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Kagawasan Ave., Daro, Dumaguete City, Negros Oriental



TLE-IA-CARPENTRY

Quarter 2 – Module 4

INSTALL METAL SCAFFOLDING COMPONENTS



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TLE–IA–CARPENTRY–Grades 9/10
Alternative Delivery Mode
Quarter 2 – Module 4: INSTALL METAL SCAFFOLDING COMPONENTS
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9/10

TLE-IA-CARPENTRY

Quarter 1 – Module 4

INSTALL METAL SCAFFOLDING COMPONENTS





What I Need to Know

The module further discusses the parts of scaffolding and the guidelines that need to be observed to ensure safety of the person operating it as well as the surrounding properties and lives.

After going through this module, you are expected to:

- Discuss the types of metal scaffolding
- Assemble scaffolds and proper braces safely and securely
- Observe wearing of appropriate personal protective equipment during installation



What I Know

PRE-ASSESSMENT *(Write your answer in your activity notebook.)*

A. True or False

Direction: Write the word True if the statement is correct and write False if it is incorrect.

1. The right way to check the platform is to climb over the top of the frame ladder and not to swing the side frame.
2. To make the platform become level, position the braces with the same height as of the frames.
3. Improper assembly or use of scaffolding is not dangerous because it may not result in serious injury or death.
4. Using ladder or makeshift devices on top of scaffolds to increase the height is prohibited.
5. Move the mobile scaffold by pushing it on the top of the frame.

B. Multiple Choice

Direction: Choose the letter of the correct answer.

1. It is a type of scaffold frame used as sideways canopy to straddle objects. This scaffold frame comes with two-locked – in stack pins.
 - a. 6.5' walk through scaffolding frame
 - b. Masonry walk through ladder frame
 - c. Standard masonry end frame -5' high
 - d. Double step masonry frame 4'6" high
2. It is a frame constructed with a climbing ladder on one side.
 - a. 6.5' walk through scaffolding frame
 - b. Masonry walk through ladder frame
 - c. Standard masonry end frame-5' high
 - d. Double step masonry frame 4'6" high
3. It is known as the diagonal brace of the scaffolds .
 - a. Platform
 - b. caster
 - c. frame
 - d. cross braces
4. It is a horizontal plank/board found on top of the frame.
 - a. Platform
 - b. caster
 - c. frame
 - d. cross braces
5. It is the skeletal structure of the scaffold.
 - a. Platform
 - b. frame
 - c. lock pin
 - d. cross braces

Lesson

1

INSTALL METAL SCAFFOLDING COMPONENTS



What's In

In the previous topic in carpentry, we have learned how to install wooden scaffolding, parts of scaffolding, and the safety rules and regulations in installing scaffoldings. But since we are in the world of technology innovations, metal scaffolding nowadays is commonly used. Now to make it possible, and competent in the field of carpentry, we should know how to install metal scaffolding components as one of the requirements for a Carpentry NC II course.



What's New

In the field of construction industry, wooden scaffolding is slowly fading due to lack of supply and demands. It is because of DENR agency is already controlling the cutting of trees. Technology of innovation arise in replacing wooden scaffolding to metal scaffolding which is essier to install and available in any construction supply or in the market.



What Is It

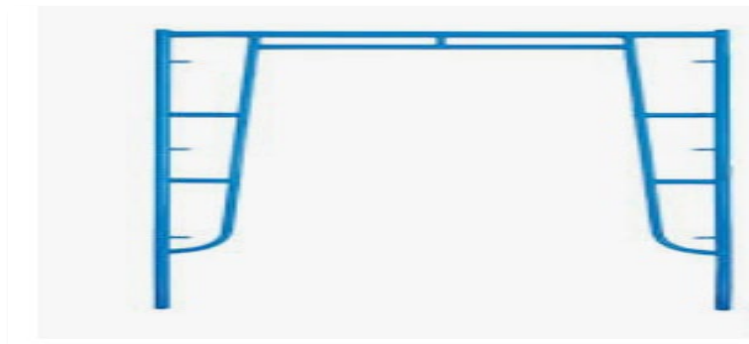
METAL SCAFFOLDS

Metal Scaffolds are temporary structures outside of a building, that are made of metal poles with planks used by workers while constructing, repair, or cleaning the building.

