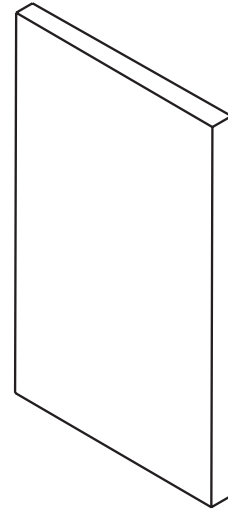


Ceiling Panel



Wall Panel

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Note: Please read and understand the instructions before starting the assembly or installation.

Note: If you need additional information, contact Wenger Corporation using the information below.

Important User Information

General

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Printed and bound in the United States of America.

The information in this manual is subject to change without notice and does not represent a commitment on the part of Wenger Corporation. Wenger Corporation does not assume any responsibility for any errors that may appear in this manual.

In no event will Wenger Corporation be liable for technical or editorial omissions made herein, nor for direct, indirect, special, incidental, or consequential damages resulting from the use or defect of this manual.

The information in this document is not intended to cover all possible conditions and situations that might occur. The end user must exercise caution and common sense when assembling or installing Wenger Corporation products. If any questions or problems arise, call Wenger Corporation at 1-800-887-7145.

Manufacturer

The Acoustical Panels are manufactured by:

Wenger Corporation
555 Park Drive, Owatonna, MN 55060
800-4WENGER (493-6437) • 1-507-455-4100 www.wengercorp.com

Warranty

This product is guaranteed free of defects in materials and workmanship for five full years from date of shipment. A full warranty statement is available upon request.

Ceiling and Wall Panel Placement and Design

Wenger Acoustical Wall and Ceiling Panels shape the acoustic properties of a room. Correct placement of Absorption and Diffusion Panels in a room reduce unwanted reflections, fill dead-spots and adjust reverberation levels to the optimum for the sound source.

The acoustic design of a room must be tailored to the room's shape, size, construction and planned use. Simply adding Ceiling and Wall Panels may not achieve the desired acoustic performance. Arranging Ceiling and Wall Panels based on their visual appearance similarly may not achieve the best sound quality within the room. The best acoustic characteristics can be obtained by consulting Wenger Corporation or an experienced acoustician and then developing an acoustic design for the room.

Intended Use

- Wenger Acoustical Wall and Ceiling Panels are intended for indoor use in normal ambient temperature and humidity conditions and must not be exposed to open flames or hot lighting fixtures.
- Wenger Acoustical Wall Panels are intended to be permanently attached to permanent wall structures only as described in these instructions.
- Wenger Acoustical Ceiling Panels are intended to be permanently attached to permanent ceiling structures as described in these instructions.

Safety Precautions

Throughout this manual you may find **CAUTIONS** and **WARNINGS** which are defined as follows:

- **WARNING** means that failure to follow the instruction may result in serious injury or death.
- **CAUTION** means that failure to follow the instruction may result in serious injury or damage to property.

Read all of these safety instructions before installing the Acoustical Panels.

CAUTION
Make sure anyone installing the Acoustical Panels has read and understands these instructions.

CAUTION
Failure to comply with Warnings and Cautions in this document can result in damage to property or serious injury.

CAUTION
Always wear safety glasses, protective head gear, safety shoes and use heavy work gloves when installing the Acoustical Panels.

WARNING
The Panels are constructed from molded thermoplastic materials and can be covered with polyester fabric or paint. Do not allow open flames or very hot lighting to come into close proximity to any Acoustical Panels. Lighting that is close to an Acoustical Panel must not exceed 176°F (80°C).

Required Tools

Some of the following tools are required for installation of Wall and Ceiling Panels. Refer to the installation instructions for specific information.



