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OVERVIEW

- **This document provides installation instructions for reinforced carbon wall panels with G&G joint system.**
- Do not begin wall panels installation until the room is fully enclosed.
- Avoid excessive heat, area with extended direct sunlight, such as sunrooms.
- To avoid cracking, allow for expansion, and prevent damage to the wall panels, ensure that wall accessories are not applied too tightly against them or nailing through the wall panels.
- Please read all instructions carefully, before you begin installation. For all installation conditions and information not covered specifically under these instructions, or defective material, please contact manufacturer.

CALCULATE WALL PANEL

- Make accurate measurements to ensure a smooth installation
- Measure wall length (L) and panel width (W).
- To calculate the quantity of wall panels needed, you can round up the result of the rating L/W to the nearest integer.
- Let n be the integer part of L/W and calculate $\Delta = L - n \times W$
- Width of the first wall panel = $(W + \Delta)/2$

For example: The length of wall (L) is 7500 mm, and the width of wall panel (W) is 1220 mm

+ Rating: $L/W = 7500/1220 = 6.15$

+ Quantity of the wall panels needed is 7 pcs

+ Integer $n = 6$

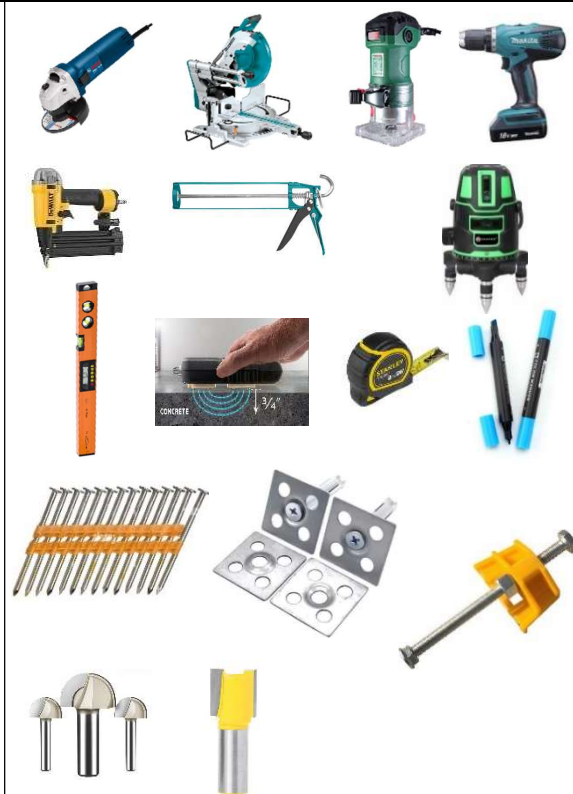
+ $\Delta = 7500 - 6 \times 1220 = 180$ mm

+ Width of the first wall panels = $(1220 + 180)/2 = 700$ mm

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TOOLS PREPARATION

- Handheld cutter, miter saw, router machine
- Screw-driving machine, pneumatic nail gun, caulking gun
- Laser level, box-beam level, moisture meter
- Tape measure, marker pen
- Screws, nails, mounting plate
- Leveling clip
- Radius round nose bit 5/8 inches (16 mm), end mill



IMPORTANT

- Installing wall panels should be done with two people to ensure the work is carried out efficiently and safely. This helps transporting, aligning, and securing the panels more accurately, while also reducing the risk of damage to the product during installation.
- Do not install wall panels outdoors.
- Wall panels should be transported horizontally and stored on flat solid surfaces.
- Fixed furniture (example: wall shelves, wall storage racks, wall-attached wardrobe ...) should be installed first, followed by the installation of wall panel.
- Any tests of the HVAC systems of the building must be performed before the installation of the panels.
- It is recommended to start the panelling from the outside corner and the outermost edge, as shown in the diagram A. You can carry the installation to either if the wall is between two inside corners.
- The surface protective nylon layer (if any) should only be removed after the installation is fully completed.

