

CPCCCO4001

SUPERVISE CONCRETING WORK

THEORY EXAM

Participant name	
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FOR THE PARTICIPANT

Instructions

- You will complete written questions as outlined on the following pages. You must attempt all questions and provide enough detail in your response to demonstrate your knowledge.
- It is anticipated that you should complete this assessment within two (2) hours, but additional time may be allowed upon negotiation with the Assessor.
- You must complete all questions unsisted by the Assessor or other personnel but may refer to reference material as needed. All questions must be answered correctly for a 'Satisfactory' assessment outcome to be awarded.
- An oral examination may be allowed under certain circumstances, whereby your answers will be documented by another party.
- Any written questions that are incomplete, or not answered satisfactorily will need to be completed again after further training support.
- If you answer a question incorrectly but modify your response, put your initials next to the written change (or the Assessor must initial a verbal change).

Resources required

Pen

FOR THE ASSESSOR

Instructions

- Where oral examination has occurred, ensure that this is acknowledged in writing (e.g. FT001 and Assessor Comments)
- All questions must be satisfactorily demonstrated by the Participant for a Satisfactory determination (indicated by an Assessor tick to the right of the question).
- Assessors are to complete marking in pen of a different colour to the Participant.
- If the Participant verbally modifies their response, write in the modified response verbatim and put your initials next to the written change.

ASSESSOR COMMENTS

As necessary, outline:

- Details on reattempts, alternative arrangements or reasonable adjustments made.
- Where a Participant is deemed 'Not Satisfactory', provide recommendations for future training.

Q1. Why is it important to invite and address questions when communicating work instructions to team members?

Answer

Should reflect but is not limited to: To ensure that policies and procedures relating to the work tasks are understood. This contributes to the workplace approach towards effective consultation with workers and others on work health, safety and injury management as required in the WHS Act. Encourages participation by team members to achieve the best outcomes by offering and accepting best practice methods shared by experienced team members.



Q2. Give a brief outline of your understanding of the principles of task management.

Answer

Should reflect principles of task management, although the wording may be different. Example: Defining task requirements (materials, resources, documents needed as well as dates, deadlines, and people involved.) Managing stakeholders and collaborators (communication skills to organise workers and other stakeholders such as surveyors or inspectors) Prioritising tasks in context of other work and the project sequence of tasks. Compliance – ensuring the task is completed according to site and legislated safety and building compliance requirements.



Q3. Discuss four (4) work health and safety (WHS) documents you must ensure workers can access and understand the need for.

Answer

1. Should reflect WHS documents needed at concreting site and may include four (4) of: 1.SDS- which provides information relating to the cement.
2. 2.SWMS – which must be read and signed to indicate understanding of high-risk work procedures; 3.Incident and accident reporting procedures;
3. 4.JSA – to be accessed for hazard and risk identification; 5.Personal risk assessment such as take 5 – to undertake personal risk assessment.
4. 6.Site Safety Plan – clarifies site specific hazards and controls; emergency and evacuation procedures and contact details; list of responsible persons



Q4. Discuss how you confirm team members' understanding of the site environmental requirements.

Answer

Should reflect how the participant confirms team members understanding of environmental protection requirements for the site. Example: The Environmental management plan and its location is discussed during site induction sessions, this information is followed through in documented workplace procedures such as waste management, wash down area, working hours and noise control, clean up, dust and vibration management, daily pre-start meetings include discussion and questioning regarding waterway and landscape protection and sustainable environmental protection processes. Observation is a method used to monitor workers adherence to these environmental protection measures and more.



Q5. Discuss the basic composition of concrete that provide the concrete with its well-known properties.

Answer

Should reflect: Concrete is a combination of cement, water, and aggregate. Aggregate constitutes about 70 – 80 % of the volume of the concrete and is used because it is easily available, provides additional strength to the concrete and helps to bind the cement properly. Cement powder, when mixed with water forms a paste which acts like a glue and bonds the aggregates together. Sand and gravel are the aggregates used in concrete. Other additives such as admixtures, curing compounds and oxides are used to provide colour or to alter properties such as the time it takes to set or harden or the workability of the concrete.



Q6. Discuss some of the limitations related to using concrete, particularly those relating to the temperature.

Answer

Should reflect but is not limited to: Concrete is relatively low tensile when compared to other materials, it has a low strength-to-weight ratio and is susceptible to cracking. As the hardening of concrete is a chemical process, the temperature and conditions can greatly affect the strength of the concrete. The lower the temperature, the slower the hardening process of concrete. 23°C is considered the ideal temperature for hydration, it is desirable to maintain concrete temperature at or about this figure as curing proceeds. For temperatures greater than 35°C, the use of ice-cold water is recommended to prevent formation of cracks at early stages. Concrete placed & cured at a moderate temperature (15–25°C) will gain higher strength & durability than 35°C concrete. Wet conditions, low relative humidity and strong winds will all affect the concrete hydration and outcome and require special consideration during placing and finishing.



Q7. Discuss AS 1012.3.1 and slump testing concrete to standard.

Answer

Should reflect: AS 1012.3.1 Method of testing concrete slump describes the method for determining the slump of concrete when the nominal aggregate size does not exceed 40mm. It is important to remember If the slump test is to determine whether or not the concrete is to be accepted, the sample must be taken from the early part of the load. Never take the sample from the first concrete out of the mixer. Let out at least 0.2 of a cubic metre before taking a test sample. If the test is to be representative of the entire load, samples should be taken from three well-spaced parts of the load by passing the bucket through entire discharge stream of concrete and remixing them on a non-absorbent surface. the acceptance or rejection of a load of concrete depends upon a nominated (e.g. 15mm) variation to the specified slump.