Cordless Drill



Carpenter's Box Level



Chalk Line



#30 Drill Bit



Number 2B Pencil



#2 Phillips Bit



#2 Phillips Screwdriver



8' Tape Rule



Blind Rivet Tool



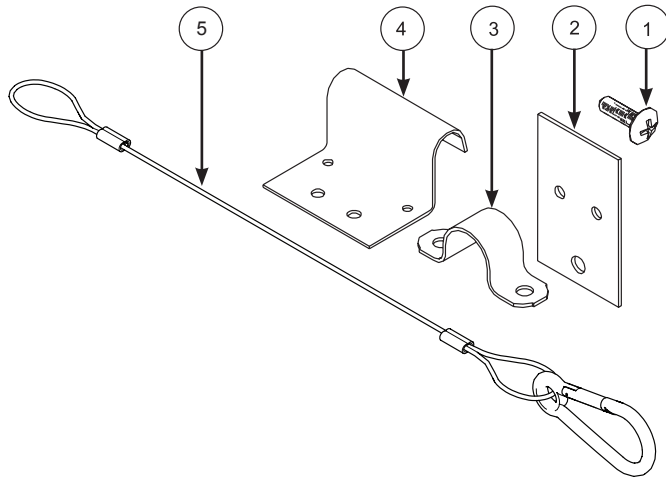
Plumb Bob

Parts Lists

Ceiling Panel Hardware Package Part List

Each Ceiling Panel is furnished with a hardware package that contains the following parts.

Quantities may vary, parts not required for installation can be discarded.



Item Description

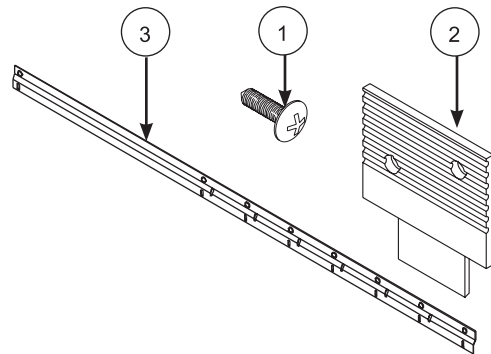
- 1 Pan Head Screw, 6-20x1/2"
(not included with Lay-In Panels)
- 2 Ceiling Mount Clip On Bracket
(not included with Lay-In Panels)
- 3 Ceiling Mount Wire Hanger Bracket
(not included with Lay-In Panels)
- 4 Ceiling Mount Designer Grid Bracket
(not included with Clip Model Panels)
- 5 Safety Cable Assembly
(not included with Clip Model Panels)

Note: Items 4-5 not included with Clip Model Panels.
Absorber Panels include all hardware

Wall Panel Hardware Package Part List

Each Wall Panel is furnished with a hardware package that contains the following parts.

Quantities may vary, parts not required for installation can be discarded.



Item Description

- 1 Pan Head Screw, 6-20x1/2"
- 2 Diffuser Wall Hanger Bracket
- 3 Wall Bracket

Before Starting the Installation

1. Make sure that all personnel (including temporary labor) installing Acoustical Panels read and understand the warnings, cautions, and installation instructions.
2. Consult local building codes and fire codes before starting the installation.
3. Use the installation drawing supplied by Wenger Corporation or the architect showing the location and orientation of each Panel.
4. Remove all items from the shipping containers and make sure that all parts including the fasteners and accessories in the Hardware Packages are present. Refer to the Hardware Package Part List.
6. If problems are encountered during the installation, call Wenger Customer Service at (800) 733-0393.

Handling Panels

Unfinished, painted, and fabric covered panel surfaces are easily soiled.

Rough handling can easily damage panels and degrade the acoustic properties.

When handling and installing Acoustical Panels, do the following.

- Always keep the entire installation site and installation tools as clean as possible.
- Gloves are provided with the Panels. Always wear these gloves whenever handling the panels.
- Handle panels with care to prevent physical damage.
- Two people must always work together when handling large panels.
- Hold Absorber panels by the edge when handling or installing.
- Never compress the Absorber Panel absorption material on the panel face (it will crush and not return to the original shape and degrade the acoustic properties).



CAUTION

*Never modify or drill additional holes in panels.
Possible damage to the panel structural integrity
can result.*

Cleaning Panels

Cleaning Unfinished Panels

Clean unpainted, white plastic Diffuser Panels with a non-abrasive, mild detergent or household-window cleaner. Difficult to remove stains can be removed with a mildly-abrasive household cleaner if it is applied gently. Apply the mildly-abrasive household cleaner with gentle care to avoid hazing or scratching the panel finish.

