fastening refers to attaching the roofing material to the building frame and fixing components of the roof assembly together.	
In areas where sealants are used, mechanical fasteners are not required as the sealant has sufficient strength to secure the roofing materials.	
Roofer don't install flashings as this is always done by a company specialising in this work.	
Finishing includes checking to make sure all work has been completed to the required standard.	
Reroofing generally refers to the complete replacement of an existing roof, whereas repair refers to work done as part of normal maintenance or in situations where damage has occurred.	

4. Complete the following sentences by filling in the missing words.

(a) Underlay is an _____ permeable membrane, installed _____ the roofing material, that absorbs _____.

(b) Insulation is often installed on the _____ and is not part of the roof installation.

5. Briefly explain an example situation for each of the following. Indicate in your explanation who the roofer is responsible to in each case.

(a) The roofer works as a subcontractor.

(b) The roofer works directly to a client.

6. In the table below the descriptions in the right hand column are **incorrectly** matched to the terms in the left column. For each term, draw a line to the **correct** description.

Term	Description
Trade account	Training provided by manufacturers to ensure that installers are aware of the correct methods for handling and installing their products.
Trade discount	A network including members at all stages of the supply chain to ensure that everyone involved in the supply process is familiar with the product and is properly trained.
Manufacturer guarantee system	An arrangement with a supplier which enables a tradesperson to obtain materials without having to pay for them at the time they are supplied.
Product training	A written assurance from manufacturers that their goods or services meet a certain standard of quality and durability.
Accredited supply network	A discount on the purchase price of materials given to a tradesperson by a material supplier. Generally applies to holders of trade accounts.



7. Briefly explain why it is necessary for roofers to coordinate their work with other trades involved in a project. Include in your explanation, 2 examples where coordination would be necessary.

8. In the space provided beside the organisations listed below, write the letter that best describes that organisations role in relation to the work of roofers.

Organisation

- Ministry of Business, Innovation and Employment _____
- Building Practitioners Board _____
- WorkSafe NZ _____
- Building Consent Authorities _____
- Standards New Zealand _____
- Trade Associations _____
- Industry Training Organisations _____

Role in relation to the work of roofers

- A Administers the Health and Safety at Work Act and Regulations.
- B Represents trade or professional groups or industries.
- C Administers the Licensed Building Practitioners Scheme
- D Responsible for the Building Act and Building Code
- E Coordinates training for an industry or group of industries.



- F Develops standards for products, processes, services and performance.
- G Administers requirements of the Building Code to ensure that building work carried out complies with the Code.

9. Briefly describe **4** of the roles listed below in the roofing industry. Your description for each role should include the work undertaken and the skills/training/qualifications required for the role.

Unskilled Labourer, Apprentice, Tradesperson, Foreperson, Site Supervisor.



Assessor Sign off:

Assessor name: Assessor signature: Date:.....	<p>RESULT: A = Achieved, N = Not Yet Achieved</p>
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Worksheet model answers

1. Place the following words in the sentences below to complete the sentences: insulation, installation, flashing, reroofing.
- (e) *Installation* involves all the work required to install roofs on new buildings.
- (f) *Reroofing* refers to the complete replacement of an existing roof, or a large section of a roof.
- (g) *Insulation* is material installed to reduce the amount of heat escaping from or entering a building.
- (h) A *flashing* is a covering used to weatherproof or seal a roof at corners, edges and other places where the roof covering is interrupted.
2. Put the letter beside the roofing material or product that best describes it from the following list.

Description

- A Metal or plastic sheets of roofing material
- B Interlocking metal sheets (usually steel) that have been pressed into shapes that resemble tiles, shakes or shingles.
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- D Interlocking tiles manufactured in a range of profiles, colours and finishes.
- E Non-metallic material generally used on flat or nearly flat roofs.

Roofing material or product

Concrete tiles	<u>D</u>
Membrane	<u>E</u>
Metal and translucent cladding	<u>A</u>
Shingles	<u>C</u>
Metal tiles	<u>B</u>

3. In the table below, mark the statement as True or False.

	True/False
There is no need to visit the site as part of the planning process, as all the information needed is included in the plans and specifications.	<i>False</i>
Materials delivered to the site need to be checked to make sure that the materials delivered match what was ordered.	<i>True</i>
The lifting equipment used to lift materials onto the roof may depend on the type and packaging of the roofing material.	<i>True</i>

Components such as underlay, netting or safety mesh, battens, and insulation, are installed by other trades after the roofer has installed the roofing material.	<i>False</i>
Fastening refers to attaching the roofing material to the building frame and fixing components of the roof assembly together.	<i>True</i>
In areas where sealants are used, mechanical fasteners are not required as the sealant has sufficient strength to secure the roofing materials.	<i>False</i>
Roofer don't install flashings as this is always done by a company specialising in this work.	<i>False</i>
Finishing includes checking to make sure all work has been completed to the required standard.	<i>True</i>
Reroofing generally refers to the complete replacement of an existing roof, whereas repair refers to work done as part of normal maintenance or in situations where damage has occurred.	<i>True</i>

4. Complete the following sentences by filling in the missing words.

- (a) Underlay is an *absorbent* permeable membrane, installed *underneath* the roofing material, that absorbs *condensation*. Note: (*water* or *moisture* also acceptable answers).
- (b) Insulation is often installed on the *ceiling* and is not part of the roof installation.