Types of Metal Scaffolds

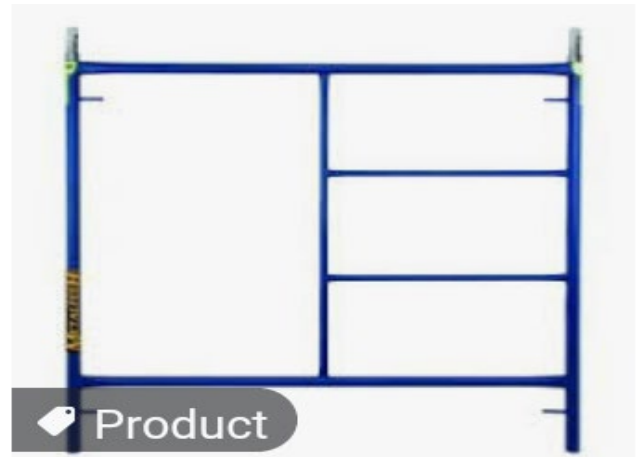
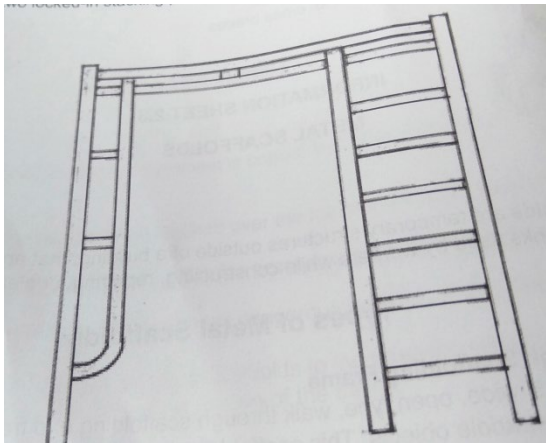
6.5'Walk through Scaffolding Frame

This 6.5' high, 5' wide, open type, walk through scaffolding end frame can be used as a sidewalk canopy or to straddle objects. This scaffold frame comes with two locked-in stack pins. This frame requires the CB70 cross brace, and has a durable power coat finish.



Masonry walk through ladder frame

Masonry walk through ladder frame is 6.5' high, 5' wide, and can be used as a sidewalk canopy or to straddle objects. This frame is constructed with climbing ladder on one side. This frame comes with two locked-in stacking pins.

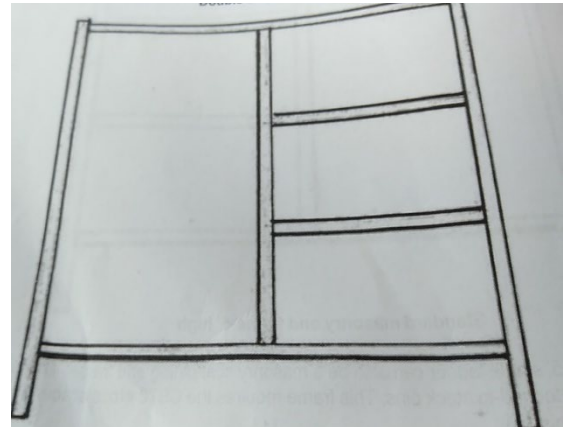
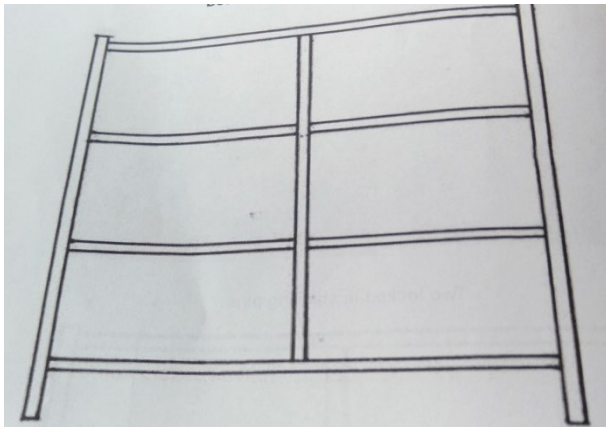


Masonry walk through ladder frame

Two locked-in stacking pins

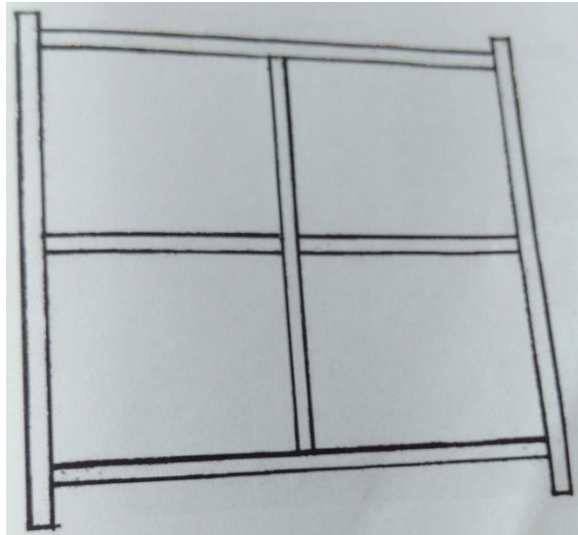
Standard Masonry End Frame - 5' high

A standard 5' by 5' single ladder can also be a masonry scaffolding end frame. This scaffold frame comes with two locked-in stack pins. This frame requires the CB70 cross brace, and has a durable powder coat finish.