Q8. Briefly discuss processes involved in undertaking the slump test method.

Answer

Should reflect: Clean the cone to avoid the likelihood of false readings and place the cone on a smooth horizontal, rigid non-absorbent surface. Collect sample in layers, then while standing firmly on the foot pieces, fill 1/3 of the cone, compact by rodding 25 times. Fill the next 1/3 and rod again. Repeat this process till overflowing and rod. Level off and clean concrete from plate and cone. Lift the cone straight up slowly and carefully to avoid causing the sample to shear or collapse. Turn the cone upside down beside the concrete and place the rod across the upside-down cone. Take measurements and record the average distance to the top of the sample. If tolerance has not been met, take another sample. If the sample shears a second time, the delivery/batch cannot be accepted, and records of slump test results must be made. Document the job site, date, ID of tester, slump result and a reference to the applicable Australian Standard.



Q9. Why is it important to confirm the team members' selection of materials when mixing concrete on site?

Answer

Should reflect but is not limited to: Specifications for concrete normally include the requirements of the components. This specification must be adhered to. All materials used in the supply of concrete are to conform to the requirements of AS 1379. The correct selection of aggregate must be made to ensure the desired characteristics of the concrete will be met and the appropriate sand and gravel are used. Other additives such as admixtures, curing compounds and oxides must be selected as per specifications to ensure properties such as the time it takes to set or harden, or the workability of the concrete are achieved.



Q10. Discuss how you confirm that team member selection of tools and equipment is consistent with job and safety requirements.

Answer

Should reflect but is not limited to: After confirming the job requirements, the supervisor must ensure that the equipment used in the process meets the job specifications.. The operations involve different equipment in different stages. Therefore, it is necessary to check the equipment's consistency with the job requirements to ensure the use of equipment safely and appropriateness to the job. It is important to ensure that all team members understand the task requirements and specifications, and this can involve training and verbal discussion during pre-start meetings to ensure awareness of the appropriateness of equipment, potential risks and safety measures related to the operation of tools and equipment. Team members must be made aware of location of operator manuals and logbooks of plants and equipment and the processes related to pre-start checks, tag out of defective tools and equipment, they must be aware of where to locate reports to prepare a written report about the fault in the tool and to submit the report to the supervisor.



Q11. Discuss the process required to source replacement tools or equipment when these have been reported as defective.

Answer

Should reflect but is not limited to: The fundamental idea is to replace equipment when the cost of operating and maintaining it rises to a level that justifies a replacement in net anticipated present value terms. Depending on the workplace, the process of ordering will differ and can involve filling out a requisition order, or direct purchasing in the case of a smaller company. Purchases must be approved by the relevant management level. Order according to requisition policies of the workplace.



Q12. Describe the managing and monitoring of manual handling tasks.

Answer

Should reflect but is not limited to: Site safety plan will contain the proper material and manual handling rules and a training program for employees. The safety compliance activity required for the firm to operate is an important part of the safety policy. Most essentially, the policy would outline each employee's shared responsibility for keeping the workplace safe. It is the supervisors/ team leaders responsibility to observe the outcome of training to ensure it was understood and safe procedures are followed.



Q13. What different dangers must be addressed during WHS training about manual handling? Provide three (3) examples.

Answer

Should reflect but is not limited to three (3) dangers addressed: Manual handling training must address a variety of dangers, including but not limited to: Mechanical lifting equipment, qualifications, and load limits on hoisting devices; Manual lifting, lowering, pushing, tugging, or transporting objects that are repetitive or excessively heavy; Using securing devices on materials and dual lifting. Checking route and avoiding incidents. Dual and team lifting techniques



Q14. Explain why reference is often made to the Australian Standards / Specifications AS 3610.1 and AS 3600 when specifying tolerances for concrete work.

Answer

Should reflect: Reference of these standards in the NCC. May include: ☐

When specifying tolerances, consideration should be given to how they will be achieved on site. Tolerance requirements need to be communicated effectively so that appropriate construction techniques and procedures can be planned to deliver the desired result. AS 3610.11 deals with the visual quality (appearance) of formed concrete surfaces, for both in-situ and precast concrete elements. The tolerances specified in AS 3600 relate to the size and position of concrete elements to ensure that the safety factors for the structural design of the elements are maintained.

Q15. Describe subgrade preparation and excavation safety and quality procedures that must be directed and monitored as part of the supervisor's responsibility.

Answer

Should reflect supervisor directions and monitoring actions, example: Direct observation of the excavation process should be used for monitoring. ☐

Monitoring should occur throughout the work day and should continue until the required depth of excavation has been achieved. Spot checks are undertaken to inspect all spoils material, open excavations, recently grubbed areas, and other soil disturbances. Excavations should not disturb the underground services and nearby structures. Safe access must be provided, and barriers installed. Excavation occurs until firm subgrade has been achieved with removal and filling of soft spots. Line and level is shared with excavation plant operators using site approved methods usually applied using pegs and stringline. Levels are checked and approved before any further work is undertaken.

Q16. Clarify sustainability and environmental requirements relevant to excavation and preparation of sub-grade.

Answer

Should reflect discussion regarding dust suppression, noise management and stormwater management such as: Before any excavation, stormwater drainage in the vicinity must be protected, all underground services must be located, marked and protected. Waterways must be protected from materials using approved methods. Noise management processes must be in place, such as restricted work hours and dust suppression methods must be applied as required.



Q17. Explain why it is important to monitor all work tasks against time constraints.

