



Barb ending & concreting

Level II

Learning Guide #26

Unit of Competence: Erect and dismantle formwork for Footings, slabs Beam, stairs & column

Module Title: Erecting and dismantling formwork for Footings, slabs Beam, Stairs & column

LG Code: EIS BBC2 M08 LO1-LG-26

TTLM Code: EIS BBC2 M08 TTLM 1019v1

Lo 1: Plan and prepare



Instruction Sheet	Learning Guide #26
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Obtaining, confirming and applying work instructions,
- Following safety (OHS) requirements
- Identifying and implementing signage and barricade requirements.
- selecting plant, tools and equipment to carry out tasks
- calculating material quantity requirements
- Identifying, obtaining, preparing, safely handling and locating appropriate materials to the work application
- Applying environmental requirements for the project

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Obtain confirm and apply Work instructions, including plans, specifications, quality requirements and operational details,
- Followed safety (OHS) requirements
- Identify and implement Signage and barricade requirements.
- Select, check and rectify plant, tools and equipment to carry out tasks
- Identify, obtain, prepare, safely handle appropriate materials to the work
- Identify environmental requirements for the project in accordance with environmental plans and statutory and regulatory authority obligations, and are applied.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written for each “Information Sheets given below



4. Accomplish the “Self-check after reading & understanding of each information sheet
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet
6. Lastly do the “LAP test
7. If you have any question ask your teacher

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**Information Sheet-1**

Obtaining, confirming and applying work instructions,

1.1. Planning and preparing Work instructions

Careful planning and preparation is the first essential step in ensuring that work is done safely. Planning and preparation should involve consultation with all those engaged in the work and include the identification of hazards using the risk assessment and control process.

The primary role or function of working drawings is to convert design data into construction information and to clearly communicate that information to building industry, code officials, product manufacturers, suppliers and fabricators. When preparing for the commencement of work the principal contractor and the contractor doing the work should ensure that the workplace is safe, based on the health and safety management plan.

They should also check to ensure, so far as reasonable practicable, that all risk control measures identified by the risk assessment have been put in place and that no new hazards exist.

- Preparation should also include at least the following:
 - ✓ Assessment of climatic/environmental conditions including lighting levels.
 - ✓ Access to and from the workplace.
 - ✓ Personal protective equipment on site (e.g. safety helmets, eye protection, fall arrest or fall restraint equipment etc.)
 - ✓ specific instructions for employees
 - ✓ provision of formwork drawings is certified by the formwork engineer or competent person with the appropriate qualifications
 - ✓ Equipment required for lifting materials is available and suitable g) residual current devices (safety switches) protecting the user of portable electric powered tools.
 - ✓ Emergency and rescue procedures in the event of an accident, injury or other emergency (including the means of rescuing persons from safety harnesses following arrested falls).

**Self-Check 1****Multiple Choice item**

Directions: Select the correct answer and encircle the letter of your choice

1. Good planning results in:
 - A. Hazard reduction
 - B. increase productivity
 - C. Safe time
 - D, All are correct

2. Work planning and preparation include the following concepts
 - A. Access to and from the workplace
 - B. specific instructions for employees
 - C. Safety requirement
 - D. All

3. One of the following is not personal protective equipment:
 - A. safety helmets
 - B. eye protection,
 - C. fall arrest or fall
 - D. None

Note: Satisfactory rating - 3 points Unsatisfactory - below 3points

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____



1.2. Following safety (OHS) requirements

Safety (OHS) is to be in accordance with state or territory legislation, regulations, codes of practice, organizational safety policies and procedures, and project safety plan and may include: emergency procedures, including extinguishing fires, organizational first aid requirements and evacuation. This may include:

- handling of materials
- hazard control
- hazardous materials and substances
- safe operating procedures, including the
- conduct of operational risk assessment and
- treatments associated with:

1.2. Planning for Safety

OSHA (Occupational Safety and Health Administration) regulations, ACI Wood forms have less usage potential than aluminum or steel forms.

- Complicated shapes of concrete are more expensive because of labor cost and reuse of forms.

Formwork operations are risky, and workers are typically exposed to unsafe working conditions. Partial or total failure of concrete formwork is a major contributor to deaths, injuries, and property damages within the construction industry.

Forms must be built with sufficient strength and factors of safety so they are capable of supporting all dead and live loads without collapse or danger to workers and to the concrete structure. Contractors are generally responsible for stability and safety of concrete formwork. Also they are guided by several federal, state, and local codes and regulations that regulate formwork safety. Most of these documents provide general guidelines for safety but provide no guarantee against Failure. Contractors typically are trying to achieve fast removal of formwork elements without



compromising the safety and integrity of structures. A floor formwork system filled with wet concrete has its weight at the top and is not inherently stable. As a result, one of the most frequent causes of failure is from effects that induced.

Working place or area is whole building/construction/ site including equipment, machines, storerooms, etc. Within the general working place there is a personal working area /space/, where someone is building up a wall or other related activities. Working space is essentially required for all construction workers, to accommodate materials and equipment's for the process; therefore, it is a crucial and necessary to keep them all in proper manner.