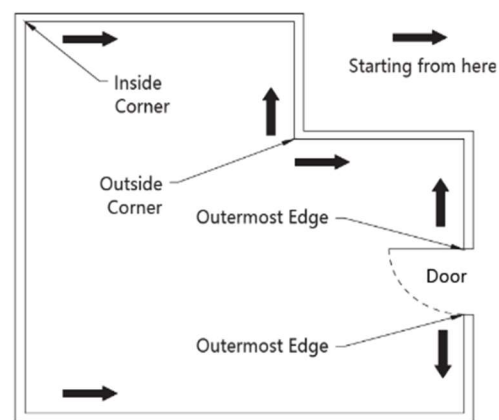


Diagram A

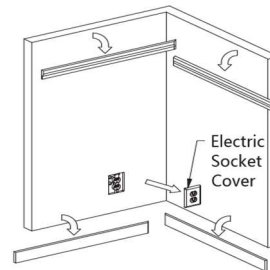
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THE WALL

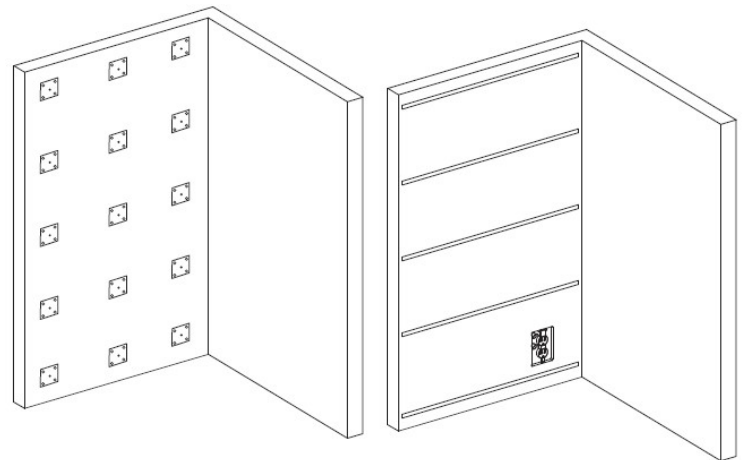
- This document provides installation instructions for reinforced carbon wall panels with G&G joint system:
 - Concrete walls: Must be dry and hard according to construction requirements, the moisture content less than 5%.
 - Gypsum walls: Must be dry according to the manufacturer's standards, the moisture content less than 10%.
 - Brick walls: unplastered, plastered, ceramic tiles, the moisture content less than 20%.
 - Wooden walls: Solid wood thicker than 5/8 inches (16 mm), free of termites, moisture content must be less than 12%.
- The walls must be stable and secure, and any damaged areas should be repaired if present.
- For walls that are relatively flat, only grinding and patching of local protrusions and depressions are needed to ensure a flatness of 5/64 inches (2 mm) over 40 inches (1m). After that, mounting plate secured onto the wall.
- For walls that do not meet flatness standards, such as unplastered brick walls or walls with large uneven areas, flatness can be achieved by creating metal support bars (U, H, C shape) with a flatness of 5/64 inches (2 mm) over 40 inches (1m), see “**PREPARE WALL**”

PREPARE WALL

- Remove all the wall mouldings, skirting boards and electric socket covers, etc



- Depending on the wall's flatness and properties, customers can choose a wall preparation method, such as using a mounting plate or metal support bars to adhere the wall panels.
 - The spacing between the mounting plates should be from 16 - 24 inches (400 - 600 mm), and the nails should be approximately 1-3/16 inches (30 mm) from the edge of the wall panel.
 - Secure the metal support bar (made from galvanized steel or aluminium) to the wall with screws or nail, ensuring the spacing between the metal support bar is from 16 - 24 inches (400 - 600 mm).



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- Check for any depressions or peaks in the wall; if they exist, grind down or fill them with patching compound.
- Make sure the wall is dry, even, stable and free of any grease, chemical residue, other contaminants.

- Moisture checking according to each type of the wall by electrical instrument.

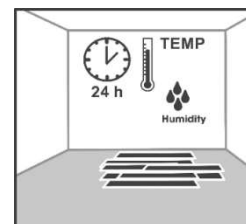
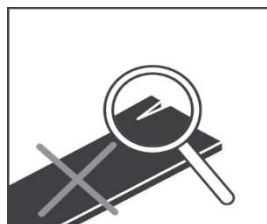


- Dry the room (if necessary)
If the moisture content of the wall does not meet the requirements, then you need to dry out the room with a dehumidifier or other suitable methods.



CONDITIONING BEFORE INSTALLING

- Check the wall panels and remove any damage panels.
- Open the box and conditioning the wall panels for 24 hours before installation in a room with temperature and humidity levels suitable for the adhesive, refer to the adhesive manufacturer's information for more details. Generally, the temperature should be between 10-37°C (50°F to 99°F), and the humidity should range from 40-70%.



