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Before you begin

This unit is based on *CPCCCM2004A Handle construction materials* from the CPC08 Construction, Plumbing and Services Integrated Framework Training Package.

Workbook mapping

CPCCCM2004A Handle construction materials	Where covered in this workbook
Element 1: Plan and prepare	Element 1: Planning and preparing
1.1 Work instructions and operational details are obtained, confirmed and applied from relevant information for planning and preparing	1.1 Obtaining, confirming and applying work instructions and operational details
1.2 Safety (OHS) requirements are followed in accordance with safety plans and policies	1.2 Following safety requirements
1.3 Signage and barricade requirements are identified and implemented	1.3 Identifying and implementing signage and barricade requirements
1.4 Tools and equipment selected to carry out tasks are consistent with job requirements, checked for serviceability, and any faults are rectified or reported to commencement	1.4 Selecting tools and equipment consistent with job requirements and checking them for serviceability
1.5 Material quantity requirements are calculated in accordance with plans and specifications	1.5 Calculating material quantity requirements
1.6 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use	1.6 Identifying, obtaining and preparing materials, handling them safely and locating them ready for use
1.7 Environmental requirements are identified for the project in accordance with environmental plans and statutory and regulatory authority obligations, and are applied	1.7 Identifying and applying environmental requirements
Element 2: Manually handle, sort, stack and store construction materials	Element 2: Handling, sorting, stacking and storing construction materials
2.1 Construction materials are moved to specified location applying safe manual handling techniques	2.1 Moving construction materials safely
2.2 Construction materials and components in accordance with job specifications are sorted to suit material type and size, and stacked for ease of identification and retrieval for task sequence and job location	2.2 Sorting construction materials, and stacking them for ease of identification and retrieval

continued ...

Section 1.1: Obtaining, confirming and applying work instructions and operational details

Workplace procedures need to be followed when preparing to handle and store construction materials. This will ensure the safety of all workers, the materials, tools and equipment as well as the efficiency of the work environment. When planning and preparing to handle construction materials, you should make a worksite inspection and assessment of conditions and possible hazards, determine the work requirements and then identify the resources required for the job.

Information on the correct handling and storage of materials will be provided to you in the form of verbal instructions, written documentation and diagrams.

Examples of information sources include:

- verbal instructions from supervisors about how they want the materials handled and stored
- diagrams, plans or sketches that describe the correct handling and storage techniques for the construction material
- manufacturer's and/or supplier's instructions provided with the construction materials, some of which will make reference to Australian Standards for the handling and storage of their particular product
- legislation and regulations that govern the handling and storage of dangerous goods and hazardous materials
- work specifications, work bulletins and schedules outlining standard company procedures for the handling and storage of particular construction materials
- memos, signage and labels
- material safety data sheets that provide information about storage, handling, first aid and any other requirements of particular products
- safe work procedures and job safety analyses that outline how to minimise and manage risks.



Always ask questions to clarify instructions or documented information and consult your supervisor if you are not sure what you should do.

Example

Timber structural beam

Long lengths of hardwood timber such as structural beams need to be stored flat, neatly off the ground and out of the weather. Supervisors should be aware of this and provide appropriate verbal directions. For example, you might be instructed to position them on timber blocks on a level surface, spaced at approximately one metre apart to support the beams evenly. Supervisors would also give direction to ensure the beams are stored in an area that is protected from direct sunlight and moisture. They may also require you to cover the beams with protective plastic and ensure that no other heavy items are placed on top of the beams while they are stored.

Paint

Drums and tins of paint should be moved and stored in accordance with the manufacturer's instructions, which are listed on the side of the tin. Details will include storing paint out of direct sunlight, ensuring that lids are correctly attached, and that tins (or drums) are contained in some form of industrial wrapping when mechanically handled and transported. Mineral based paints must display a flammable liquid 'dangerous goods' symbol on the side of the tin. You will need to refer to your standard work procedures and the manufacturer's storage recommendations.

It is important to confirm the correct procedures for handling and storing construction materials on-site in order to:

- protect the materials
- protect workers who are handling and working near stored materials
- allow for easy access to materials
- comply with legislation, regulations and organisational requirements
- separate certain types of materials that can react with each other
- manage possible hazards and minimise risk.

Find out more

Resource	Why it is useful
CSIRO Minerals <i>Material safety data sheets (MSDS)</i> www.minerals.csiro.au/safety/msds.htm	This web page describes the type of information contained in an MSDS.
Home design directory <i>How to read construction plans</i> www.homedesigndirectory.com.au/articles/HowToReadPlans.shtml	This web page provides examples of common construction plans, and explains the type of information that is contained in each plan.

Section task 1.1

1. List ten sources of information that help you in the planning and preparation of tasks at your worksite or a worksite you are familiar with.
2. Write one sentence to explain why it is important that work instructions are understood thoroughly prior to handling and storing materials on-site.

In ACTION

Graham's story

Graham has been asked to check a load of masonry blocks that have been delivered to the construction site. His supervisor has instructed him to make sure the masonry blocks are distributed between the two apartment buildings in a way that will allow for easy access by contractors on-site.

Graham checks the quantities of blocks to be delivered by checking the order documents. He cross-references this against the specifications and plans. Graham can see that the two apartment buildings require similar quantities to complete construction. The delivery comprises two trucks each carrying four pallets of blocks.

Graham uses the two-way radio to check with his supervisor as to where he wants the pallets to be stored. Graham identifies the storage location for the blocks at his apartment building. However, he believes the storage site for the pallets at the second apartment building may be obstructing the passageway for workers because the space is too narrow.