A neat and tidy site saves time, eases the work and avoids accidents. If things like tools, battens, boards, stones, cables, steel bars etc. are not used or kept improperly they are obstacles for the construction process and can be the cause for accident.

**Self-Check 2****Multiple Choice item**

Directions: Select the correct answer and encircle the letter of your choice.

1. Project safety plan may include:

- A. Emergency procedures
- B. Fire extinguishing
- C. Organizational first aid requirements
- D. All are correct

2. Work planning and preparation include the following concepts

- A. Access to and from the workplace
- B. specific instructions for employees
- C. Safety requirement
- D. None

3. Occupational safety and health rule includes:

- A. Handling of materials
- B. Hazard control
- C. Safe operating procedures
- D. All



Information Sheet 3	Identifying and implementing signage and barricade requirements.
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3.1. Identifying and implementing signage and barricade requirements.

3.1.1. Signage and barricade requirements.

A variety of situations exist at Council worksites where barricading and/or safety signage are required. Barricading and safety signage draw attention to hazardous objects and situations that may affect health and safety, reducing the potential of injury to personnel and damage to property. Examples include

- Warning Tape
- Mesh Barrier
- Road Barriers
- Traffic Control Signs
- Emergency Signage
- Mandatory
- Ppe Signs and precautionary signage

1.3. Barricading and safety signage shall be used

Barricading is one of the risk control measures used to protect personnel from hazard such as: being struck by falling objects, material movements or plant; fall from height, including falling into open excavations or penetrations; fall from unprotected edges (e.g. removed flooring, walkways, stairs and handrails) exposure to hazardous substances, process or activities; unauthorised entry into a confined space or other restricted work areas; and any potentially hazardous work processes, such as hot works, demolition work, scaffolding, radiation work and work involving asbestos.

1.3.1. Barricading Requirements

Barricading is one of the risk control measures used to protect personnel from hazard such as:

- being struck by falling objects, material movements or plant;



- Fall from height, including falling into open excavations or penetrations;
- Fall from unprotected edges (e.g. removed flooring, walkways, stairs and handrails);
- Exposure to hazardous substances, process or activities;
- Unauthorized entry into a confined space or other restricted work areas; and
- Any potentially hazardous work processes, such as hot works, demolition work, scaffolding, radiation work and work involving asbestos. Barricading may also be used as part of incident management and emergency response procedures.

1.3.2. Selection of Barricade

The following factors are to be considered as part of a risk assessment when selecting the type of barricade (soft or hard):

- ✓ risk associated with the hazard;
- ✓ required strength of the barrier (e.g. impact potential); and
- ✓ the amount of clearance provided from the hazard by the barricade.

Barricading shall be used to manage the risk of fall from height greater than two meters (refer to the Working at Height Procedure and excavations greater than 1.5 meters deep All barricading shall be designed, installed and used in accordance with the relevant Australian Standards and the recommendations of the manufacturer. Where barricades are support

Erection and Use of Barricade The barricade shall be placed so that the whole area affected by the hazard is appropriately identified, taking the following factors into account: distance to/from the hazard; possible movement of an object inside the barricade if it falls; access and egress; and sparks or slag generated from hot work activities.

An appropriate sign shall be affixed to barricades at all access points, indicating the following: the hazards present within the barricaded area; and the name and contact details of the person in charge of the barricaded area

1.3.3. Safety Signage Requirements

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Safety signs are erected to warn workers or the public of specific hazards and to communicate necessary precautionary measures and emergency actions. Safety signage, in accordance with Work Health and Safety Regulation is required for:

- Construction sites;
- Hazardous areas;
- Hazardous chemicals;
- Site specific Personal Protective Equipment (PPE) requirements;
- Fire protection equipment;
- Emergency and first aid information;
- Traffic management and pedestrian control.

6.2.1. Signage Classification and Use

Safety signage are classified and shall be used according to their function as follows:

Type	Use	Example
1. Regulatory Signs – Signs containing instructions that if ignored could either be an offence at law, or a breach of site safety rules, safety procedures or other directions.		
Principal contractor construction site signage	<p>Any principal contractor for a construction project must be identified with signage. At a minimum, the sign must:</p> <ul style="list-style-type: none"> • Identify the principal contractor's name and telephone contact numbers (including an after hours telephone number); • Identify the location of the site office for the project, if any; and • Be clearly visible from outside the workplace, or the work area of the workplace, where the construction project is being undertaken. 	
Mandatory Signs	<p>Signs that specify that an instruction MUST be carried out. Symbols (or pictograms) are white on a blue circular background and indicate the minimum standard of compliance required for the workplace where it is displayed. The sign's wording is in black lettering on the white background. Multiple symbols may be on the sign.</p>	

