

RIICRC322E

Receive, Check and Record

Learner Guide Instructions

Who is this document for?

The learner.

What is in this document?

- Course information that matches the PowerPoint presentation.
- Review questions.
- Practical assessment instructions for learners.

What do you need to do before you use it for the first time?

1. Rebrand the document.
2. Review the document as part of your validation process.
3. Set the reading and test time limits that are highlighted in pink at the end of the document.

See the 'Read Me First' document for a complete set of instructions on how to use these resources.



LEARNER GUIDE

RIICRC322E Receive, Check and Record Concrete Deliveries

Learner Name:	
Learner ID:	
Learner Contact Number:	
Learner Email Address:	
Date Training Commenced:	

This Book Contains:

- Course Information.
- Review Questions.
- Practical Assessment overview and Instructions.

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1.1 Introduction

This training course is based on the national unit of competency **RIICRC322E – Receive, Check and Record Concrete Deliveries**.

This course will cover the following key aspects of concrete delivery:

- ◆ Confirmation of work requirements.
- ◆ Management of work health, safety and environment.
- ◆ Selection, use and storage of tools.
- ◆ Management of on-site traffic.
- ◆ Review of documentation.
- ◆ Checking of concrete delivery documentation for compliance.
- ◆ Management of the discharge and placement of concrete.
- ◆ Management of non-conforming loads.
- ◆ Site end of day processes.



The following terminology will be used throughout this training material:

- ◆ Concrete – Concrete is a composite building material made from fine and coarse aggregates blended with a combination of cement, water and additives that hardens or cures over time.
- ◆ Batch – The activity of combining and mixing the concrete ingredients to create a mix or load.

1.2 Plan for the Job

Be clear about the work you will be doing. Make sure you have everything about the job written down before you start, including what you will be doing, how you will be doing it and what equipment you will be using.

Your work instructions, plans and drawings will guide you and help you ensure you complete the job per the job requirements. Work requirements can include:

- ◆ Project dimensions.
- ◆ Project tolerances.
- ◆ Standards of work.
- ◆ Material standards.



You can ensure you complete the job safely without damaging equipment or putting people in unsafe situations by checking and following your work requirements.

1.2.1 Confirm Work Requirements



Every civil construction and concreting project will have to meet specific work requirements. As concrete has a short shelf life from batching to placing and finishing, you must understand the work requirements before beginning the job. Doing this will ensure the concrete pour is successful.

The requirements for the job can change for each concrete pour based on the environmental conditions, type of pour, discharge method, and traffic and weather conditions.

The concrete suppliers and contractors can provide detailed information on how these factors may impact the work being completed, so make sure they are contacted and involved in the planning process.

Before receiving the concrete delivery, you should confirm with the supplier if any specific factors may impact the work requirements and how the work is completed. This could include asking them about the:

- ◆ **Size** – How big is the job? How many cubic metres of concrete will be needed?
- ◆ **Location** – Where is the job site?
- ◆ **Traffic Management** – Where are the safe entry and exit points? Will there be any off-site queueing or community issues? (For example, a school across the road.)
- ◆ **Type of Concrete** – What is the required strength, aggregate size, specification, and slump of the concrete?
- ◆ **Timing** – When is the first truck needed on site?
- ◆ **Truck Spacing** – What is the estimated time to discharge each truck on site? How many trucks can fit on site at once?
- ◆ **Risk Management** – Are there hazards and control measures on site that other personnel should be aware of? What rules should people on site follow? (Hazards might include a high rise construction with cranes and boom pump on site).
- ◆ **Local Regulations** – Are there specified times when noisy works cannot occur? (For example, reverse squawkers on trucks).
- ◆ **Discharge method** – Will the concrete be discharged directly? Will it be discharged using a pump, wheelbarrow, crane, or kibble?
- ◆ **Testing** – What type and frequency of testing is required for the concrete pour? What is the best location for testing waste collection and removal?



You may find it helpful to discuss these factors with the concrete supplier and contractors, as they will advise on how to perform the job effectively under each of these conditions.



It may be helpful to provide the concrete supplier with a site map ahead of time to ensure the drivers arriving on site understand:

- ◆ The appropriate points of entry.
- ◆ Where to queue to get on site.
- ◆ Pump and pour areas.

