

SHERATM

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SHERA HANGING LOAD MANUAL

As we approach adopting modern construction techniques for wall and cladding solutions, it becomes very important for users to understand the handling and use of the system during and after installation to avoid any type of damage to the boards. To ensure full potential use and benefits of wall and cladding solutions, it's essential to acknowledge their limitations and educate the user with the appropriate methodology. Recognizing this need in the construction industry, SHERA has developed a comprehensive Hanging Load Manual offering step-by-step guidance on safely and sturdily applying additional hanging loads on wall and cladding systems.

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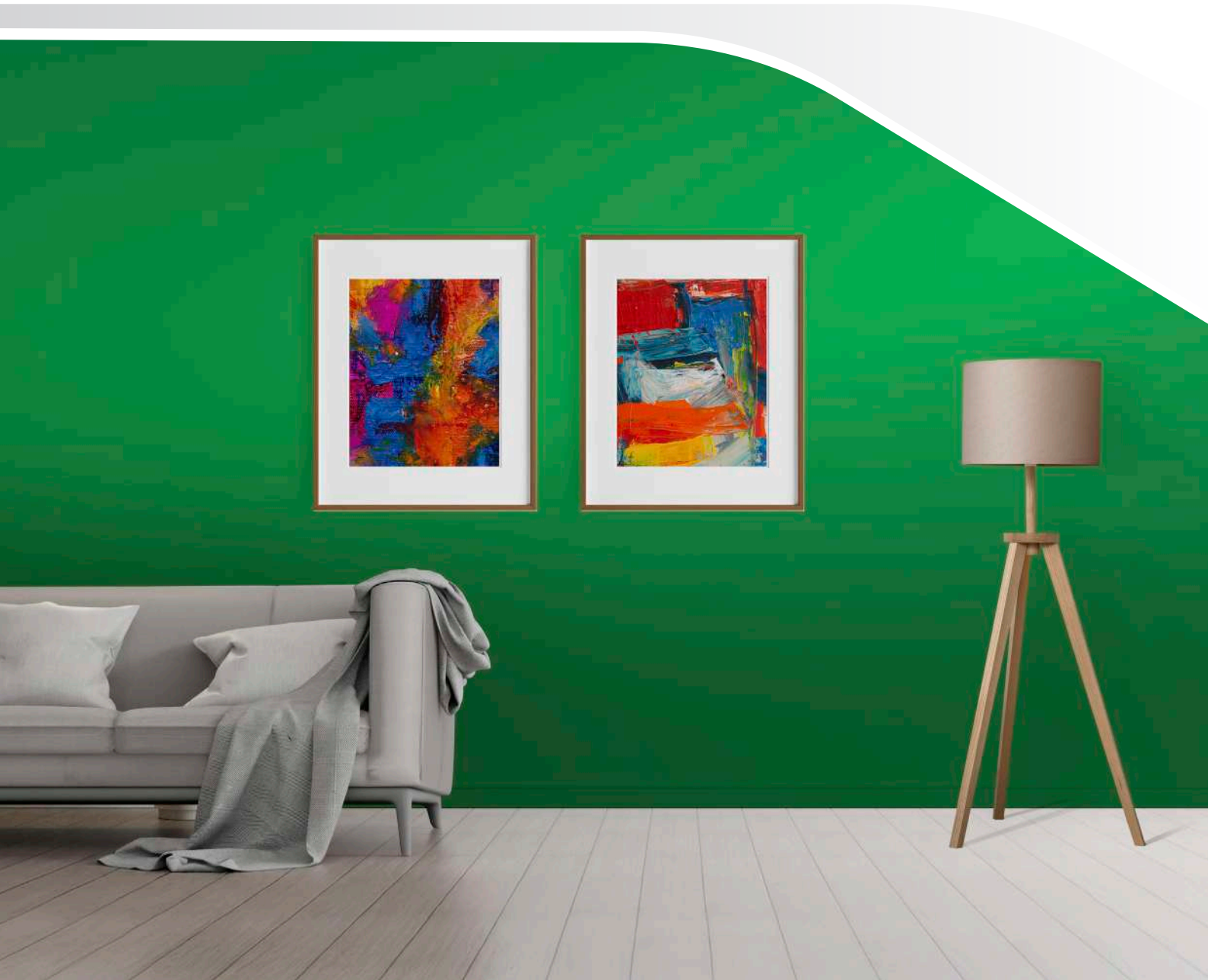
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Introduction