Type	Use	Example
Prohibition Signs	Signs that specify behaviour or actions, which are not permitted. The round shape with a slash should be depicted in red over the action symbol in black. The sign's wording is in black lettering on the white background.	
Limitation or Restriction Signs	Signs that place a numerical or other defined limit on an activity. The most common signs are speed restriction signs. The signs have a symbolic Red circle shape with black writing or symbol on it and may also be on the roadway surface.	
2. Hazard Signs – Signs advising of hazards.		
Danger Signs	Signs warning of a particular hazard or hazardous condition that is likely to be life-threatening. (The word 'DANGER' shall be in white featured inside a red ellipse inside black rectangle. The sign's wording shall be in black lettering on the white background.)	
Warning Signs	Signs warning of a hazard or hazardous condition that is not likely to be life-threatening. (The hazard symbol shall be black on a yellow background and a triangle should be depicted around the hazard symbol. The sign's wording shall be in black lettering on the yellow background.)	
3. Emergency Information Signs		
Muster Point, First Aid Locations, etc	Signs indicating the location of, or directions to, emergency related facilities such as exits, safety equipment or first aid facilities. (They feature a white symbol and/or wording on a green background.)	
4. Fire Signs		
Fire-fighting Equipment Locations, etc	Signs advising the location of the alarms and fire-fighting facilities. (Fire signs shall comprise a red rectangle with white symbol and/or wording.)	

Fall Prevention

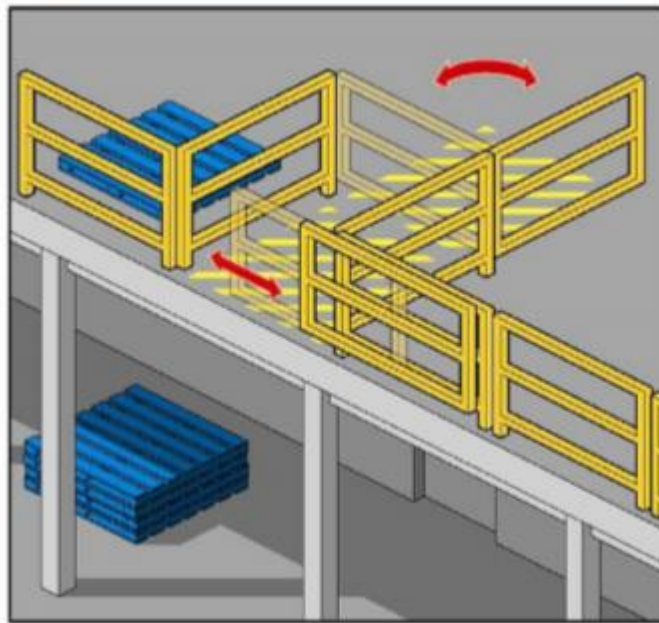


Figure1. A barrier on a mezzanine floor

Figure 2: Examples of Tags

Personal Danger Tag	Caution Tag	Information Tag	Out of Service Tag

**Self-Check 3****Multiple Choice item**

Directions: Select the correct answer and encircle the letter of your choice:

1. Signage and barricade signs includes:

A. Warning Tape

C. Emergency Signage

B. Traffic Control Signs

D, All are correct

2. Barricading is one of the risk control measures used to protect personnel from:

A. Falling objects

C. Fall from height

B. Material movements

D. All

3. Which of the following is prohibition sign?

A. No smoking

C. Do not operate

B. No Entry

D. All

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1.4. Selecting plant, tools and equipment to carry out tasks.

Some of carpentry tools that will be needed to undertake the formwork activity are listed below.

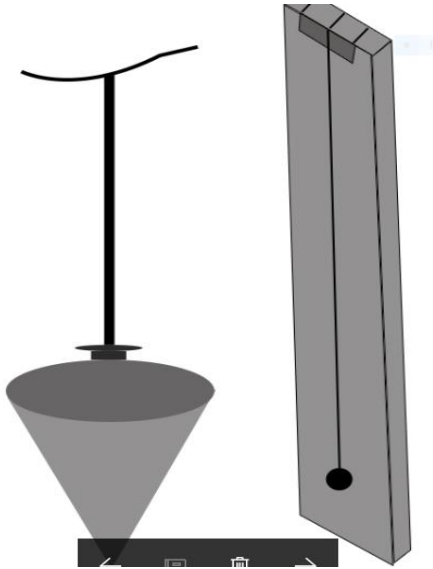
✓ **Setting Out Square**

It is used to set out right angles at the corner of masonry wall. This is very important and basic tool used in masonry work. This tool has “L” shape. It is made of flat steel having each arm about 0.5 m long.



✓ **Plumb Rule and Bob**

It is used to check the verticality of walls. It is also very basic and important tool. It consists of a string tied to a weight at bottom called bob and straight wood board with uniform edges which is called plumb rule. On its center a groove is provided in which plumb bob is placed. When the rule is placed vertically with the wall the plumb bob must be in the groove line otherwise the wall will not be vertical.



✓ Spirit Level

It is used to check the horizontality and verticality of the surfaces. Spirit level is made of hard plastic or wood with bubble tube in the middle. The bubble tube is partially filled with alcohol. So that, the air bubble is formed in it. The spirit level is placed on surface of masonry wall and bubble is checked. The surface is called leveled when the bubble in the tube settles at middle of tube.