ADHESIVE SELECTION

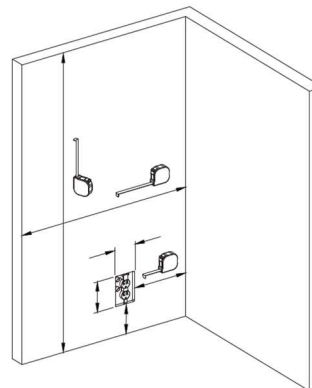
The adhesive should meet the following general requirements:

- Adhesion: Provides strong adhesion on surfaces like metal, tile, wood, and plastic.
- Flexibility: Withstands expansion and shrinking of materials, reducing the risk of cracking when temperature and humidity change.
- Safe for users and environmentally friendly.

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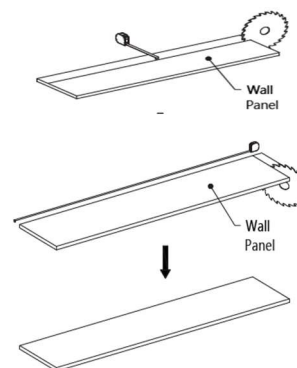
Step 1: Measure

- Measure the height and width of each wall to determine the size of the wall panel and how many wall panels you will need.
- Measure the electric socket's distance from the floor and adjacent wall to determine the installed cut out placement in the interior wall panel.



Step 2: Install the first panel

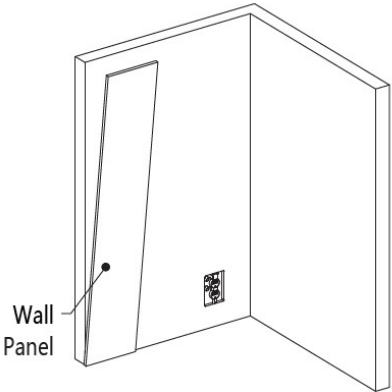
- Shorten the wall panel by 3/4 inches (20 mm) to the actual height, ensuring a 3/8 inches (10 mm) gap at the top and bottom of the wall panel to create an expansion gap.
- Trim the wall panel to the width calculated in the “**CALCULATE WALL PANEL**”.



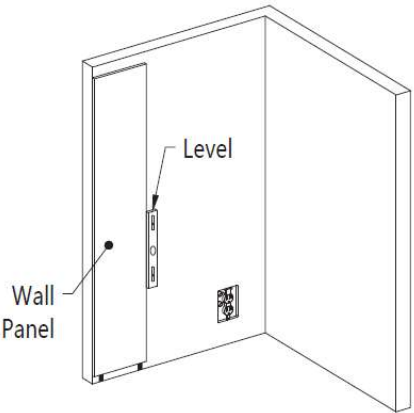
- In the method using staples, leveling brackets, or steel support battens: Use a glue gun to apply adhesive onto the stainless-steel staples, leveling brackets, or steel box-section battens, keeping a 3mm gap from the panel edge to prevent the adhesive from oozing out.
- In the method without using staples or support battens on the wall: Use a glue gun to apply adhesive on the back side of the wall panel in round dots, spaced approximately 20–25mm apart and from the panel edges, to prevent adhesive from oozing out during installation.

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- Position the first wall panel in place.
- Use levelling screws to maintain a 3/8 inches (10 mm) gap between the wall panel and the floor.

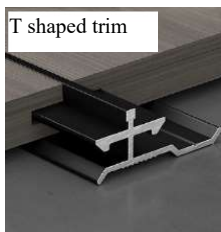
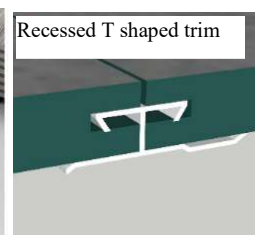
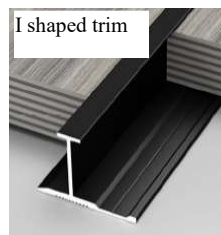
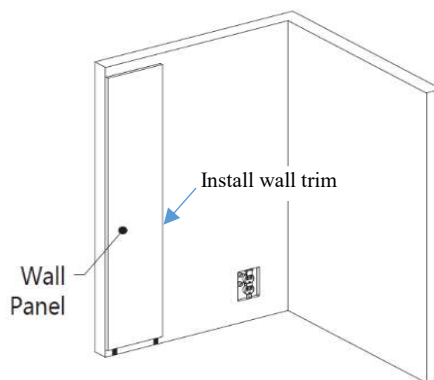


- Press the wall panel firmly against the wall, and ensure it is plumb with a box-beam level or laser level.