Answer

Should reflect: All tasks must be achieved to meet scheduled requirements otherwise future tasks cannot be achieved to schedule and a cost blow out may be expected.



Q18. Discuss how supervisors ensure that formwork installation complies with work plans and specifications.

Answer

Should reflect: A person who erects, alters or dismantles formwork and falsework must be competent to do the work safely. Suitable training must be provided. AS 3610 may be referenced in relation to formwork tolerances. Tolerance requirements need to be communicated effectively so that appropriate construction techniques and procedures can be planned to deliver the desired result. Regular inspection and maintenance of the formwork and falsework during its use will help keep it functional and safe.



Q19. What are the key differences in process and technique, between a concrete slab on the ground and a concrete suspended slab?

Answer

Should reflect but is not limited to: A slab-on-ground is supported on the subsoil and usually reinforced with reinforcing bars or welded wire mesh. A suspended slab spans between supports and must be reinforced to resist bending moments calculated from statics based on the magnitude of load and span. Suspended slabs can be formed in-situ or pre-cast.



Q20. Discuss suspended slabs and when these are used.

Answer

Should reflect but is not limited to: The three types of suspended concrete floor systems suitable for residential construction are insitu concrete, composite concrete/steel and precast concrete. Suspended slabs are slabs that are above ground level but not in direct contact with the ground. They are frequently used to make floors for upper stories of houses and buildings, but can also be used to create a ground floor by stacking them on pre-built walls.



Q21. What is pre-cast concrete?

Answer

Should reflect: Precast concrete is made in a restrained factory environment. The reinforcement is placed in reusable and adjustable moulds, and the concrete is poured, vibrated and cured. Construction finishes (e.g. grinding, polishing or dyeing) can be applied inside the factory if required. It is characterized by dividing the building into components, which are manufactured in a precast concrete plant, and transported by special transportation equipment to the site. Used for suspended slabs and walls, precast concrete components are ready for immediate use upon delivery while cast-in-place concrete are not.



Q22. What is the hierarchy of control when discussing risk management?**Answer**

Should reflect but is not limited to: Hierarchy of controls is a pyramid diagram used when deciding how to incorporate control solutions to risks. The theory behind this hierarchy is that the control methods at the top are more powerful and defensive than those at the bottom. Following this hierarchy usually introduces potentially safer schemes, with a significantly lower risk of illness or injury.

**Q23. Insert the meaning beside each of the hierarchy of controls in the table below.****Answer**

Controls	What the controls mean
Elimination	e.g. Physically remove the hazard
Substitution	e.g. Replace the hazard
Isolation	e.g. Isolate people from the hazard
Engineering controls	e.g. engineer safeguards- redesign to mitigate harmful actions
Administrative controls	e.g. Change the way people work- training, procedures
PPE	e.g. Protect the worker with PPE

**Q24. Discuss three (3) safety requirements applicable to working at heights.****Answer**

Should reflect but is not limited to three (3) of: Falls, weather conditions, unprotected edges, trip hazards and falling items all constitute a serious threat to workers, but they can be mitigated by steps such as: Fall prevention devices (guard rails, elevated working platforms), avoiding or reducing time spent working at heights; Fall arrest systems (harnesses, anchor points) and work positioning systems (travel restraints) as well as ensuring that workers have a basic understanding of safety on the site, SWMS and High-Risk Work Licenses, include training regarding safety checklists which can be shared during toolbox talks and in safety notices.



Q25. Describe how levels are checked for finish heights.**Answer**

Should reflect: Before and During concrete placement, you should consistently check that the levels and fall meet the specifications.

Original levels are taken by first establishing the datum point and using these to establish the bench marks. You must consistently take, verify and record levels during the work.

The level peg is placed in the work to ensure you have a reference point to gauge the thickness, particularly during screeding or when applying a coating over the surface of the concrete.

A stringline is used to create a straight and level line between two surfaces.

The position of the stringline can be checked by using a spirit level.

Markers such as a nail or a chalk maker can be used as a reference point in the formwork.

Laser levels are the preferred levelling equipment particularly on a larger job such as a house slab. If using levelling pegs, Use a laser to determine the highest point, mark the high point in the area needing building up, cut the pegs to the height just marked and stick the peg to the floor with an adhesive.

Q26. Why is reinforcement used in slabs?**Answer**

Should reflect: Reinforcement helps bind the concrete together and takes the tensile stresses. Reinforcement gives the stability to the structure. The reinforcing steel—rods, bars, or mesh—absorbs the tensile, shear, and sometimes the compressive stresses in a concrete structure. It is used in concrete to provide additional strength, as concrete is weak in tension and steel is strong in tension and compression.

Q27. Explain three (3) key points related to reinforcement placement for slabs.

Answer

1. Should reflect but is not limited to the following three (3) points: For house floors resting on the ground, it is placed in the top 1/3 of slabs and in the bottom of thickening and beams. In strip footings, it is placed in the top and bottom.
2. Reinforcement must be covered by a specified amount of concrete which protects the steel from rusting. The amount of cover depends on whether the slab is inside or outside, is in contact with the ground or protected by a membrane. It is measured to the top, side or bottom of the outer surface.
3. Reinforcement should be securely held for slab on ground construction. Bars and mesh should overlap by the specified amount and at the corners of strip footings. Differing lapping techniques apply for different applications.



Q28. Discuss what is checked to ensure the site is ready for the concrete pour. Provide five (5) key points.