Ensuring the concrete supplier knows the layout of the work site will assist in minimising the chance of concrete trucks becoming lost in the area.

Your work site may already have checklists and procedures to ensure that the details of the work requirements are confirmed and communicated to all relevant personnel before the concrete is delivered. Speak with your supervisor if you do not understand the job's work requirements.

1.2.2 Access and Interpret Documentation

A set of records will accompany each concrete delivery. Understanding what information is required and how to interpret the information is essential. Different companies use various templates and terminology, so clarifying what you need ahead of time and how to collate, store and manage the information on the day will ensure your job is completed efficiently.

The types of documentation that may be required include:

- ◆ **Health, Safety and Environmental** – Toolbox talks, site induction handouts, work method statements, health, safety and environmental policies and procedures, hazard report forms, incident reports, audit checklists, site checklists, site health, safety and environmental plans.
- ◆ **Concrete Specific** – Specifications, designs, quality, inspection and testing plans.
- ◆ **Operational** – Site maps, work instructions, project plans, construction plans.



Design engineers and architects determine the concrete's specifications to meet the structural and design requirements of the task. Specifications such as road, bridge or kerb mixes may be based on standard industry specifications, set by government agencies or unique to the site or project.



Specifications may define:

- ◆ The type or size of aggregate to be used.
- ◆ The type and amount of water to be added.
- ◆ The type and frequency of testing to be conducted.
- ◆ The required strength to be achieved.
- ◆ Approval for the nominated mix to be used.
- ◆ The maximum time frame from batching to placement and compaction.
- ◆ Concrete temperature requirements.
- ◆ Slump and water/cement ratio requirements.

You must be able to identify and manage important information in the load records to quickly communicate any issues to the appropriate personnel.

Issues such as overly dry or wet loads, loads being delivered out of tolerance or time may require the loads to be modified or even rejected from the site. Authority for managing these decisions and communicating with the delivery personnel should be established before the pour begins.

You may be required to complete a site delivery log which includes the number of loads, time on site, docket number and recorded slump. Review the delivery log to determine which loads need testing, where testing is conducted at a set frequency.



Review Questions

1.	What five (5) details should you confirm with the supplier before receiving a concrete delivery?	<input type="checkbox"/>
1. 2. 3. 4. 5.		
2.	In what types of documentation might you find concrete specific information?	<input type="checkbox"/>

1.3 Risk Management

Before you start work, you need to check for any hazards or risks in the area.

If you find a hazard or risk you need to do something to control it. By lowering or removing risks we can make hazards less dangerous. This will help to make the workplace safer.



1.3.1 Identify and Address Risks, Hazards and Environmental Issues

Concrete pour sites have many risks specific to the activity and environment. There is a range of information available from regulators and industry groups, such as concrete or pumping associations, which have been developed for concrete related activities that provide guidance on hazards and suggested controls for this activity. You may also find information about hazards and control measures relevant to your worksite in your work instructions and site documentation.



As part of planning for concrete operations, sites must consider the environmental impact. In doing so, an environmental management plan may be developed which outlines the potential hazards and risks to the environment and the required control measures. The content of these plans should be included in site documents and information such as inductions, safe work procedures and toolbox talks.

Performing a risk assessment before work commencing is a good way to identify and prepare for potential hazards and apply control measures. When completing your risk assessment consider the types of activities being conducted, how those people will perform their tasks and where on the site they will occur.

Hazards to consider include:

- ◆ Traffic management hazards – Entry/exit, travel to the pour location, turning area, reversing.
- ◆ Overhead powerlines – Contact with agitator trucks or concrete pump booms.
- ◆ Ground conditions – soft ground, uneven ground, soft edges, unprotected or unmarked edges.
- ◆ Pump washout areas – contaminated water, slurry or concrete washing onto the ground or into waterways.
- ◆ Pedestrian management – persons on foot in trafficked areas, including testers, spotters and pump operators.
- ◆ Contamination and spills – material being tracked onto roads.
- ◆ Concrete pump line blockages – line blowouts.
- ◆ Slips, trips and falls – Persons falling from concrete pumps and the back of agitator trucks, uneven ground.