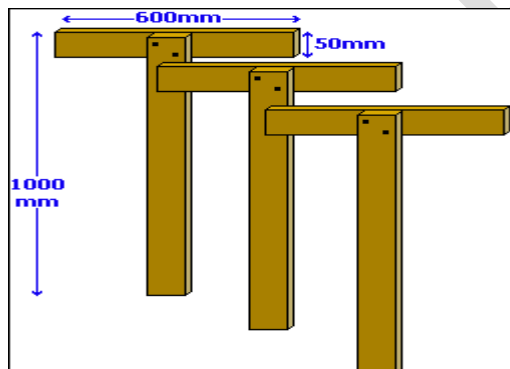
✓ Water Level

It is used to transfer and check level. It is a simple tool to measure the level at two different points. It is a tool that works on the principle that water always seeks its own level. It consists of flexible tube with liquid, and the liquid at both ends will be at the same level whether you're holding them together or spreading them a hundred feet apart.



✓ **Boning Rods**

It is used for levelling from two fixed points in surveying. It consists of an upright pole having a horizontal board at its top, forming a 'T' shaped rod. Boning rods are made in set of three rods, and many consist of three 'T' shaped rods, each of equal shape and size, or two rods identical to each other and a third one consisting of longer rod with a movable or detachable 'T' piece. The third one is called traveler or traveling rod.



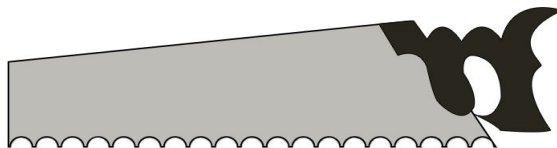
✓ **Chisel**

They are used with mallets and with hammers. A chisel is used for normal splitting, roughing out and shaping the stone. Chisels are available in different sizes with bladed, flat, tapered and other shaped chipping points. Blade of chisel is made from iron or metal and the handle is made from wood.



✓ . **Hand Saw**

It is used to cut soft stones. It is a saw with wide blade and handle at one end. It has a wooden/plastic handle and it is used by one hand. Blade has crosscut teeth and blade is made from steel.



✓ **Boaster**

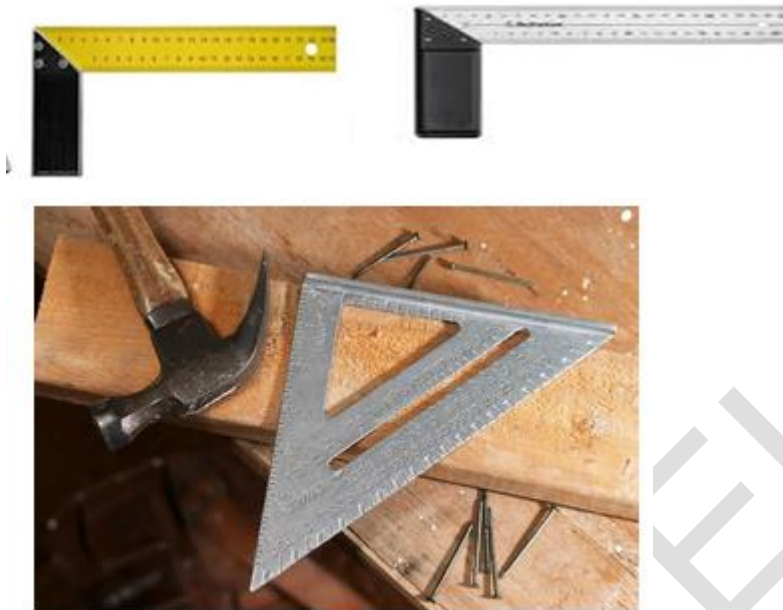
It is also used to cut soft stones. It is a broad-faced or wide-edged masonry chisel. Boasted finish is done by boaster. This type of finish includes intermittent parallel lines which are horizontal or vertical or inclined. Boaster has an edge of width about 60 mm.



• **Carpenter's Square**

A carpenter's square is still one of those tools that no matter how advanced our technology is, we will still need the square to make some cuts. The preferred size one is the 6-inch model, easy to carry and use. It is great when used with a

table saw and can even help with some angles as well. When buying one, make sure to choose a metal one as plastic can lose its shape and might affect your measurements.



✓ Work Bench

A saw horse or workbench is a very practical and convenient tool. A saw horse is a carpenter's best friend, helping you resting the piece of wood while you can work or cut other areas of it. Light weight and portable saw horses are used very frequently in carpentry during framing or door installation, allowing you to make precise cuts even when you are working all alone. The most sophisticated models are equipped with clamps and adjustable surfaces so you can move it around and fit almost any type of wood.