Cleaning Painted Panels

Clean painted plastic Diffuser Panels only with mild soapy water. If it is necessary to use a commercial cleaner to remove a difficult stain, try the cleaner on a hidden area first to see if the paint is affected by the cleaner (to make sure that the cleaner does not bleach or remove the paint entirely).

Cleaning Fabric-Covered Panels

Clean fabric-covered panels by vacuuming with a soft brush attachment or using a low-pressure air nozzle outdoors or in a well ventilated space.

The Wenger standard fabric is polyester. Stains can be removed by using a fabric cleaner designed for polyester. Blotting a soiled area is recommended. Brushing or other aggressive methods can damage the fabric and should be avoided. It is always a good practice to test the cleaning method and solution on the back side of the Panel to make sure that the fabric color, texture, and adhesion are not affected.

To clean custom fabrics, use only cleaners and methods that are recommended by the fabric manufacturer.

Cleaning Absorber Panels

Never use excessive amounts of water or liquid cleaners on absorber panels. Absorber panels absorb liquids and required extended time to dry promoting mold and mildew growth.

Painting Diffuser Panels

Unpainted Diffuser Panels can be painted without significantly reducing the acoustical performance. Always test the paint or stain on a small hidden area of the panel first.

To paint a Diffuser Panel, do as follows.

1. Select a flat, satin, semi-gloss, or high-gloss latex or acrylic-latex paint suitable for exterior surfaces.
2. Clean and dry the Diffuser Panel surface to be painted.
3. Apply the paint at ambient temperatures between 50°F and 90°F, at least 5°F above the dew point, and with the relative humidity less than 85%.
 - a. Apply the first coat of paint with a brush and allow the paint to dry.
 - b. Apply the second coat of paint with a roller or paint sprayer.
4. To apply a stain to Diffuser Panel, clean the surface and then follow the manufacturer's recommended application instructions.
5. Unplug all drain holes after painting panels.

⚠ CAUTION

When painting Panels, always work outside or in a well ventilated space.

⚠ CAUTION

Solvent based coatings containing aromatic hydrocarbon solvents such as lacquers or enamels are not recommended for use on PVC substrates.

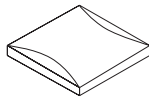
Ceiling Panel System Description

Ceiling Panel Types

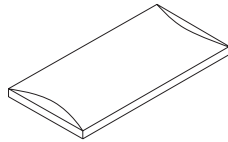
Wenger Corporation manufactures different types of Ceiling Panels.

- **Type I Convex Diffuser Panel** — constructed with a composition material that is poly-cylindrical in shape, the Panel scatters and blends mid-range to high-range audio frequencies.
- **Quadratic Diffuser Panel** — constructed of recycled molded thermoplastic, the Panel scatters and blends audio frequencies from 750 Hertz to 3300 Hertz. These Panels are available only as a 4' x 4' size to fit into Lay-in Ceiling Grid Systems.
- **Pyramid Diffuser Panel** — constructed of recycled molded thermoplastic, the Panel is shaped like an offset pyramid and is used to shape specific acoustical applications.
- **Absorber Panels** — constructed of sound-absorptive, fabric-covered, glass-fiber material that is flat in shape, the Panel absorbs a broad range of audio frequencies.

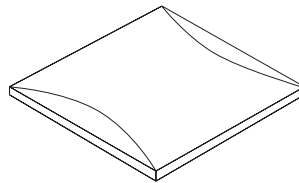
Ceiling Panel Sizes



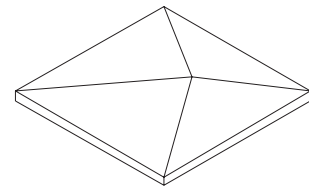
2x2 Convex Clip Model
22.750" x 22.750"
(57.8 x 57.8 cm)



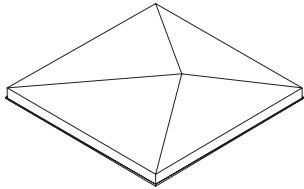
4x2 Convex Clip Model
23.125" x 46.875"
(58.7 x 119 cm)