SHERA Boards are type A, strong and durable, highly versatile boards which can be used for multiple applications in dry as well as wet areas. SHERA believes in providing a complete solution to its users, which will guide them to adopt the appropriate methodology during and after installation. This manual will provide detailed guidelines to its users for the selection of appropriate methodology for fixing different kinds of wall hanging loads on SHERA Boards in wall and cladding applications. It will also provide guidance for the selection of proper fasteners/bolts recommended as per SHERA standards. Hanging loads like AC units, Televisions, Photo Frames, Cabinets, etc, on the wall system can be installed without damaging the application physically.



Load Hanging Procedure

Wall System

SHERA offers two innovative fast-track wall solutions, viz Infill Wall (Solid Wall), Dry wall (Hollow Wall). Depending on the type of wall, one must select the appropriate methodology for hanging additional load on the wall surface. If possible, pre-plan additional hanging loads is always advisable to avoid additional rework.

1. Infill Wall System (Solid Walls):

SHERA Infill wall system is an innovative solid fast-track futuristic wall solution that replaces all kinds of traditional solid walls (like Brick/block walls). Hanging loads can be fixed on SHERA Infill walls like conventional walls however depending upon load of wall hanging unit one must select appropriate type of screw, size of screws, numbers of screws to ensure sturdy fixing of hanging loads.



Specification of Anchor Screws

- Anchor Plug Length: **Minimum 35mm**
- Anchor Plug Material: **Metal**
- Screws Length: **Minimum 50mm**
- Screw Material: **Antirust Metal Screws**
- Dia of Screw: **8mm**

Below are the reference image of metal expansion anchor screw.

Before Installation



After Installation



Fixing Methodology

Please follow simple method for fixing anchor screw in Infill Wall System

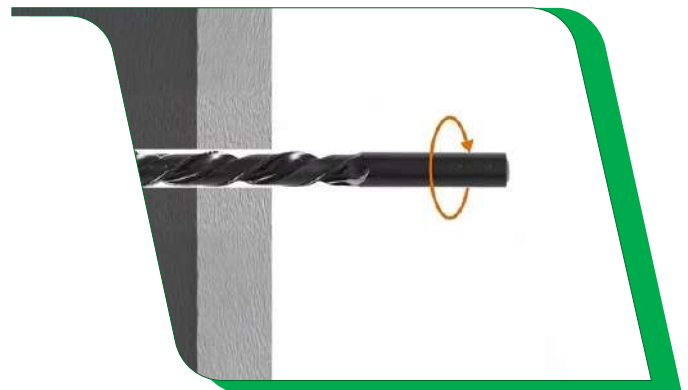


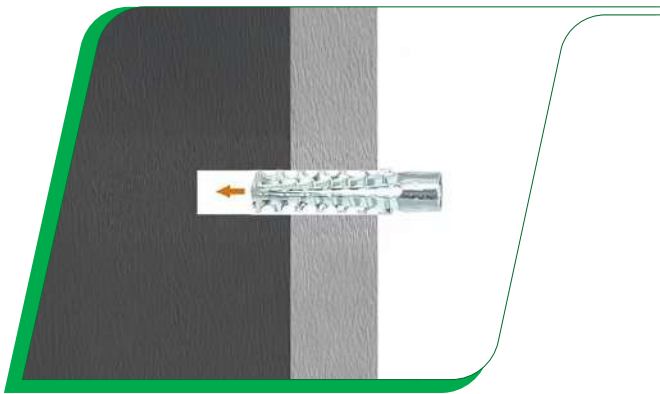
Step 1

We must select the right size drill bit as per the size of the anchor fastener. Please ensure the drill bit is sharp and in good condition to avoid damaging the surrounding material.

Step 2

Please mark the correct location where screw is to be fixed using chalk/ pencil. Drill the precise hole using a functional drill bit that matches the anchor's specifications. The length of the hole drilled should be equal to the length of the anchor.