Fig 3. Bench work



Fig 2. Bench work

✓ Pencil

A carpenter always needs a pencil to mark where the next cut will be. There are mechanical carpenter's pencil that will never need to be sharpened again. This type of pencil looks like a utility knife to make a sharp clear line. It is somewhat expensive but you will love it and it will be easier to carry and use. Pencils or in some instances chalk lines are always useful, cheap, and will help you when laying out framing or making cuts



✓ Handsaws/Bow saw

Although most woodworkers rely on power tools for cutting, handsaws have a legitimate place in the modern workshop. One-of-a-kind cuts that require lengthy set-up time on a power tool are often quicker and easier to do with the appropriate handsaw. Also, if you are involved in authentic reproduction work, there is no substitute for executing the joinery with traditional methods. For example, the large tails, widely spaced pins, and subtle lack of symmetry in some dovetail joints can only be done by hand.

The key to mastering handsaws rests in learning what saw is appropriate for a given task and keeping their blades sharp and in good working order.

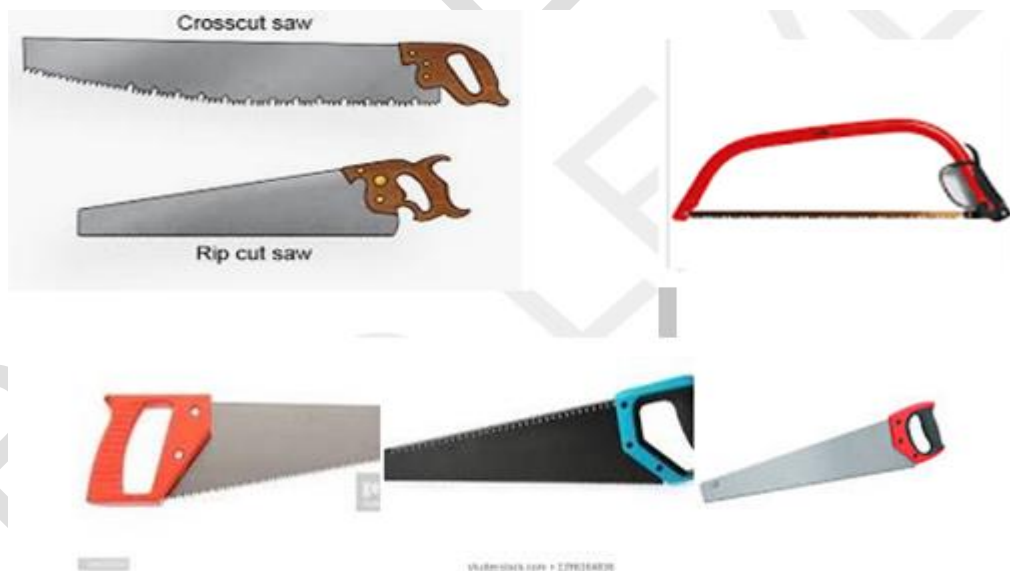


Fig 3. Hand saws

- **Measuring and Marking Tools**

LEVELS, SQUARES, AND GAUGES

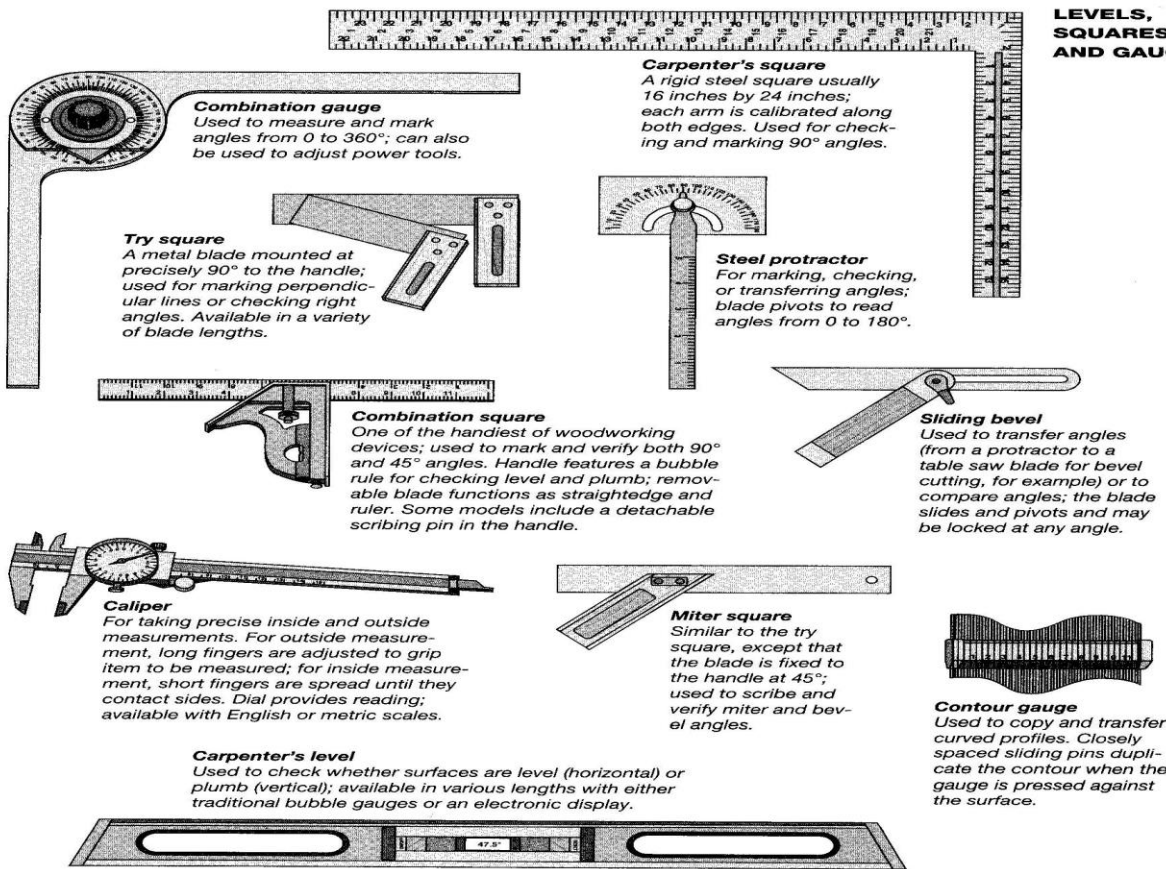


Fig.4. Different measuring tools

B

**Self-Check 4****Multiple Choice item**

Directions: Select the correct answer and encircle the letter of your choice

1. One of the following tool is used to control vertical alignment:

- A. Sprit Level
- B. Plumb-bob
- C. Try Square
- D. A & B are correct

2. One of the following is cutting tool

- A. Tape rule
- B. Folding meter
- C. Pix-axe