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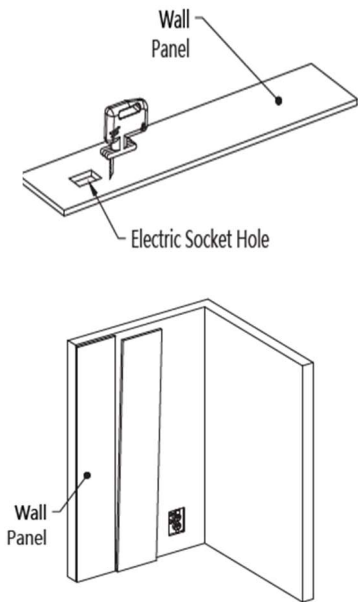
- Use a connecting trim (such as I-shaped, Recessed T, T-shaped , LED groove trims, etc.) along the edge of the first wall panel:
 - If installing the wall panels in a dry environment such as a living room or bedroom, the connecting trim can be directly attached to the edge of the first panel without the need for waterproof sealant.
 - If installing the wall panels in a wet environment such as a bathroom, a transparent silicone sealant with the properties described in the "ADHESIVE SELECTION" section must be used:
 - + Apply a bead of silicone (approximately 3 mm thick) into the first groove of the connecting trim to ensure a watertight seal between the trim and the wall panel.
 - + Attach the trim to the edge of the panel and gently press it by hand to spread the sealant evenly and ensure it adheres firmly to the wall panel.



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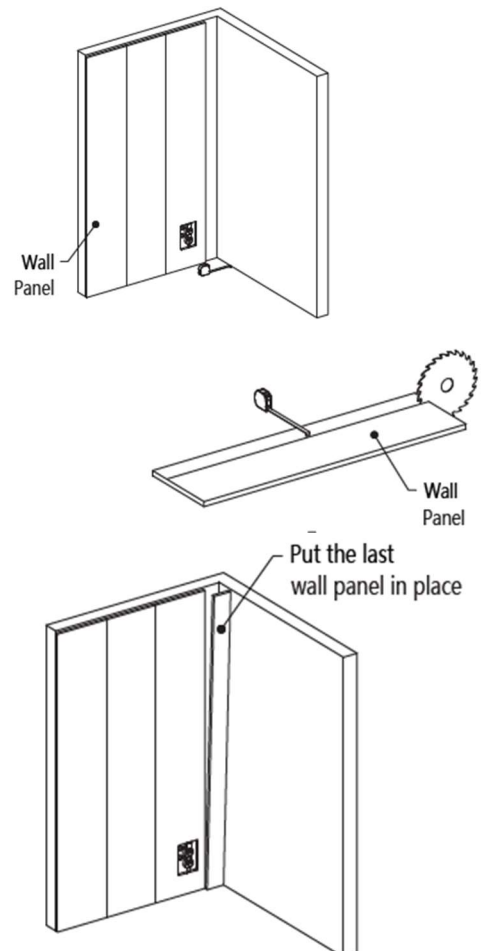
Step 3: Install the 2nd wall panel

- If an electric socket is on the wall, cut the hole in the panel in the actual dimension.
- Shorten the second panel the same as the first panel.
- Continue to spread adhesive the same as when installing the first wall panel.
- Apply a bead of sealant (approximately 3 mm thick) into the remaining groove of the connecting trim.
- Position the second wall panel so that it fits snugly into the trim.
- Use levelling screws to maintain a 3/8 inches (10 mm) gap between the wall panel and the floor.



Step 4: Finish installation for the first wall

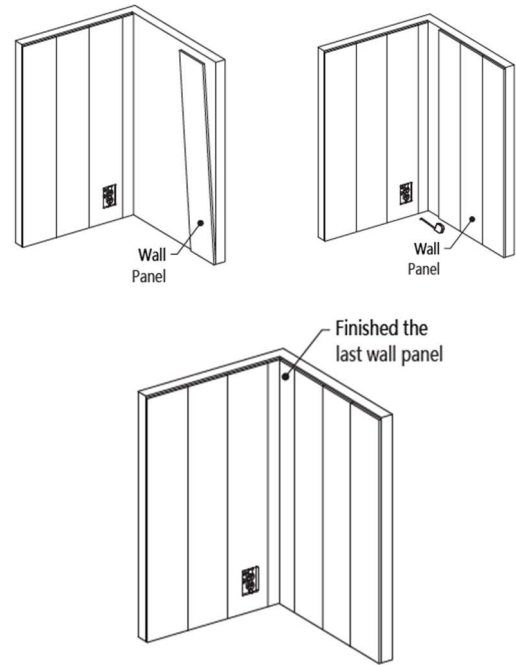
- Continue to install the next wall panels the same as the second wall panel.
- For the last wall panel, measure the distance between the adjacent panel trim and the next wall, then trim the width of the measured panel by approximately 3/8 inches (10 mm) to create an expansion gap. Continue the installation in the same way as the second panel.
- This expansion joint will have a corner trim installed after the installation of both wall panels is completed