Answer

1. Should reflect but is not limited to five (5) of: inspect the work area for new potential hazards and apply controls, install required signs and barricades.
2. Read specifications to confirm location, vapour barrier, formwork and reinforcement requirements and levels for concrete placement.
3. Ensure services (plumbing, heating or electrical) are in place before any concrete is placed. Apply termite protection as required.
4. Check and install vapour barrier. Tape the edges of sheets only around drainage pipes or services which pass vertically through the concrete slab.
5. Check for and/or remove debris and waste from placement location. Ensure site access is clear or clear any obstructions to allow concrete to be received.



Q29. Discuss how concrete quantities are calculated for a slab.

Answer

Should reflect: When calculating concrete for a slab:



Multiply - Length x width x depth = volume

Example: Slab length = 10m; Slab width = 8m; Slab thickness = 100mm
(changed to m) = 0.1

$10 \times 8 \times 0.1 = 8\text{m}^3$

Q30. Describe different classes of concrete that may be specified.

Answer

Should reflect: There are two classes that concrete can be supplied as:



Normal Class and Special Class. Normal class concrete has a strength grade of N20, N25, N32, N40 and N50 with the corresponding characteristic strength of 20, 25, 32, 40 and 50 MPa at 28 days. It is suitable for most purposes including houses. A typical specification is: Strength 20 MPa Aggregate size 20 mm Slump 100 mm (recommended).

Special class concrete is specified when you have additional or alternative requirements to those for normal class concrete, e.g. lightweight aggregate, colour pigments, a non-standard strength grade.

Q31. What information must be given to the supplier when ordering premixed concrete for a slab?

Answer

Should reflect: Site contact name and number, required delivery time (for each truck if multiple) and accurate delivery address, testing requirements, class (strength) of concrete, mix or mixes required (maximum aggregate size, additives), calculated supply estimates (volume in cubic metres (m^3)) slump (in mm) {order more concrete (i.e. 10%) than you need to allow for construction variations and/or some wastage} provide method (pump or chute) required and rate of placement.



Q32. What information must you check on arrival of the concrete truck at the site?

Answer ☐ Should reflect: accuracy of concrete order against delivery documentation (docket) the ensure it meets requirements.

Q33. What situation would require you to consult with a product specialist?

Answer ☐ Should reflect: If you come across any discrepancies between plans, specifications, dockets and when the to ensure accuracy of concrete properties must be verified.

Q34. Describe how you manage concrete delivery to ensure safety and continuous and timely concrete supply.

Answer ☐ Should reflect but is not limited to: confirm the delivery docket against the order and requirements; direct the truck to the discharge site using signs, barriers or spotters; identify slump tolerance against specifications and relevant standards for minimum grade; monitor the discharge via the chute into formwork, wheelbarrow, bucket, kibble, pump etc.; handle according to manufacturer and SDS requirements; During delivery, one or more concrete trucks must reverse to the required location to enable the delivery.

This activity can pose risks to the truck driver, concrete pump operator, allocated spotter and other workers so monitoring safety is a high priority.

The supplier must be contacted if items are missing from a delivery.

Q35. Discuss the effect of hot weather conditions on concrete placement and how to mitigate these.

Answer

Should reflect but is not limited to: During hot weather conditions several on-site factors can work against deriving optimum performance from concrete. When combined with low relative humidity and strong winds placing and finishing requires special care such as: Thoroughly moisten the sub-grade, reinforcing steel and wooden forms before placing the concrete; avoid delay in placing the concrete. Have sufficient labour and equipment on hand to perform the placing quickly; don't order or try to place more ready-mixed concrete than you can reasonably expect to finish and cover; care should be exercised with vibrators, to avoid over- vibration. Five to fifteen seconds of vibration, depending on the depth of the concrete, should give the desired compaction during a pour in very hot weather, try to shade the concrete from direct sunlight; use wet coverings until final finishing can be completed, or spray with an aliphatic curing compound; keep covers wet; in cases of extreme hot weather, it may be wise to start jobs in the afternoon to take advantage of lower temperatures in the evening; keep a "weather eye" open. A gentle breeze on a hot, dry day cannot be ignored. The evaporation rate of moisture from freshly placed concrete will increase to four times when wind velocity rises from zero to only 15km per hour on a hot day; discharge concrete from waiting trucks as soon as possible. Heat evolution from cement hydration and continuous agitation results in temperature rises in the concrete which can cause a rapid loss in workability.

Q36. Describe key points relevant to the placing of concrete.

Answer

Should reflect but is not limited to: Concrete should be placed not poured. ☐

Even when the concrete is delivered by truck, the 'chute' should be placed low, and the concrete placed via wheelbarrow to the formwork. The vertical drop should be minimal and definitely less than 2m to avoid segregation of the concrete materials. Concrete should be discharged as soon as possible after it arrives on site to avoid stiffening.

Concrete is placed in horizontal layers into location according to indicated levels. Each layer must be compacted before the next is placed.

Place concrete, being careful not to damage or move the formwork and reinforcement. Place concrete as near to its final position as possible. Start placing from the corners of the formwork or, in the case of a sloping site, from the lowest level.

Q37. Describe the compacting of concrete to achieve specified strength and level.

Answer

Should reflect: Compacting is achieved using vibrating equipment that vibrates and shakes the air out. Compaction is done during concrete placing while the concrete is still 'plastic'. Vibration can be achieved using internal vibration with a mechanical vibrator or poker vibrator. The poker is put into concrete and the size of the poker is determined on the amount of concrete being vibrated at one time. The vibrator will usually penetrate 150mm and vibrate it from the inside. During internal vibration it is important to put the poker in quickly and withdraw slowly, the poker must be long enough to go into the bottom layers BUT must never touch the reinforcement or formwork. External vibration is achieved using a compactor or screed. Consistent measuring and checking is required to ensure sufficient concrete has been placed to meet the desired result. ☐

Q38. Discuss the hazard related to silica dust and how this is controlled.