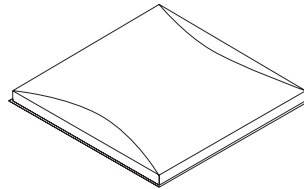
4x4 Convex Clip Model
46.750" x 46.750"
(118.7 x 118.7 cm)



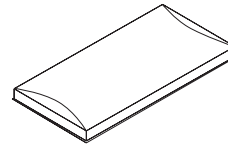
4x4 Pyramid Clip Model
46.750" x 46.750"
(118.7 x 118.7 cm)



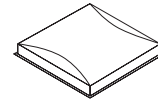
4x4 Pyramid Lay-in Model
46.750" x 46.750"
(118.7 x 118.7 cm)



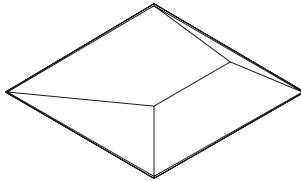
4x4 Convex Lay-in Model
46.750" x 46.750"
(118.7 x 118.7 cm)



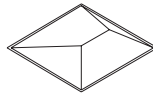
4x2 Convex Lay-in Model
23.125" x 46.875"
(58.7 x 119 cm)



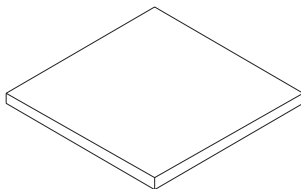
2x2 Convex Lay-in Model
22.750" x 22.750"
(57.8 x 57.8 cm)



4x4 Low Profile Trapezoid Lay-in Model
47.625" x 47.625"
(121 x 121 cm)



2x2 Low Profile Trapezoid Lay-in Model
23.625" x 23.625"
(60 x 60 cm)



Absorber Panel

Nominal 2' size is 23.15" (56.3 cm)

Nominal 3' size is 35.15" (89.3 cm)

Nominal 4' size is 46.90" (119.1 cm)

Absorber Panels can be ordered and built to exact outside dimensions.

Ceiling Panel System Description (continued)

Ceiling Panel Sizes (continued)

Most domestic suspended ceiling grid systems have grid rails on 2' square centers (61 cm), 2' x 4' centers (61 x 122 cm), or 4' (122 cm) square centers.

This allows the installation of English sized two-foot by two-foot, two-foot by four-foot, and four-foot by four-foot Ceiling Panels to match the center-to-center grid distance.

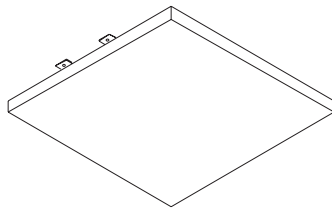
Many of Wenger Ceiling Panels are made specifically for suspended grid ceiling systems and are referred to by their English grid size such as 2x2 (two-foot by two-foot). The actual size of these Panels is different than the nominal size. A 2x2 Ceiling Panel is actually slightly smaller than two-feet by two-feet to allow for the grid rail to fit between the Ceiling Panels.

CAUTION

Due to their weight, never install Ceiling Panels that are larger than 4' x 4' into a suspended ceiling grid system.

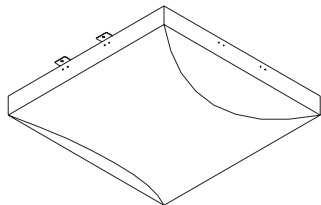
Absorber Panels are available in custom sizes that are built to exact outside dimensions that are specified on the panel purchase order.

Ceiling Panel Definitions



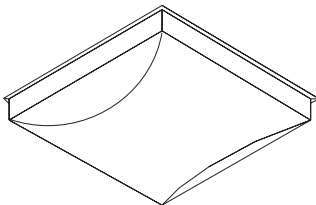
Absorber Ceiling Panel

Flat, fabric covered panel that absorbs sound and reduces reverberation. This Panel uses Mounting Clips for installation.



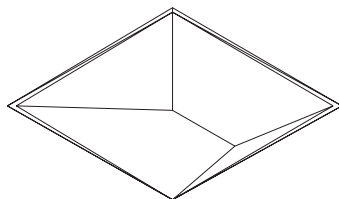
Convex Clip Model Ceiling Panel

Poly-cylindrical diffuser panel that scatters sound. The Panel uses Mounting Clips or Hanger Brackets to attach directly to the ceiling or suspend from ceiling hardware.