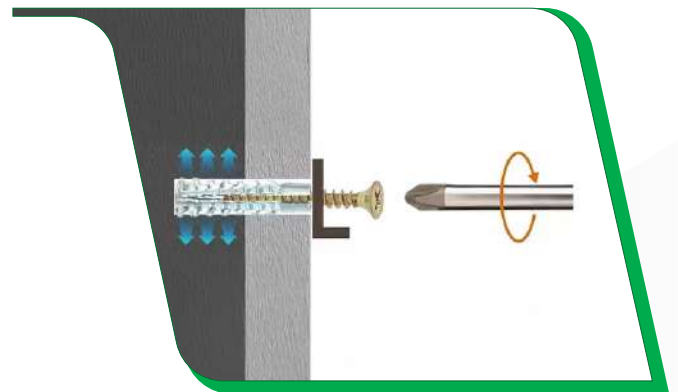


Step 3

Insert the anchor in the hole.

Step 4

Hold the object which is to be hanged on the wall, matching the screw hole. Insert the screw in anchor with the supporting object which is to be hanged on the wall and then tighten the screw. Ensure the screws are perfectly tighten.



Estimated Hanging Load Details

- **Estimated Hanging Load Bearing per Screw Point:** 30 kg
- **Maximum Weight per square meter:** 100 kg per 4 Screw Points
- **Location of Screws:** Random on the wall as per the requirement of user



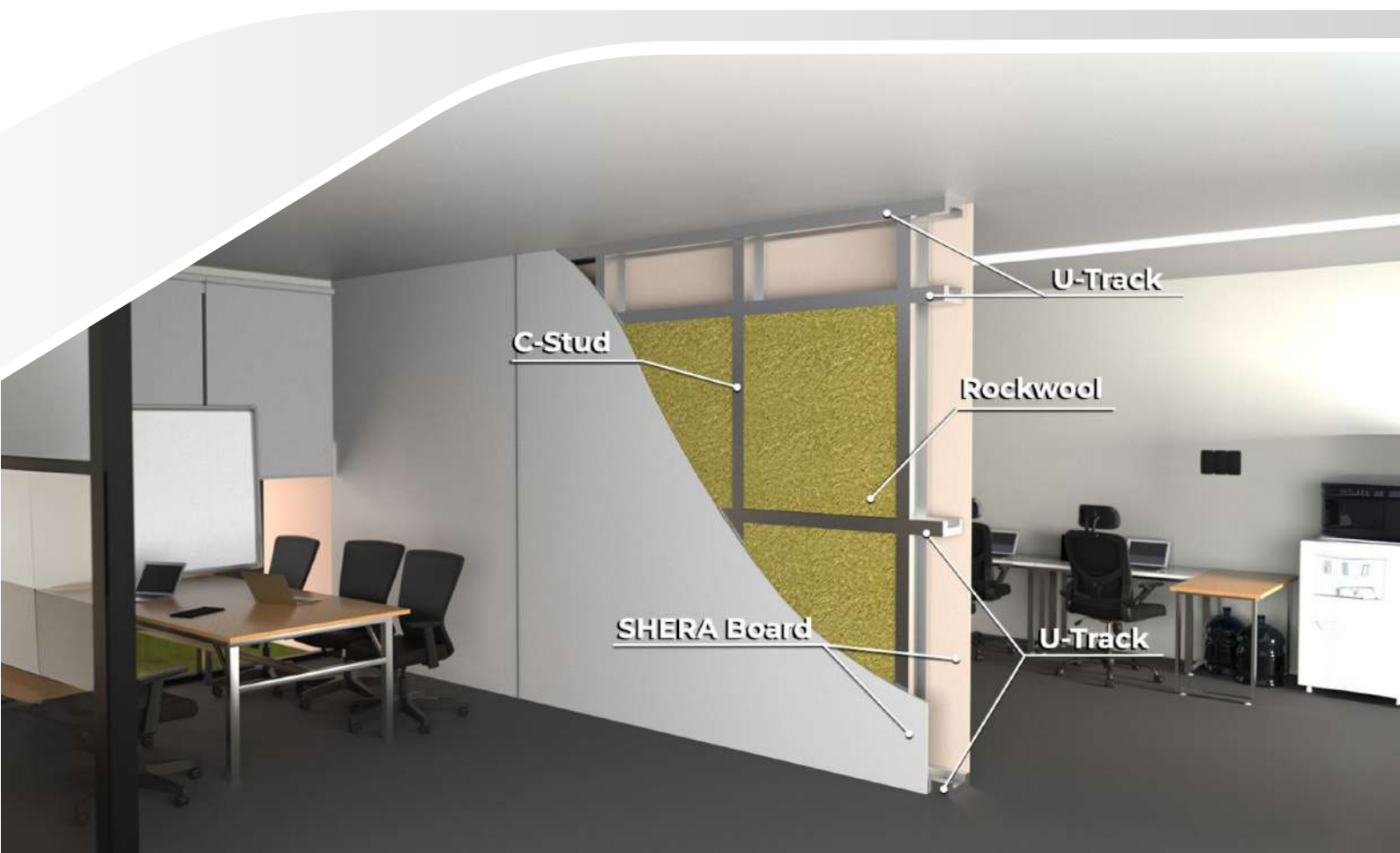
2. Drywall System (Hollow Wall System)