- D. Hand saw

3. Water level is used to measure:

- A. Horizontal level
- B. Vertical level
- C. Diagonal measurement
- D. All

4. One is not used for setting out work.

- A. Try square
- B. Bow saw
- C. Spade
- D. None



1.5. Calculating material quantity requirements

- **How to Measure Formworks?**

The formwork is measured in terms of area that is in contact with the concrete surface.

For example, the formwork for concrete footing will be calculated as the surface area of four sides of foundation only. Bottom of the footing is resting on earth, there is no need

For example, the formwork for concrete footing will be calculated as the surface area of four sides of foundation only. Bottom of the footing is resting on earth, there is no need of any formwork and top of footing is open.

Note that the system does not take the unit of measure of referred values into account. Percentages, for example, are treated like absolute values during the calculation.

- To insert the operators of the basic arithmetical operations or a bracket in the formula, choose the corresponding button in the Formula definition section or use the keyboard to enter the sign.

- Use the keyboard to enter all other operators or functions

- Depending on the values for which you have entered a formula, start the calculation as follows:

- If you want to recalculate component, operation, phase, or scrap quantities, choose

- If you want to recalculate the product or order quantity, choose Calculate product qty.

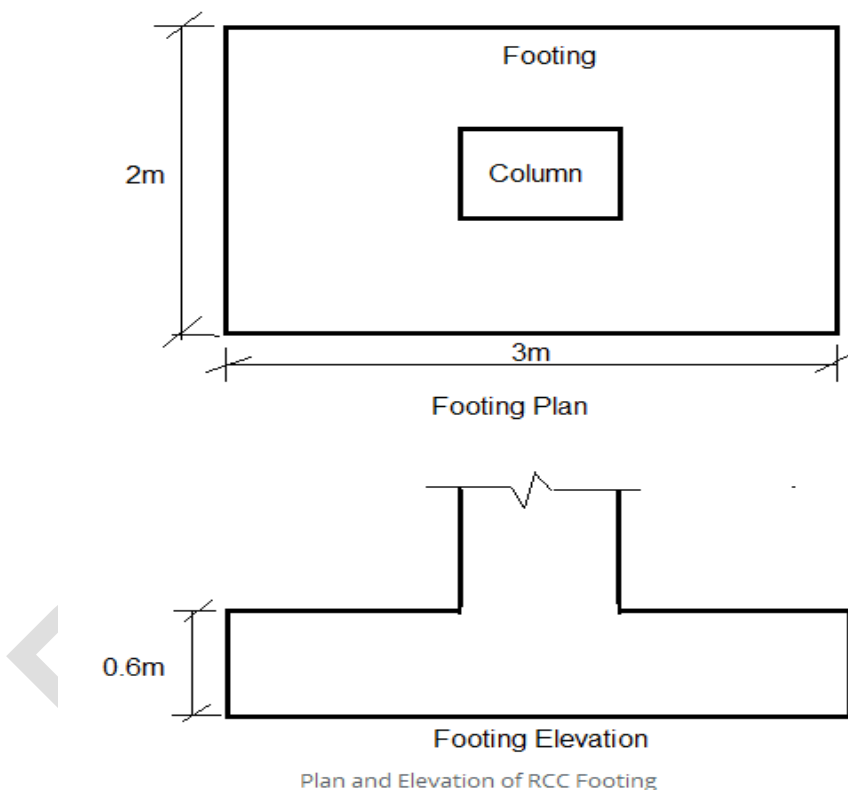
The system calculates the product quantity and subsequently updates all component, operation, phase, and scrap quantities for which formulas have been maintained.