Graham physically inspects the second storage site. He knows that four pallets must be stored for use by contractors working on the second apartment building. He notices that there are two possible solutions to the storage issue at the site of the second apartment building. Graham could have the pallets stored along the northern side of the building. This is the location that has been set aside for the waste skip and if the blocks are stored against the skip they may be damaged when rubbish is being put in the skip. It might also affect access to the skip.



Alternatively, Graham could locate the pallets on the driveway of the building. This would ensure easy access and minimise double handling because they will be directly below where they will be needed for the job. Graham checks with his supervisor that this location is the best option and then provides the appropriate delivery advice.

Graham notices that some of the blocks have shifted during transport. He uses metal banding equipment to tightly wrap the newly delivered blocks. Graham visually checks the banding equipment prior to using it and notices that the equipment is in need of servicing. Graham notes this in the fault and service register and also mentions it to his supervisor.

Finally Graham asks his supervisor about signage or barricades for the newly delivered masonry blocks. Graham puts up the signage and uses safety hazard tape as instructed by his supervisor.

Revision

- Work instructions can be verbal, documented, on websites or referred to in legislation, codes of practice or guidelines.
- Safety policies, procedures and guidelines assist the safe handling and storing of materials on-site.
- Local, state and federal government websites have information about compliance for the construction industry.
- Signage and barricades are used to protect people, equipment and the environment.
- Check for serviceability of materials and report faulty equipment using worksite processes.

- Refer to plans and specifications about how to order appropriate quantities of materials.
- Estimate material quantities required in each location on-site and store them appropriately to avoid double handling.
- Familiarity with the environmental management plan will ensure environmental issues are considered at all stages of the project.

Are you ready?

Use this checklist to assess if you are ready for assessment activity 1.

I understand how to:

- Obtain, confirm and apply work instructions and operational details
- Follow safety requirements
- Identify and implement signage and barricade requirements
- Select tools and equipment consistent with job requirements and check them for serviceability
- Calculate material quantity requirements
- Identify, obtain and prepare materials, handle them safely and locate them ready for use
- Identify and apply environmental requirements

Assessment activity 2

Handling, sorting, stacking and storing construction materials

The following table maps the assessment activity for this chapter against the element and performance criteria of Element 2 in *CPCCCM2004A Handle construction materials*. The activity has been designed for all learners to complete.

Part	Element	Performance criteria
Whole activity	2	All

Read the case study. Write down, or tell your trainer, your answers to the questions.

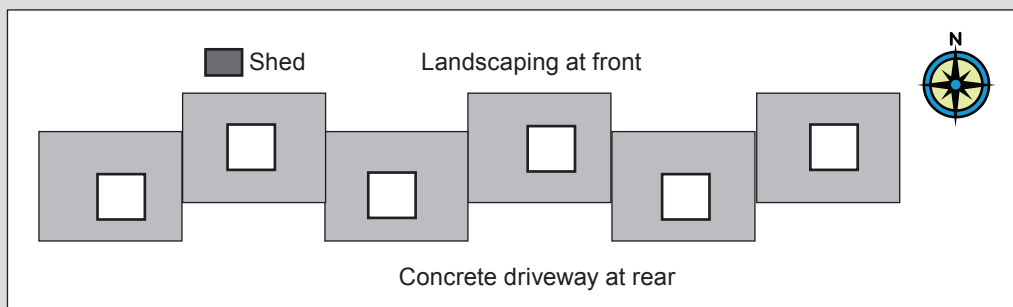
Case study

Rex and his team are building a group of six three-storey townhouses. The buildings will be situated slightly closer to the back of the property as indicated on the plans and this has already been marked out with pegs and string on the property. The first deliveries of materials will be arriving soon and Rex must decide where the deliveries will be stored to enable work to commence effectively and safely.

The steel structural beams, concrete reinforcing steel, framework timber, finished timbers, besser blocks, pallets of concrete mix, pipes for services, brickies sand, roofing iron and guttering, containers of adhesives, timber oil and thinners, some chemicals and a variety of different size bolts, nuts, and screws will all be delivered today.

A small lockable shed has been erected in front of Townhouse 5. The shed is approximately 2 m high and 2 m wide but only 1.5 m in depth.

Plan of placement of townhouses



1. How should Rex and his team prepare and plan where the materials will be stored prior to them being delivered?
2. The first delivery arrives with the structural beams and the timbers. Explain how and where these will be safely sorted and stored to enable easy identification and access.

3. The next delivery to arrive is the reinforcing steel and the pallets of concrete mix and besser blocks. Rex has decided to place the reinforcing steel at the front of the property and the pallets of concrete and blocks at the rear along the driveway.
 - a) Write a sentence to explain the reasons why Rex might have decided to place those materials where he did.
 - b) Write a sentence to explain how he could protect the materials.
4. Rex sees that there are some chemicals with hazardous materials labels on them in the next delivery. They are in tins and large metal drums. The tins weigh 15 kg each and the drums weigh 30 kg each.
 - a) Write a sentence to explain how Rex should ensure safe relocation of the materials.
 - b) Write a sentence to explain where Rex might decide to store these items.
5. Rex notices that the site is starting to become dusty with the increase in on-site traffic caused by the deliveries. He is also aware that there is a delivery of sand arriving shortly. Briefly explain what Rex can do to minimise dust on-site at this stage of the construction.

Record your employability skills

When you have completed the assessment activity, make sure you record the employability skills you have developed in the table at the end of the workbook. Keep copies of material you have prepared as further evidence of your skills.