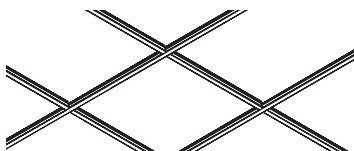
Convex Lay-in Model Ceiling Panel

Poly-cylindrical diffuser panel that scatters sound. The Panel has a flange on the perimeter that allows resting the panel directly into a standard ceiling grid. Designer Grid Clips can be attached so the panel fits in a designer ceiling grid.



Low Profile Trapezoid Lay-in Model Ceiling Panel

Trapezoidal shaped diffuser panel that scatters sound. The Panel has a flange on the perimeter that allows resting the panel directly into a standard ceiling grid. Designer Grid Clips can be attached so the panel fits in a designer ceiling grid.



Ceiling Grid

Grid rails connected at right angles to each other, suspended from the ceiling with hardware. The grid rails allow Ceiling Panels to rest on the rails.

Ceiling Panel System Description (continued)

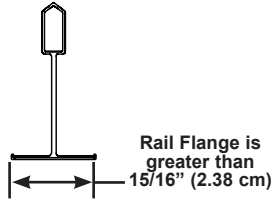
Ceiling Panel Definitions (continued)

Rigid Ceiling (not shown)

A non-grid suspended ceiling that is integral to the building structure (such as truss and deck construction) or is rigidly attached to the building structure without removable panels.

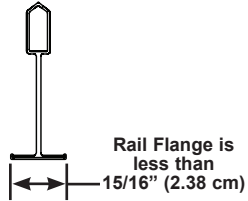
Suspended Ceiling (not shown)

A system of rails (Ceiling Grid) and removable ceiling panels commonly used for the ease of installation and low cost.



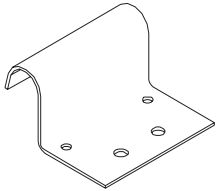
Standard Ceiling Grid Rail

Grid rail flange is 15/16" or greater and is adequate for supporting a Lay-in Panel Flange.



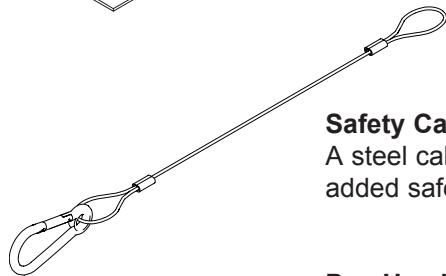
Designer Ceiling Grid Rail

Grid rail flange is less than 15/16" and is not adequate for supporting a Lay-in Panel Flange.



Designer Grid Mounting Clip

A hook shaped bracket with clearance holes that allows attaching the bracket to a Lay-in Model Panel. The hook fits over a Designer Grid Rail.



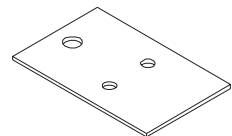
Safety Cable

A steel cable and carabiner secures the Panel to the Ceiling Grid for added safety in the event of a panel falling.



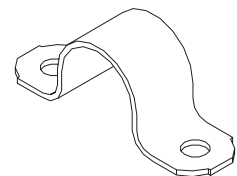
Pan Head Screw

Phillips sheet metal pan head screw, 6-20x1/2", used to attach brackets to the Ceiling Panel Corner Braces.



Mounting Clip

A flat bracket with clearance holes that allow attaching the bracket to the Corner Braces on a Clip Model Panel. The Bracket is used to attach a Panel directly to a Rigid Ceiling.



Hanger Bracket

A U-shaped bracket with clearance holes that allows attaching the bracket to the Corner Braces on a Clip Model Panel. The Bracket is used to suspend Panels from the ceiling with hardware supplied by the end user.