- **Calculating Quantity of Materials**

An estimate is probable cost of a building before construction. This estimate should not be far away from the actual cost of the building after completion of the project. It is done by mathematical calculation based on working drawings. First of all the quantity of the work is calculated based on standard unit of measurement for each work. This unit of measurement can be pieces (No), meter linear, meter square and meter cube.

For this case the unit of measurement for formwork is meter square (m²) .

Fig 5.1. Parts of formworks for Beam and Slab



From the above footing plan and elevation, it can be seen that formwork area required will be

$$2 \times (2 + 3) \times 0.6 = 6 \text{ m}^2$$



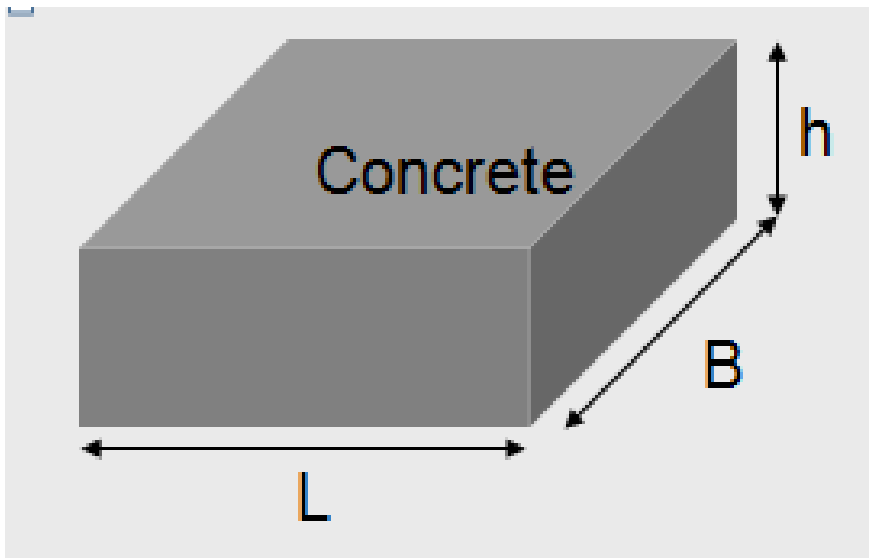
- **Unit of Measurement**

Square Foot Contact Area (SFCA)

- Measure just contact area, not area of formwork

Contact Area

$$= 2h (L+B)$$



The measurements of formwork are carried out separately for each type of concrete works such as following:

- Foundations, footings, bases of columns etc. and for mass concrete and precast shelves.
- Walls of any thickness including attached pilasters, buttresses, plinth and string courses etc.
- Suspended floors, roofs, landings, shelves and their supports and balconies.
- Lintels beams, girders and cantilevers
- Columns, pillars, posts and struts.
- Stairs (excluding landings) except Spiral Staircase
- Spiral staircases (including landings)
- Arches
- Domes, vaults, shells roofs, arch ribs and folded plates



- Chimneys and shafts
- Well staining
- Vertical and horizontal fins individually or forming box, louvers and bands
- Waffle or ribbed slabs
- Edges of slabs and breaks in floors and walls
- Cornices and moldings

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**Self-Check 5****Multiple Choice item**

Directions: Select the correct answer and encircle the letter of your choice

2. One of the following is area measurement?

- A. Square meter
- B. Plumb-bob
- C. Try Square
- D. A & B are correct

2. Which One of the following is unit of volume?

- A. m^2
- B. Meter
- C. Linear measurement
- D. m^3

3. The measurements of formworks are carried out separately for each type of concrete

Works.

- A. True
- B. False



Information Sheet 6

Identifying, obtaining, preparing, safely handling and locating appropriate materials to the work

2.5. Safety of material handling

- What precautions should workers take when moving materials manually?

When moving materials manually, workers should attach handles or holders to loads. In addition, workers should always wear appropriate personal protective equipment and use proper lifting techniques. To prevent injury from oversized loads, workers should seek help in the following:

- ✓ When a load is so bulky that employees cannot properly grasp or lift it,
- ✓ When employees cannot see around or over a load, or
- ✓ When employees cannot safely handle a load.

- **Some of the hazards associated with formwork include:**

- ✓ Fall hazards due to working at heights ladders and platforms.
- ✓ Slip and trips hazards due to poor housekeeping, unstable and uneven ground, poor lighting etc.
- ✓ Falling objects & ejected material such as dropped / dislodged tools and materials, collapsing formwork etc.
- ✓ Mobile plant strike
- ✓ Exposure to the sun/heat/cold.
- ✓ Manual handling hazards due to handling material and equipment.
- ✓ Electric shock and noise from plant and equipment used in the project.

2.5.1. . What safeguards must workers follow when stacking materials?