Answer

Should reflect: Respirable silica dust particles are small enough to penetrate deep into the lungs and can cause irreversible lung damage. Under the model WHS Regulations, PCBU's have specific duties to manage the risks to health and safety when using, handling, generating and storing hazardous chemicals, including silica. Managing risks and worker exposures to silica can be achieved by selecting and implementing measures using the hierarchy of controls such as minimise the risk of exposure to generated dust, for example, water suppression, good housekeeping policies and personal protective equipment and work clothing that does not collect dust. More than one control will normally be required to adequately protect workers. Read and adhere to the SDS when working with cement.



Q39. What is concrete finishing?

Answer

Should reflect: Finishing concrete refers to the final tip finish process which is completed in various ways according to the specified use of the concrete or the appearance required. Some surfaces may be left rough, others broomed, floated or trowelled, and other surfaces may be textured, coloured or have exposed aggregate.



Q40. Describe five (5) steps for finishing concrete for a slab.

Answer

1. Should reflect but is not limited to five (5) steps: screed concrete;
2. Wait until bleed water has evaporated and Test concrete strength.
3. Edge and joint the concrete.
4. Float the concrete and apply trowel to create a smooth, fine surface.
5. Check for compliance and correct any non-compliance.



Q41. What environmental considerations must be made regarding vibration equipment?

Answer

Should reflect but is not limited to: Vibration can impact the environment because of the noise pollution. In most cases, excess vibration results in loud noises, which can not only affect the quality of life for residents in the area but can also impact the local wildlife. Adhering to work time limitations will reduce the likelihood of issues and complaints from neighbours. Direct vibration damage caused by vibration energy transmitted to the foundation through direct contact with the bearing soils must also be considered and the correct and approved method of vibration must be applied.



Q42. Discuss best practice clean up procedures for concreting tools and equipment.

Answer

Should reflect but is not limited to: As part of site best practice it's necessary to designate a station on the site to wash down equipment and to collect and retain concrete washout waste in a bunded area. This makes disposal or reuse of washout waste easier. It's important to wash out machinery and equipment before any remaining concrete sets. Flushing water through pump truck hoppers and the chutes of ready-mix trucks creates washout water, a slurry containing toxic metals that poses a potential risk of environmental damage if not managed and disposed of properly. As unused wet concrete should never be dumped on bare ground to set, using concrete washout bags is an easy way to contain washout waste by placing the bag under the chute or hopper to catch the slurry. The use of concrete bags on their own or as part of a washout station, will protect ground water and surface water from washout contamination. Best practice also includes induction to brief personnel on when and how to use the washout station.



Q43. How is the disposal and removal of excess material managed?**Answer**

Should reflect: Excess wet concrete should never be dumped on bare ground to set, using concrete washout bags on their own or as part of a washout station, will protect ground water and surface water from washout contamination. Manage the disposal of concrete materials according to local authority requirements and the SDS for the cement.

Concrete washout bags contain washout waste by placing the bag under the chute or hopper to catch the slurry. Bags should have handles that can be looped over a forklift to be transported when the concrete is dry. Once set, the concrete can be recycled or crushed and reused.

**Q44. Discuss two (2) different ways tools and equipment can be safely stored.****Answer**

1. Should reflect but is not limited to two (2) of: For items left on site, store in relocatable shed where possible and attach tracking devices to larger goods and use GPS to locate them. Use an ID pen for smaller things and tools.
2. Use Storage sheds to safely store all of the equipment and tools on-site for the night and apply check in and check out procedures to maintain awareness of know who the last person was to use a piece of equipment

**Q45. Why is secure site storage important?****Answer**

Should reflect: Construction site theft and pilferage are widespread, especially if security is inadequate. Thieves target tools, materials, and various safety equipment since they may be resold fast and are untraceable. To reduce or avoid theft and damage as well as the ongoing effect these have on insurance premiums, secure site storage, often with the inclusion of camera surveillance is important.



Q46. What are the benefits of debriefing with team members at the end of the project?

Answer

Should reflect: Ideal time to discuss the job, what went well and what needs improvement. This is when discussion is held to determine how to action identified opportunities for learning or improvement. It also facilitates the identification of potential difficulties as well as the determination of root causes. It also aids leaders in isolating conflicts or other issues, assessing the team's cohesiveness (without singling out anyone), and improving team dynamics for future projects.

☐

Q47. Where can you find information relating to construction documents and their completion and processing?

Answer

Should reflect: In the workplace policies and procedures and further information can be located in quality management policies and procedures.

☐

Q48. Why should project documentation be completed accurately and concisely?

Answer

Should reflect: documents must be supplied as proof of work performed and claimed during billing. Maintaining documents is also beneficial during construction project audits which may occur at any time. These documents aid in defence of any allegations such as liquidated damages, fraudulent claims, or client or authority violations of any rules.

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CPCCCO4001

SUPERVISE CONCRETING WORK

WORKBOOK

Participant name	
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FOR THE PARTICIPANT

Instructions

- You will complete written activities as outlined on the following pages. You must attempt all questions and provide enough detail in your responses to demonstrate your knowledge.
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- You must complete all questions unsisted by the Assessor or other personnel but may refer to reference material as needed. All questions must be answered correctly for a 'Satisfactory' assessment outcome to be awarded.
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ASSESSOR COMMENTS

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- Details on reattempts, alternative arrangements or reasonable adjustments made.
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NOTE

At times, you will be provided with a specific business context to which you must respond, otherwise it is anticipated that you will use a workplace of your choosing (your own, or hypothetical) to provide the context to the task.