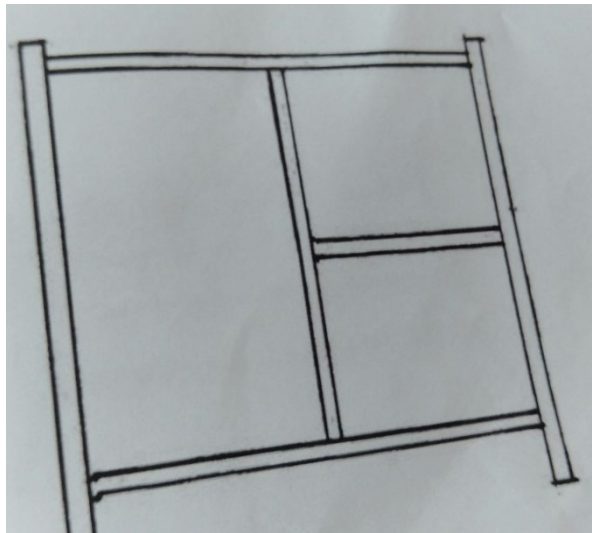


Double step masonry end frame 4'6" high

Double step masonry frame 4' high



Other types and sizes of standard



Standard masonry end frame - 4'6" high masonry end frame

PARTS OF A METAL SCAFFOLD



1. **Frame** is the skeletal structure of a scaffold.



2. **Cross Braces** are the diagonal braces of the scaffold fixed to avoid lateral movement of the structure.



3. Platform is the horizontal plank or board found on the top of the frame.



4. Castor is an accessory used in fitting the parts of a scaffold.



5. Lock pin is used to secure the fittings of the scaffold.



SAFETY RULES WHEN USING A MOBILE SCAFFOLD

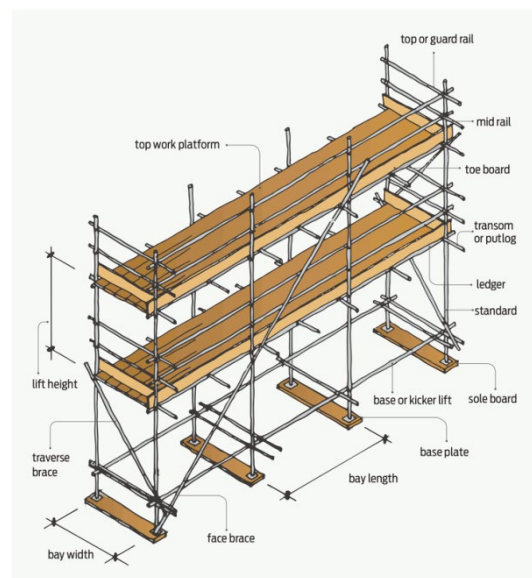
1. Do not overload scaffold. Do not exceed the scaffold load capacity.
2. Remove all materials and equipment from the scaffold before moving.
3. Lock castor and outrigger brakes when scaffold is not being moved.
4. Do not attempt to move mobile scaffold without sufficient help, and roll on even surfaces only.
5. Watch out for any untoward incident, be exceeded. All Occupational Health and Safety laws mustt be complied with when using a mobile scaffold.
6. Move the scaffold using the buttom frame. Never attempt to move the scaffold from the top.
7. If mobile scaffolds are used outdoors, extra care must be taken to assure that they become stable against winds or other dangerous conditions.



Procedure in Assembling and Disassembling Metal Scaffolds

Materials, Tools, and Equipment:

1. Metal scaffolding
2. Wrenches and pliers
3. Claw hammer
4. Nail box for lock pins
5. Plumb bob
6. Spirit level
7. Pull-push rule



Assembling of Metal Scaffolding

Procedure

Step 1 Attach side brace B to two frames A

- Pull- L- shaped lock pin at each end of the side braces to a disengaged position.
- While holding L-shaped pin in disengaged position, place u0channel on each end of side brace B around leg of frame A at the desired platform height.
- Release lock pin and be sure that pin fullt engages into the hole in frame A leg.

Step 2 Attach second brace B to two frames A. Repeat instructions in Step 1.

WARNING

- Both side braces mustt be positioned aat the same height on the frames so that the platform wil be at the proper level.
- Be sure all 4 L-shaped lock pins are fully engaged in holes of frames.
- Be sure all 4 L-shaped lock pins are the locked position.

Step 3 Install platform C on side braces B so that the platform is fully seated within inner channel on top of side braces.

Step 4 Rotate the platform clips into the engaged position.

Step 5 Install 4 castors D into legs of frame A and pin with lock pins E.

Step 6 Install 4 outriggers into the legs of buttom frame.