When implementing your control measures consider what is practical for the site to apply and use the hierarchy of control to select the most effective control measures for the circumstances.

Hierarchy Level	Explanation	Example Control Measures
1. Elimination	Completely remove the hazard. This is the best kind of hazard control.	Animals and pets may be banned from the site to prevent accidents.
2. Substitution	Swap a dangerous work method or situation for one that is less dangerous.	Certain chemicals may be replaced with those which are less harmful if contact with the skin occurs. Reversing beepers on trucks may be replaced with squawkers so the sound doesn't carry as far impacting neighbours.
3. Isolation	Isolate or restrict access to the hazard.	Exclusion zones may be established to separate personnel and operating plant. Guards are placed over the concrete pump hopper to prevent access to moving parts. Sediment control fences are installed to prevent dirty runoff water from leaving the site and damaging the environment.
4. Engineering Controls	Use equipment to lower the risk level.	A line pump may be set up to transfer concrete across long distances instead of manually moving it. Wheel washes may be constructed at the exit to the site to ensure that all trucks have clean wheels before exiting onto public roads and do not contaminate waterways.
5. Administrative Controls	Site rules and policies attempt to control a hazard.	Reversing trucks require a person to be the spotter while the task is being performed. Traffic control signage is used to manage vehicles entering and exiting. Bins for different types of waste with signage to store and separate waste material.
6. Personal Protective Equipment (PPE)	The least effective control. Use PPE while you carry out your work.	PPE such as hearing protection, safety glasses or gloves.

Try to apply control measures higher up the hierarchy wherever practicable to ensure they provide the best level of protection.

Once you have identified hazards, risks or environmental issues on site you need to communicate them to others. This may be through a hazard report, speaking directly to the supervisor or including it in your work procedures.

1.3.1.1 Select and Wear Personal Protective Equipment

Personal protective equipment should be selected and worn following the site requirements. Many sites will define the minimum PPE required in their site induction information and site entry signage. In addition, you should be aware of any job specific hazards, for example, hazardous substances being used, and apply the PPE appropriate to the situation.

Typical PPE may include:

- ◆ Safety Glasses.
- ◆ Hearing protection.
- ◆ Gloves.
- ◆ Respirators.
- ◆ Hard hats.
- ◆ Hi-visibility clothing.
- ◆ Safety Footwear.



Safety glasses and hearing protection are often required to work close to concrete pumps and agitator trucks due to the noise and potential for foreign substances such as concrete slurry to enter the eyes.

For PPE to be effective, it needs to be in good condition, without damage, and be worn per the manufacturer's instructions. Remember, PPE is the last means of defence, so you must use it correctly.

1.3.1.2 Implement Signage Requirements



Use signage to display important information and communicate messages quickly and efficiently.

Construction sites can be busy places. Sometimes many tasks are being completed at once. Having appropriate signage helps to keep everyone on site safe. In addition, signs with pictures can make information easier to understand, especially for those with language or literacy barriers.

Directional signs are necessary on a work site to ensure personnel know where to go. This includes appropriate entry and exit points, emergency assembly points, and escape routes.

You may see the following signs in use on construction sites:

- ◆ Site entry.
- ◆ Site office.
- ◆ Sign-in.
- ◆ Parking.
- ◆ Wheel wash.
- ◆ PPE rules.
- ◆ Traffic management signage.
- ◆ Overhead powerlines.





The use of signage is an essential tool for communicating critical health, safety and environmental information about potential hazards, control measures and site rules to ensure the safety of all persons entering the site. You may locate details of where to position signage using site checklists, risk assessments, safety and environmental management plans, and safety and environmental procedures. If you are unsure about the signage requirements for your task, speak to your supervisor. The signage on site must not obstruct any paths of movement and needs to be of an appropriate size to be easily understood.

Review Questions

3.	What hazards do you need to consider on the worksite? Provide three (3) examples.	<input type="checkbox"/>
1.		
2.		
3.		
4.	What information would be outlined in an environmental management plan?	<input type="checkbox"/>
5.	Where could you find information about hazards and control measures relevant to your worksite?	<input type="checkbox"/>

6.

List three (3) items of PPE that may be used for concreting works.



1.

2.

3.

7.

Where might you locate details of where to position signage? Provide two (2) examples.