At all times, the responses in your assessment must reference **Australian** (Queensland or Federal) documentation, including legislation, regulations, codes of practice, standards and guidance publications.

For the following activity, name the state or territory your work is based in.

State / Territory	e.g. Queensland
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ACTIVITY 1

- Identify current legislation, codes and related documentation that will be relevant to concreting work in your state/territory, and where such documentation can be found.
- For each document identified, outline one (1) excerpt or requirement that it specifies for your chosen state/territory.
- Use an example to explain how the identified excerpt or requirement is relevant to your workplace

Example:

a) Name and location of Legislation (Commonwealth or State)
<i>Work Health and Safety Act 2011 (Qld) found at www.legislation.qld.gov.au</i>
b) Relevant excerpt/requirement for workplace
<i>Section 19: A person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety of workers.</i>
c) Link to workplace
<i>As a workplace that requires high risk work tasks to be undertaken (e.g. training in working with concrete, plant and equipment), the health and safety of workers must be ensured by the person conducting a business or undertaking. This does not require all measures to be implemented, but those considered to be reasonably necessary, such as providing safe plant, information, instruction and training.</i>

a) Name and location of Legislation (Commonwealth or State)
e.g. The QBCC Act and the Regulations
b) Relevant excerpt/requirement for chosen workplace
Section 30 Classes of contractors' licences
c) Link to workplace
Suitable licences must be viewed and meet legislated requirements. Workplace should view and make a copy of contractors licences, store these with HR as part of their duty of care and compliance with the Act and Regulations. All persons who 'carry out', 'undertake,' or 'cause' building work (including building work services) to be carried out are required to hold a licence under the QBCC Act

a) Name and location of Code
e.g. National Construction Code
b) Relevant excerpt/requirement for chosen workplace
e.g. Volume two - 3.2.3.1 Concrete
c) Link to workplace
e.g. concrete must be manufactured to comply with AS 3600 Concrete structures

a) Name and location of Standard
AS 3600 Concrete structures https://infostore.saiglobal.com/en-au/standards/as-3600-2018-98877_saig_as_as_207930/
b) Relevant excerpt/requirement for chosen workplace
3.1 PROPERTIES OF CONCRETE 3.1.1 Strength 3.1.1.1 Characteristic compressive strength The characteristic compressive strength of concrete at 28 days (f'_c) shall be either— (a) taken as equal to the specified strength grade, provided the appropriate curing is ensured and that the concrete complies with AS 1379; or (b) determined statistically from compressive strength tests carried out in accordance with AS 1012.9. The characteristic compressive strengths of the standard strength grades are 20 MPa, 25 MPa, 32 MPa, 40 MPa, 50 MPa, 65 MPa, 80 MPa and 100 MPa
c) Link to workplace
Demonstrates the compressive strength that should be reached at 28 days, depending on strength grade required

**Satisfactory
Outcome**



CPCCCO4001

SUPERVISE CONCRETING WORK

PRACTICAL ASSESSMENT

Participant name	
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FOR THE PARTICIPANT

Instructions

- The tasks outlined on the following pages will require performance in normal workplace activities, as a result of a structured activity set by an observer in the workplace or a simulated activity set by your Assessor/Observer.
- The timeframe for these tasks will be established by your Assessor/Observer in consideration of location conditions and industry requirements.
- You must complete all tasks as instructed by the Assessor or other personnel unless the steps note his assistance.
- You must attempt all tasks (and itemised steps) for a 'Satisfactory' assessment outcome to be achieved.
 - For an observation conducted that is incomplete, or without satisfactory performance, the observation will need to be completed again after further training support.

FOR THE ASSESSOR/OBSERVER

Instructions

- The following observation record should be used to judge and record your observations of the Participant as they complete the task(s) set. You must record your observations of the Participant's performance.
 - For each occasion, indicate the task performed and whether it was a simulation or workplace-based task.
 - Any simulated assessment must ensure the Participant still performs under workplace conditions which reflect industry standards.
 - In the comments, provide clear detail regarding the task that the Participant was required to do (e.g. PPE used, materials handled, attachments connected, plant types).
- All steps must be satisfactorily demonstrated by the Participant for a 'Satisfactory' determination (indicated by an Assessor tick to the right of each itemised step, or an Observer tick to the right of each itemised step, and confirmation by an Assessor in the Assessor Comments).
 - Where you have determined that one or more task steps have not been satisfactorily demonstrated, provide the Participant with additional support and outline details of such assistance in the Assessor/Observer Comments. Allow the Participant two (2) further opportunities to demonstrate the task again to allow an opportunity for a 'Satisfactory' assessment outcome to be achieved.
 - If after three (3) attempts the Assessor determines that the Participant cannot demonstrate the required steps, a 'Not Satisfactory' outcome is to be determined.

TASK OUTCOME					
Task	Date	Task Type (Tick)	Location	Task outcome (Tick)	
				Satisfactory	Not Satisfactory
Task 1 (Occasion 1)		☐ Workplace ☐ Simulation		☐	☐
Task 1 (Occasion 2)		☐ Workplace ☐ Simulation		☐	☐
Task 1 (Occasion 3)		☐ Workplace ☐ Simulation		☐	☐

ASSESSOR COMMENTS: GENERAL

As necessary, outline:

- Details on reattempts, alternative arrangements or reasonable adjustments made.
- Where a Participant is deemed 'Not Satisfactory', provide recommendations for future training.