Step 7 While standing on the first platform, insert third frame A into the top of the first mobile scaffold frame. Then insert fourth frame A into the top of the first mobile scaffold frame.

Step 8 Attach secong side brace B to two frames A, ensuring the L-shaped lock pin is engaged and attached to the end of the side brace. Repeat on the other side.

Step 9 Install platform according to step 3 and 4.

Step 10 Install guardrail.

NOTE:

- Recheck all side brace lock pins for full engagement before accessing platform.
- Recheck platform to make sure it is properly attached within side brace channel, accessing platform, climb over the top of frame ladder.

CAUTION:

DO NOT SWING AROUND SIDE FRAMES!

Disassembling of Metal Scaffolding

1. First, unclip or unlock the top scaffolding bars. Remember, you are looking in steps that are the reverse of assembly.
2. Unclip or pull off diagonal braces.
3. Pull down the platform. You may need assistance with this step as the platform may be heavy.
4. Unlock the next set of vertical scaffolding. Continue to work down the scaffolding until you reach the bottom.
5. Pull foot pads off the bottom of scaffolding.

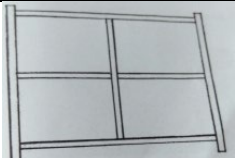
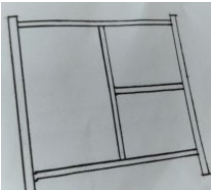
Tips and Warnings



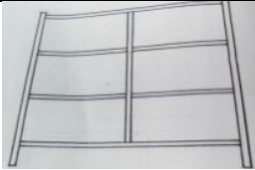
- Tie-out strings can be used to secure scaffolding but should not be used to brace diagonal bars.
- In most cases, you will need assistance from another person to help you with both assembly and disassembly.
- Contact your local building or zoning department to see if there are any special requirements after a certain height; for instance, in California anything over 7 feet high requires extra guardrails to be installed.
- If the scaffolding will be of a substantial height, wear a helmet and a harness for safety.



What's More

Matching type: Match the statement in column A that corresponds to the picture in column B. Write the correct answer on your activity notebook.

COLUMN A	COLUMN B
1. Double step masonry frame 4'6" high	A. 
2. Castor	B. 

3. Double step masonry end frame 4'6"	C. 
4. Double step masonry frame 4' high	D. 
5. Lock pin	E. 



What I Have Learned

Directions. Write T if the Statement is true then write F if the statement is false.

- _____ 1. Scaffolding is significant in working or in construction.
- _____ 2. Assembly of scaffolding, procedures is not important.
- _____ 3. The weight capacity of scaffolding during use is not a factor to be consider in construction.
- _____ 4. Scaffolding can help construction worker.
- _____ 5. During Painting a building, scaffolding can contribute to be lessen the burdens of the worker during higher grounds.



What I Can Do

In your activity notebook, answer briefly.

1. How important does scaffolding in construction?
2. What do you think will happen if we have scaffolding in construction?
3. Cite 5 some instances where you use the scaffolding at work.



Assessment

Directions: Arrange the Steps accordingly. (From 1 – 10)

1. Install guardrail.
2. Install platform according to step 3 and 4.
3. Attach second side brace B to two frames A, ensuring the L-shaped lock pin is engaged and attached to the end of the side brace. Repeat on the other side.
4. While standing on the first platform, insert third frame A into the top of the first mobile scaffold frame. Then insert fourth frame A into the top of the first mobile scaffold frame.
5. Install 4 outriggers into the legs of bottom frame.
6. Install 4 castors D into legs of frame A and pin with lock pins E.
7. Rotate the platform clips into the engaged position.
8. Install platform C on side braces B so that the platform is fully seated within inner channel on top of side braces.
9. Attach second brace B to two frames A. Repeat instructions in Step 1.

WARNING

- a. Both side braces must be positioned at the same height on the frames so that the platform will be at the proper level.
 - b. Be sure all 4 L-shaped lock pins are fully engaged in holes of frames.
 - c. Be sure all 4 L-shaped lock pins are in the locked position.
10. Attach side brace B to two frames A
 - a. Pull- L- shaped lock pin at each end of the side braces to a disengaged position.
 - b. While holding L-shaped pin in disengaged position, place channel on each end of side brace B around leg of frame A at the desired platform height.
 - c. Release lock pin and be sure that pin fully engages into the hole in frame A leg

Answer Key

What I Have Learned	1. T 2. F 3. F 4. T 5. T	Assessment	1. 10 2. 9 3. 8 4. 7 5. 6 6. 5 7. 4 8. 3 9. 2 10. 1
What I know	A. 1. F 2. T 3. F 4. F 5. F	What's More	1. A 2. C 3. E 4. B 5. D
	B. 1. A 2. B 3. D 4. A 5. B		

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