SHERA's drywall system, being a hollow wall system, requires careful consideration when hanging additional loads on the wall. To ensure a secure installation of hanging loads, it's essential for one to follow the guidelines as per SHERA standards. Depending on the type of hanging load and considering its weight, one should select the appropriate type and quantity of fasteners and its positioning.

Estimated Hanging Load

One should select the type of fastener and location of the fastener depending upon the loading requirements which is to be hung on the wall. Please check and finalise the appropriate loading criteria before fixing.

Generally, there are two types of anchor fixing locations for hanging loads that is, fasteners passing through SHERA Boards along with supporting frames, and fasteners passing only through SHERA Boards but not frames.



Type 1 - Fasteners Passing Through SHERA Boards Along With Supporting Frames

Below is the estimated load when the anchor is fixed in such a way that it passes through the board and also through the supporting metal frames. Depending on the loading criteria, one should select the appropriate thickness of frames (before installation of drywall). Once the drywall installation is complete, select type and positioning of the fasteners as per hanging loads. Loading criteria is as per below mentioned chart. Please contact SHERA Solution for heavy and critical loading other than mentioned in below chat.

Estimated Safe Hanging Load Bearing per fastener: 6 Kg

Location of Fastener		Safe Hanging Weight per Stud with 2 fasteners		
Minimum Distance between Fasteners on the same Stud		150 mm	250 mm	350 mm
Stud Thickness	0.55 mm	12 kg	15 kg	16.5 kg
	0.80 mm	17 kg	20 kg	22.5 kg

Type 2 - Fasteners Passing Only Through SHERA Boards But Not Frames.

Below is the estimated load when the bolt is fixed directly on the SHERA board without taking any support from the frame.

Estimated Safe Hanging Load Bearing per Fastener: 4 Kg

Location of Fastener	Safe Hanging Weight
Single Fastener	4 kg
Two Fasteners with a Spacing of 300mm	7 Kg

Please note this option is only suitable for a maximum 10 kg load for long term usage point of view.

To secure the weight of the object in its position without frame support, it is always advisable to fix 2nos or more anchors. Please ensure anchors are fixed with a minimum distance of 75 mm to take necessary load.

Specification of Fasteners

While selecting the fastener for any kind of wall hanging it becomes very essential to understand the specification of fasteners to ensure fixity and sturdiness of the fastener in the wall. The selection of fasteners is highly influenced by the type and specification of the fastener. All the types of fasteners shown below are easily available in local market.

Option 01 : Toggle Drywall Anchor / Butterfly Metal Anchor

These have anchors that pop out once behind the wall.



Option 02 : Toggle Drywall anchor / Butterfly Nylon Anchor

These have anchors that pop out once behind the wall.



Option 03 : Molly Bolt

A molly bolt has threaded sleeves that expand as the screw tightens.



Please note: Toggle dry wall anchors or butterfly anchors made up of metal (zinc coated steel) and molly bolts are recommended when heavy loads are supposed to be hung against the walls.

Fixing Methodology

Once the type of fastener is finalised, depending on the wall hanging weight and location, the contractor must follow the appropriate method of fixing

Step 1

The first process is to identify the position of the frame to ensure that the fastener passes through the frame if one has selected the option as

Type 01 - Fasteners Passing Through SHERA Boards Along With Supporting Frames. For identifying, please take the help of a stud finder tool as shown in image or any other magnetic tool. Both stud finder tools help to locate the frame position, whereas electronic stud finders can locate metal studs precisely.

If one has selected Type 02 - Fasteners Passing Only Through SHERA Boards But Not Frames then anchors can be fixed directly on the boards at any random location as per the users requirements.