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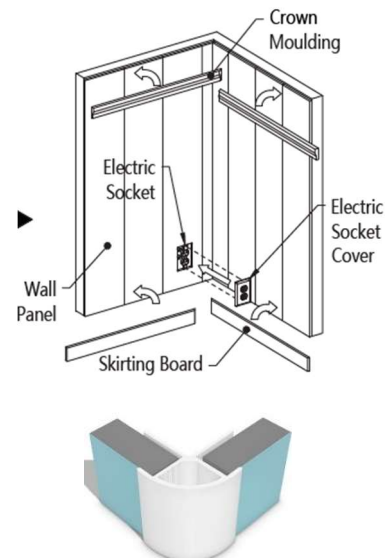
Step 5: Install the panels for the next wall

- Repeat the installation process for the next wall in the same way as the first wall.

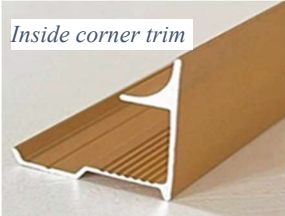
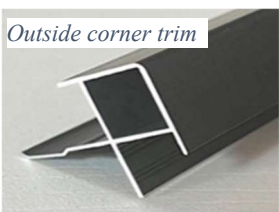
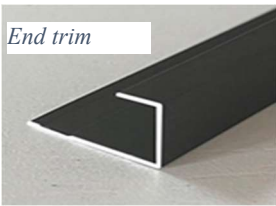
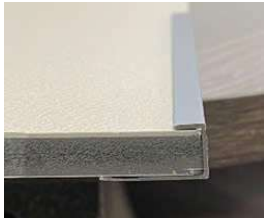
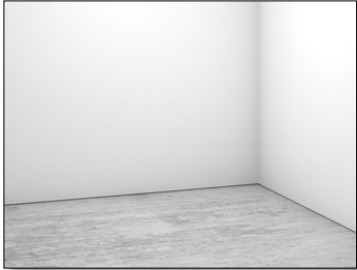


Step 6: Finish the wall moldings and electric socket covers

- Install the moldings and put the socket covers into place after the wall panel installation.
- Install inside/outside corner trims and end trims using adhesive:
 - Use transparent silicone sealant that meets the requirements specified in the “ADHESIVE SELECTION” section.
 - Apply a bead of sealant approximately 3mm thick into the trim groove before positioning it for installation.



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Note: Installation of wall panels at transition points - For the right-angle corner: - Use a semi-circular drill bit to cut a groove at the marked position. - Gently bend the wall panel to form a right angle.  Inside corner trim  Outside corner trim  End trim   			
- For curved wall areas (only applicable with reinforced hybrid wall panels), the following installation method can be used without additional accessories: - Place the wall panel on a flat surface with the back side facing up (use a soft cloth to protect the film surface from scratches). - Measure the actual distance from the trim of the adjacent panel to the start of the curved wall section, then mark this distance on the panel: + Use a groove-cutting tool to cut along the marked lines. + Space the grooves 6–8 mm apart. + Gently bend the panel to match the curvature of the wall.		 	

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MAINTENANCE

Initial Maintenance

- Use a neutral pH cleaner for cleaning the surface of the wall panels after installation.

Daily & Weekly Maintenance

- Wipe off the dust gently with a soft cloth.
- Stains need to be cleaned immediately, use a clean cloth or paper towel gently absorb the stains. Try not to spread them around.

Preventative Maintenance

- Protect wall panels from direct sunlight by using curtains and applying window films) to prevent fading.
- Using protective measures such as furniture pads or bumpers to prevent damage to the wall panels from furniture or other objects.
- Regular cleaning of the panels is recommended to keep them looking good and lasting for years.