5. Briefly explain an example situation for each of the following. Indicate in your explanation who the roofer is responsible to in each case.

- (a) The roofer works as a subcontractor.

The roofer is contracted by a roofing company to carry out roofing installation work. The roofer is responsible to the roofing company, and does not normally deal directly with the client.

- (b) The roofer works directly to a client.

The client contracts the roofer to supply and install the roofing materials. The roofer is responsible to the client and deals directly with the client.

6. In the table below the descriptions in the right hand column are **incorrectly** matched to the terms in the left column. For each term, draw a line to the **correct** description.

Term	Description
Trade account	Training provided by manufacturers to ensure that installers are aware of the correct methods for handling and installing their products.
Trade discount	A network including members at all stages of the supply chain to ensure that everyone involved in the supply process is familiar with the product and is properly trained.
Manufacturer guarantee system	An arrangement with a supplier which enables a tradesperson to obtain materials without having to pay for them at the time they are supplied.
Product training	A written assurance from manufacturers that their goods or services meet a certain standard of quality and durability.
Accredited supply network	A discount on the purchase price of materials given to a tradesperson by a material supplier. Generally applies to holders of trade accounts.

7. Briefly explain why it is necessary for roofers to coordinate their work with other trades involved in a project. Include in your explanation, 2 examples where coordination would be necessary.

Some work carried out by other trades can impact on the roof installation, so it is necessary to coordinate the roof installation with this work. Examples are flues that penetrate the roof, and equipment such as air conditioning equipment that is installed on the roof.

8. In the space provided beside the organisations listed below, write the letter that best describes that organisations role in relation to the work of roofers.

Organisation

Ministry of Business, Innovation and Employment	<u>D</u>
Building Practitioners Board	<u>C</u>
WorkSafe NZ	<u>A</u>
Building Consent Authorities	<u>G</u>
Standards New Zealand	<u>F</u>
Trade Associations	<u>B</u>
Industry Training Organisations	<u>E</u>

Role in relation to the work of roofers

- A Administers the Health and Safety in Employment Act and Regulations.
- B Represents trade or professional groups or industries.
- C Administers the Licensed Building Practitioners Scheme
- D Responsible for the Building Act and Building Code
- E Coordinates training for an industry of group of industries.
- F Develops standards for products, processes, services and performance.

- G Administers requirements of the Building Code to ensure that building work carried out complies with the Code.
9. Brief describe 4 of the roles listed below in the roofing industry. Your description for each role should include the work undertaken and the skills/training/qualifications required for the role.

Unskilled Labourer, Apprentice, Tradesperson, Foreperson, Site Supervisor.

An Unskilled Labourer does basic work that does not require a high level of skills or knowledge. They are not expected to have roofing-related training or qualifications.

An Apprentice is in a training programme working towards a trade qualification. Their training covers a wide variety of skills, and as they gain more experience they are able to work more independently and take on more responsibility.

A roofing tradesperson is a skilled person who is able to perform all the tasks required for the installation of a roof of the type for which they have been trained.

A foreperson is usually an experienced tradesperson who is responsible for the day to day organisation of a team. They are also responsible for making sure material and equipment is available as needed by their team, and for organising the work flow of the team.

The site supervisor is the person in charge of the roofing contract. They are responsible for managing the roofing project. They are responsible for making sure materials, equipment and people are on site when required, liaising with the main contractor/builder/owner, and for the overall management and administration of the project.

Examples of oral assessment questions

1. Give an example of a material used to manufacture each of the following roofing products:
 - (a) Metal cladding – *Aluminium, metal coated steel, Zinc, Copper, Stainless Steel.*
 - (b) Translucent cladding – *Fibreglass, Polycarbonate, UPVC.*
 - (c) Metal tile – *Steel.*
 - (d) Shingle – *Wood, Metal, Fibreglass reinforced asphalt.*
 - (e) Membrane – *Synthetic rubber, PVC, Modified bitumen.*

2. Give 3 examples of tasks that would be included in the planning process before a roofing job starts.

Work out or check the materials required

Work out the number of roofers needed

Work out the tools and equipment needed

Visit to the site

Work out the order in which work needs to be done

3. Give 3 examples of areas where a flashing would need to be used.

Corners, edges, around penetrations in the roof (for chimneys, roof lights, etc)

4. Explain what benefit a roofing product manufacturer gains from providing training to installers.

This ensures that roofers are aware of the correct methods for handling and installing their products. This is important to avoid problems caused by faulty workmanship in the installation process and resulting claims against the manufacturer's guarantee. Product failures can quickly damage the reputation of a product so it is important to manufacturers to ensure that roofers install their products correctly.

5. Name the trade association for the roofing industry and briefly describe the purpose of this organisation.

The Roofing Association of New Zealand (RANZ). The purpose is to ensure a more professional, health & safety conscious, quality trained, skilled and qualified industry, and to represent the roofing industry in

all aspects of legislation and compliance involving government, regulatory and local government authorities.

- 6.** If a roofing tradesperson has been trained in one roof type (eg metal tiles), will they be able to work on another roof type? Explain your answer.

Yes they will be able to work on another roof type, but they may need some additional training in the specific skills and practices relating to that roof type.