1.

2.

8.

Why are directional signs necessary on a worksite?



1.4 Select and Inspect Equipment

Once you have confirmed your work requirements you need to choose the right plant, tools and equipment to get the job done.



1.4.1 Select and Inspect Plant, Tools and Equipment

You will need to select the plant, tools and equipment required to perform the work. When choosing tools that will be used frequently and for long periods, consider any safe handling procedures, their design and weight to reduce the risk of fatigue and injury.

The types of tools and equipment which may be required during concrete placement include:

Equipment	Description
Straightedge or Concrete Screenshot	A long straight length of aluminium, used to level and smooth the surface of the concrete.
Concrete Bullfloat	A large lightweight trowel with a pointed tip to flatten and finish the concrete surface.
Laser Level, Gradestick, Tripod or Level	Equipment used to measure heights of the placement area and slab levels.
Mag Float	A large rectangular trowel smoothing a concrete slab's edges.
Concrete Placer Rake	A long handled, lightweight rake with a long smooth, slightly curved head to move and smooth the concrete.
PPE	Gloves, safety glasses, gumboots and hi-visibility clothing used to maintain safety and visibility on site.

Always inspect your tools and equipment for faults and damage before use. Look for frayed leads, loose handles, cracked welds, deformation in supports and missing guarding.



The appropriate tools should be used wherever possible, and the use of home-made tools should be avoided as they carry their own risks.

Large plant items such as forklifts, cranes and mobile pumps often have specific pre-start equipment inspections detailed in the manufacturer's instructions. These are usually completed by the plant operator who has been trained in what faults and damage to look for. Ensure that you have discussed the site inspection requirements, minimum safety hardware and key hazards with plant suppliers so that plant arrives in a safe condition and ready to use.

1.4.2 Manufacturer Documentation

All the equipment and tools used in civil construction will have manufacturer documentation, also called manufacturer instructions.

Refer to the manufacturer's specifications to properly understand the capabilities and limitations of the equipment before use.

This documentation may include:

- ◆ Instructions for assembly and use.
- ◆ Operating limits.
- ◆ Maintenance schedules.
- ◆ End-of-use guidelines.
- ◆ Known hazards or risks.
- ◆ Important contact details for repairs or enquiries.



It is important that you follow the guidance provided in manufacturer documentation as this will ensure all tools and equipment are being used safely. Reviewing this documentation is an important part of meeting WHS responsibilities.

Not following guidance given in the manufacturer's instructions can lead to unsafe work practices which could cause illness, injury or in some cases death.

Manufacturers' instructions are often referred to when conducting a risk assessment or learning how to use a new tool or install a piece of equipment.

If you are not sure where to locate these documents, then ask your supervisor or manager.

Review Questions

9.	What are three (3) examples of faults or damage you should look for when inspecting tools and equipment?	<input type="checkbox"/>
1.		
2.		
3.		

10.

What equipment might you use to measure the height of the placement area and the slab levels?
Provide two (2) examples.



1.

2.

11.

What are three (3) examples of information you may find in manufacturer documentation?



1.

2.

3.

2.1 Receive and Check Concrete Deliveries

Once concrete deliveries arrive at the job site, several checks must be performed before authorising the discharge of the concrete.

Planning for and understanding what the checks involve will ensure that this activity is performed efficiently. This would help avoid unnecessary issues with trucks and waiting personnel, which could add unnecessary costs to the project.



2.1.1 Locate the Position for Material Placement

The placement location for materials is often detailed on site maps, drawings and technical designs.



When marking out the area for filling, survey equipment must be used to identify the exact location of the required slab, wall or pour. You should not use an existing landmark for measurement as boundary fences or markers may be incorrectly positioned.

Technology allows for detailed accuracy in the placement of datum points which can be used to pick up corners, levels and sides of designed pours, ensuring that the job occurs without delay.

Where issues are identified, these should be communicated immediately to the relevant personnel so that decisions can be made and amendments approved if necessary.

2.1.2 Check Delivery Dockets

The manufacturer supplies concrete with documentation detailing the essential information about its production and supply, often referred to as a delivery docket.

This information can include requirements for compliance with the standards, specifications or technical requirements related to the order.