Stacking materials can be dangerous if workers do not follow safety guidelines. Falling materials and collapsing loads can crush or pin workers, causing injuries or death. To help prevent injuries when stacking materials, workers must do the following:



- ✓ Stack lumber no more than 16 feet high if it is handled manually, and no more than 20 feet if using a forklift;
- ✓ Remove all nails from used lumber before stacking;
- ✓ Stack and level lumber on solidly supported bracing;
- ✓ Ensure that stacks are stable and self-supporting;
- ✓ Do not store pipes and bars in racks that face main aisles to avoid creating a hazard to passersby when removing supplies;
- ✓ Stack bags and bundles in interlocking rows to keep them secure; and
- ✓ Stack bagged material by stepping back the layers and cross-keying the bags at least every ten layers (to remove bags from the stack, start from the top row first).
- ✓ Manual handling hazards due to handling material and equipment.
- ✓ Electric shock and noise from plant and equipment used in the project.

**Self-Check 6****Multiple Choice item**

Directions: Select the correct answer and encircle the letter of your choice

1. One is the hazards associated with formwork:
 - A. Falling objects & ejected material.
 - B. Manual handling hazards due to handling material.
 - C. Mobile plant strike
 - D. All are correct
2. To prevent injury from oversize loads, workers should seek help in:
 - A. When employees cannot safely handle a load.
 - B. When a load is so bulky that employees cannot properly lift it,
 - C. When employees cannot see around or over a load, or
 - D. All are correct
3. One is not area measurement:
 - A. Length * width
 - B. square meter (m²)
 - C. Width * Length * Depth
 - D. All



1.7. Applying environmental requirements for the project

- Worksite Management

Logistic Prior to the arrival of the material from the disembarking point to the project work site; a Stock Yard is to be properly allocated and set up for the unloading of the formwork material and accessories. This Stock Yard should preferably be located at close proximity or within the compound of the project work site, properly fenced up and security

Effective management of work activities and competent site supervision are essential in maintaining healthy and safe conditions. It should be made clear to supervisors exactly what it is they are expected to do and how they are expected to do it. The greater the risk, the greater the degree of control and supervision required.

Ensure the level of site supervision provided is adequate. Site managers and supervisors should be trained to help them discharge their health and safety responsibilities. On larger sites, site managers may require the support of assistant site managers. On smaller sites, if the supervisor or manager is sometimes not present, they (or a deputy) should be contactable by phone and a responsible person should be left in charge of the site.

- Site will be provided with a set of formwork drawings which entailed the followings:
 - ✓ Shell Plan Layout
 - ✓ Formwork layout drawings,
 - ✓ Wall panel Layout,
 - ✓ Slab Panel Layout,
 - ✓ Starter Block Layout,
 - ✓ Corner Layouts,
 - ✓ Beam Panel Layout,
 - ✓ Soffit Layout,
 - ✓ Staircase Layout, etc,



- **Before work starts:**

- ✓ consider if there are any hazards you can avoid altogether (eg the need to paint
- ✓ at height can be eliminated if materials are brought to site ready-finished); decide which risks need to be controlled;
- ✓ consider the best ways of controlling them; and then
- ✓ having decided what needs to be done, make sure it happens

- **Check that:**

- ✓ everyone is properly trained and competent;
- ✓ they have the equipment they need; and
- ✓ agreed work methods are put into practice

- **Statutory and regulatory authority obligations**

Both statutory requirements and regulatory requirements are those requirements

ISO 9001 requires an organization to identify and control the statutory and regulatory requirements applicable to its products and services. It is up to the organization to determine what is required within its QMS.

The organization should demonstrate that the statutory and regulatory requirements

applicable to its products and services have been properly identified, are available and easily retrievable.

Auditors need to be aware of the general and specific statutory and regulatory requirements applicable to the products and services included within the scope of the QMS. During the audit preparation phase, auditors should obtain relevant information from internal or external sources with respect to these statutory and regulatory requirements. This will allow them to make a judgment on the suitability of the QMS to address such requirements. These requirements need to be identified and integrated in the resource management and product realization, or service provision, activities of the organization.

**Self-Check 7****Multiple Choice item**

Directions: Select the correct answer and encircle the letter of your choice

2. One of the followings is entailed in formwork drawings.

- A. Shell Plan Layout
- B. Formwork layout drawings,
- C. Wall panel Layout,
- D. All are correct

2. Worksite Management includes:

A Logistic Prior to the arrival of the material from the disembarking point.

- B. Stock Yard is to be properly allocated
- C. Properly fenced up and security
- D. All are correct

3. The Stock Yard should preferably be located at:

- A. Close proximity or within the compound of the project work site
- B. properly fenced
- C. properly security
- D. All



References

- Instructor: Kamran M. Nemati
- CM 420 - Temporary Structures Lesson 1:
- Formwork Code of Practice 2016 (PN11965)
- Hand Book On Foundation, Formwork, Rebar & Concrete
- Stephen Williams HM Chief Inspector of Construction Chair of the Health and Safety Commission's Construction Industry Advisory Committee



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