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 1	
☐ Individual student (as named on cover page) ☐ Multiple students [☐ All from Attendance Report, ☐ Specific students involved – identify students]	
Task	Provide detail
All	Specify concreting task participant is supervising: e.g. concrete house slab for low set residential home
1.1A. 1.1B. 1.1C. 1.1D.	Specify (✓) participant interaction with team members during team meeting/s: ☐ Appropriate language for audience ☐ Clear and concise language ☐ Invited input and questions ☐ Responded to questions clearly and promptly ☐ Addressed site safety during talks ☐ Asked questions to confirm worker WHS understanding ☐ Discussed environmental protection requirements ☐ Asked questions to confirm worker environmental protection understanding ☐ Other (please specify):
1.1E.	Specify how team members' selection of materials is checked and confirmed: e.g. direct observation to confirm consistency with job requirements.
1.1F.	Specify how team members' selection of tools and equipment is checked and confirmed: e.g. direct observation to confirm consistency with job requirements.
1.1H.	Specify how manual handling tasks are managed and monitored: e.g. direct observation and instruction.
1.2A.	Specify how excavation and sub-grade tasks were managed and monitored for safety: e.g. barriers and signs, direct observation, experienced operators

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 1	
1.2A. 1.2B.	Specify how excavation and sub-grade preparation tasks were directed to meet schedule and quality requirements: e.g. monitoring of time and schedule, measure and install of stringlines and pegs, measuring checks against specifications
1.2C. 1.2D.	Specify how it was confirmed that formwork complied with requirements: e.g. worked to specifications and material requirements, checking of levels
1.2E.	Specify how reinforcement was confirmed compliant: e.g. placed correctly to specified heights, lapping and with appropriate chairs to specifications
1.2F.	Specify how the accurate placement of service and penetrations was determined: e.g. from plans and specifications
1.2G.	Specify (✓) how preparation work was confirmed ready for concrete pour: ☐ Consistent checking of levels and line ☐ Formwork installed to specifications ☐ Formwork braced to specifications and reinforcement requirements ☐ Site access clear ☐ Debris and waste removed from formwork ☐ Correct installation of vapour/termite barrier ☐ Services and penetrations are in place ☐ Bars, cover blocks, and stools are all level ☐ Formwork checked and cleaned ☐ Other (please specify):
1.3A. 1.3B.	Specify (✓) participant interaction with supplier when ordering: ☐ Appropriate language for audience ☐ Clear language ☐ Provided correct delivery address ☐ Provided site contact name and number ☐ Provided required delivery time ☐ Provided application requirement, method and rate of placement ☐ Provided class of concrete and additives (if needed) in m ³ plus allowance for wastage ☐ Asked questions to confirm availability and delivery ☐ Other (please specify):
1.3D.	Specify concrete specialist consulted to ensure accuracy of concrete properties: e.g. engineer, supplier
1.3F. 1.5E.	Specify concrete testing organised and documented. e.g. slump test
1.4B.	Specify (✓) what was monitored during concrete pour: ☐ Weather conditions and mitigation actions ☐ Concrete is placed low ☐ Vertical drop >2m ☐ Concrete discharged as soon as possible after it arrives on site ☐ Concrete is tested correctly ☐ Concrete placed in horizontal layers ☐ Each layer is compacted before the next is placed ☐ Start placing from the corners of the formwork ☐ Place concrete with no damage or movement of formwork and reinforcement ☐ Other (please specify):
1.4D.	Specify finish applied to concrete: e.g. screeding, edging, jointing, trowelling brooming, exposed aggregate
1.4E. 1.4F.	Specify how compliance was confirmed: Checks against specifications
1.5A.	Specify tool and equipment clean up: Hosed off in concrete wash down area
1.5D.	Specify debrief actions: e.g. informal meeting to discuss what went well and what can be improved

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 2	
☐ Individual student (as named on cover page) ☐ Multiple students [☐ All from Attendance Report, ☐ Specific students involved – identify students]	
Task	Details
All	Specify concreting task participant is supervising: e.g. concrete house slab for low set residential home
1.1A. 1.1B. 1.1C. 1.1D.	Specify (✓) participant interaction with team members during team meeting/s: ☐ Appropriate language for audience ☐ Clear and concise language ☐ Invited input and questions ☐ Responded to questions clearly and promptly ☐ Addressed site safety during talks ☐ Asked questions to confirm worker WHS understanding ☐ Discussed environmental protection requirements ☐ Asked questions to confirm worker environmental protection understanding ☐ Other (please specify):
1.1E.	Specify how team members' selection of materials is checked and confirmed: e.g. direct observation to confirm consistency with job requirements.
1.1F.	Specify how team members' selection of tools and equipment is checked and confirmed: e.g. direct observation to confirm consistency with job requirements.
1.1H.	Specify how manual handling tasks are managed and monitored: e.g. direct observation and instruction.
1.2A.	Specify how excavation and sub-grade tasks were managed and monitored for safety: e.g. barriers and signs, direct observation, experienced operators
1.2A. 1.2B.	Specify how excavation and sub-grade preparation tasks were directed to meet schedule and quality requirements: e.g. monitoring of time and schedule, measure and install of stringlines and pegs, measuring checks against specifications
1.2C. 1.2D.	Specify how it was confirmed that formwork complied with requirements: e.g. worked to specifications and material requirements, checking of levels
1.2E.	Specify how reinforcement was confirmed compliant: e.g. placed correctly to specified heights, lapping and with appropriate chairs to specifications
1.2F.	Specify how the accurate placement of service and penetrations was determined: e.g. from plans and specifications
1.2G.	Specify (✓) how preparation work was confirmed ready for concrete pour: ☐ Consistent checking of levels and line ☐ Formwork installed to specifications ☐ Formwork braced to specifications and reinforcement requirements ☐ Site access clear ☐ Debris and waste removed from formwork ☐ Correct installation of vapour/termite barrier ☐ Services and penetrations are in place ☐ Bars, cover blocks, and stools are all level ☐ Formwork checked and cleaned ☐ Other (please specify):
1.3A. 1.3B.	Specify (✓) participant interaction with supplier when ordering: ☐ Appropriate language for audience ☐ Clear language ☐ Provided correct delivery address ☐ Provided site contact name and number ☐ Provided required delivery time ☐ Provided application requirement, method and rate of placement ☐ Provided class of concrete and additives (if needed) in m³ plus allowance for wastage ☐ Asked questions to confirm availability and delivery ☐ Other (please specify):
1.3D.	Specify concrete specialist consulted to ensure accuracy of concrete properties: e.g. engineer, supplier