Magnetic Stud Finder



Electronic Stud Finder





Step 2

Select the right size drill bit as per the size of the toggle bolt anchor to drill a hole in the boards/ frames. Please ensure the drill bit is sharp, perfectly straight, and in good condition to avoid damaging the surrounding material.

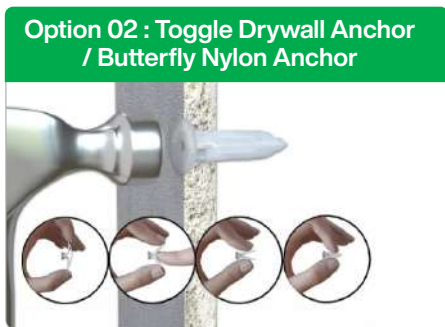


Step 3

Please mark the correct location where screw is to be fixed using chalk/ pencil. Pre-Drill the precise hole in the wall system jointly with object which is to be hunged using a drill bit, that matches the screw's specifications.

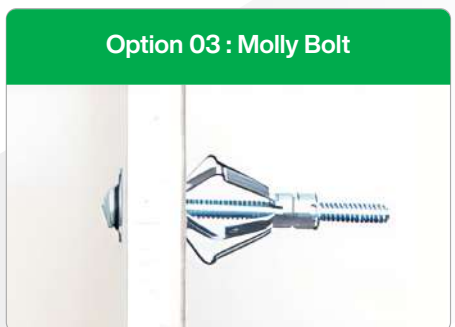
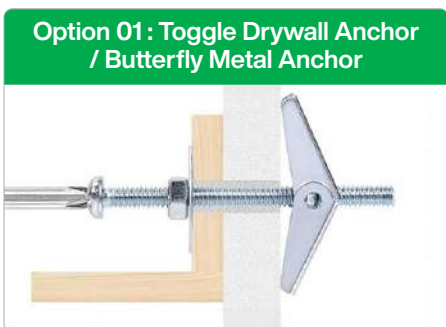
Step 4

Insert the selected anchor in the hole along with the object that is to be hung on the wall. Please ensure that the anchors inserted are in a perpendicular position with the board.



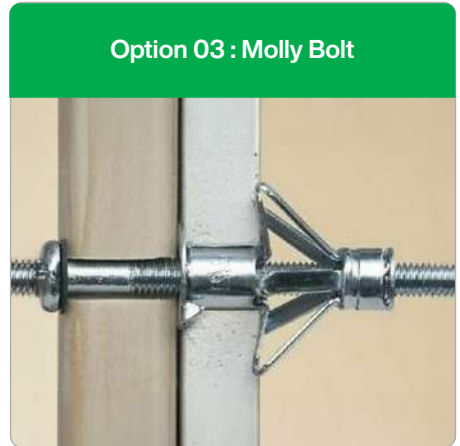
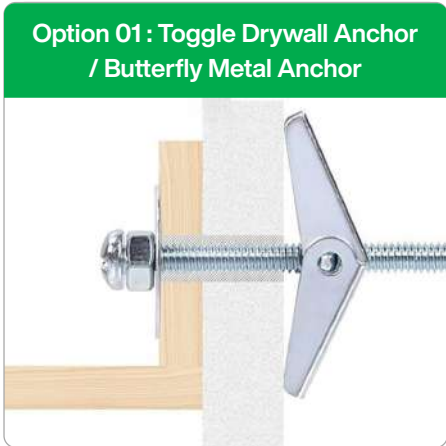
Step 5

Check the alignment of the object that is to be fixed. Once alignment is correct start fastening the screw.



Step 6


Ensure the screws are perfectly tighten so that wings are opened completely and hold the object at position firmly.



Paneling or Cladding System

SHERA Boards are designed in such a way that they can be used widely in a wide range of applications like wall panelling, etc. However, when used in wall panelling, there will be always a requirement for hanging loads on the panelling. To ensure a secured installation of hanging loads, it's essential for one to follow the guidelines as per SHERA standards. Depending on the type of hanging load and considering its weight, one should select the appropriate type and quantity of fasteners and its positioning.

Estimated Hanging Load, Specification of Fasteners & Fixing Methodology

 Please Refer Dry Wall Section for Loading Criteria

List of Tools & Accessories

To ensure appropriate desired output, it is very important to select the correct tool. With the help of correct tools and equipment's one can achieve maximum efficiency.

The tools required for fixing screws and anchors are as listed below

Drill Machine



Drill Bits



Level Tube



Screwdriver



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