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 2	
1.3F. 1.5E.	Specify concrete testing organised and documented. e.g. slump test
1.4B.	Specify (✓) what was monitored during concrete pour: ☐ Weather conditions and mitigation actions ☐ Concrete is placed low ☐ Vertical drop >2m ☐ Concrete discharged as soon as possible after it arrives on site ☐ Concrete is tested correctly ☐ Concrete placed in horizontal layers ☐ Each layer is compacted before the next is placed ☐ Start placing from the corners of the formwork ☐ Place concrete with no damage or movement of formwork and reinforcement ☐ Other (please specify):
1.4D.	Specify finish applied to concrete: e.g. screeding, edging, jointing, trowelling brooming, exposed aggregate
1.4E. 1.4F.	Specify how compliance was confirmed: Checks against specifications
1.5A.	Specify tool and equipment clean up: Hosed off in concrete wash down area
1.5D.	Specify debrief actions: e.g. informal meeting to discuss what went well and what can be improved

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 3	
☐ Individual student (as named on cover page) ☐ Multiple students [☐ All from Attendance Report, ☐ Specific students involved – identify students]	
Task	Details
All	Specify concreting task participant is supervising: e.g. concrete house slab for low set residential home
1.1A. 1.1B. 1.1C. 1.1D.	Specify (✓) participant interaction with team members during team meeting/s: ☐ Appropriate language for audience ☐ Clear and concise language ☐ Invited input and questions ☐ Responded to questions clearly and promptly ☐ Addressed site safety during talks ☐ Asked questions to confirm worker WHS understanding ☐ Discussed environmental protection requirements ☐ Asked questions to confirm worker environmental protection understanding ☐ Other (please specify):
1.1E.	Specify how team members' selection of materials is checked and confirmed: e.g. direct observation to confirm consistency with job requirements.
1.1F.	Specify how team members' selection of tools and equipment is checked and confirmed: e.g. direct observation to confirm consistency with job requirements.
1.1H.	Specify how manual handling tasks are managed and monitored: e.g. direct observation and instruction.

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 3	
1.2A.	Specify how excavation and sub-grade tasks were managed and monitored for safety: e.g. barriers and signs, direct observation, experienced operators
1.2A. 1.2B.	Specify how excavation and sub-grade preparation tasks were directed to meet schedule and quality requirements: e.g. monitoring of time and schedule, measure and install of stringlines and pegs, measuring checks against specifications
1.2C. 1.2D.	Specify how it was confirmed that formwork complied with requirements: e.g. worked to specifications and material requirements, checking of levels
1.2E.	Specify how reinforcement was confirmed compliant: e.g. placed correctly to specified heights, lapping and with appropriate chairs to specifications
1.2F.	Specify how the accurate placement of service and penetrations was determined: e.g. from plans and specifications
1.2G.	Specify (✓) how preparation work was confirmed ready for concrete pour: ☐ Consistent checking of levels and line ☐ Formwork installed to specifications ☐ Formwork braced to specifications and reinforcement requirements ☐ Site access clear ☐ Debris and waste removed from formwork ☐ Correct installation of vapour/termite barrier ☐ Services and penetrations are in place ☐ Bars, cover blocks, and stools are all level ☐ Formwork checked and cleaned ☐ Other (please specify):
1.3A. 1.3B.	Specify (✓) participant interaction with supplier when ordering: ☐ Appropriate language for audience ☐ Clear language ☐ Provided correct delivery address ☐ Provided site contact name and number ☐ Provided required delivery time ☐ Provided application requirement, method and rate of placement ☐ Provided class of concrete and additives (if needed) in m ³ plus allowance for wastage ☐ Asked questions to confirm availability and delivery ☐ Other (please specify):
1.3D.	Specify concrete specialist consulted to ensure accuracy of concrete properties: e.g. engineer, supplier
1.3F. 1.5E.	Specify concrete testing organised and documented. e.g. slump test
1.4B.	Specify (✓) what was monitored during concrete pour: ☐ Weather conditions and mitigation actions ☐ Concrete is placed low ☐ Vertical drop >2m ☐ Concrete discharged as soon as possible after it arrives on site ☐ Concrete is tested correctly ☐ Concrete placed in horizontal layers ☐ Each layer is compacted before the next is placed ☐ Start placing from the corners of the formwork ☐ Place concrete with no damage or movement of formwork and reinforcement ☐ Other (please specify):

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 3	
1.4D.	Specify finish applied to concrete: e.g. screeding, edging, jointing, trowelling brooming, exposed aggregate
1.4E. 1.4F.	Specify how compliance was confirmed: Checks against specifications
1.5A.	Specify tool and equipment clean up: Hosed off in concrete wash down area
1.5D.	Specify debrief actions: e.g. informal meeting to discuss what went well and what can be improved