Wall Panel System Description

Wall Panel Types

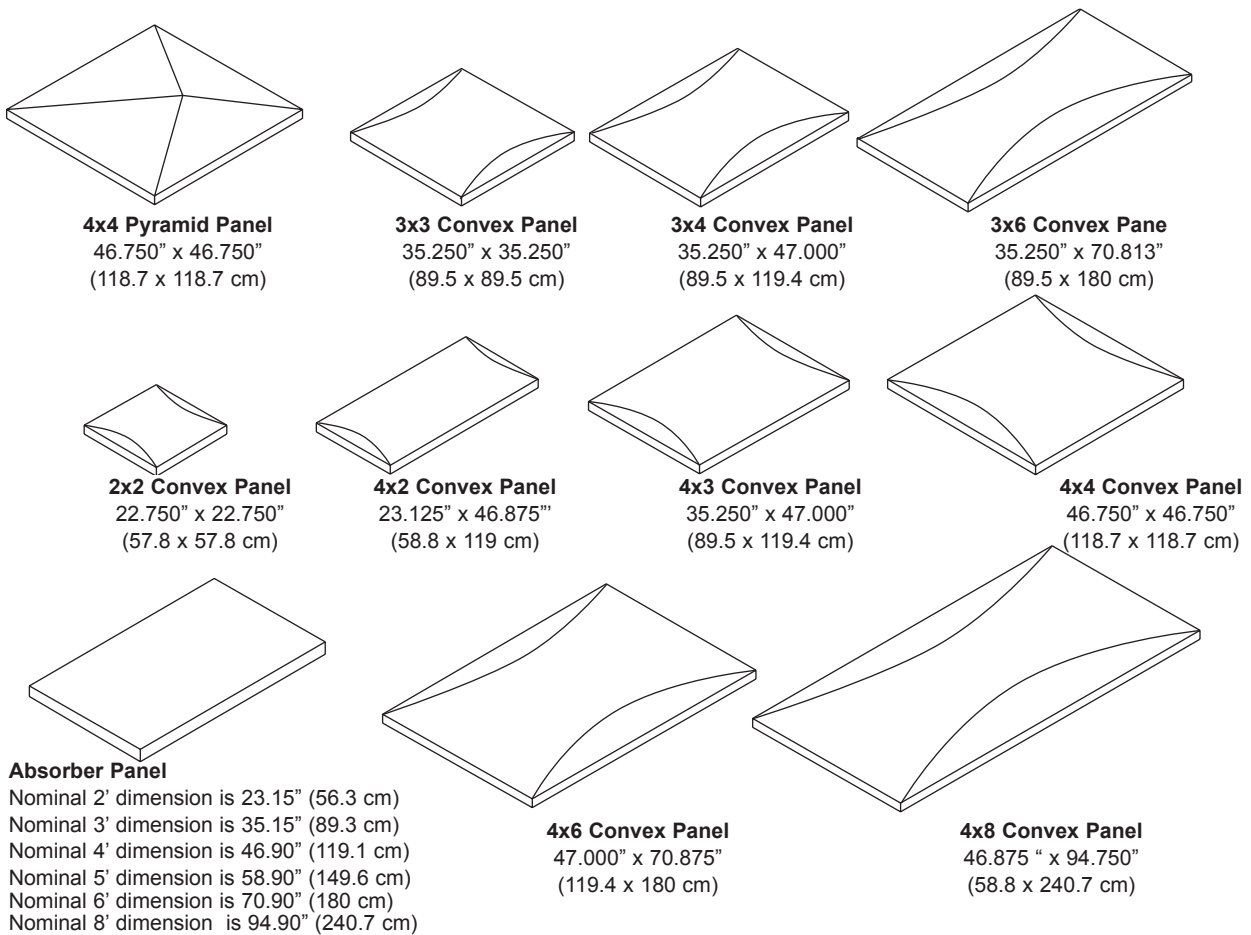
Wenger Corporation manufactures different types of Wall Panels.

- **Type I Convex Diffuser Panel** — constructed with a composition material that is poly-cylindrical in shape, the Panel scatters and blends mid-range to high-range audio frequencies.
- **Type II Convex Diffuser Panel** — similar to but larger than the Type I Diffuser Panel. The Type II Panel performs like the Type I Panel but also absorbs some low-range audio frequencies.
- **Pyramid Diffuser Panel** — constructed of recycled molded thermoplastic, the Panel is shaped like an offset pyramid and is used to shape specific acoustical applications.
- **Absorber Panels** — constructed of sound-absorptive, fabric-covered, glass-fiber material that is flat in shape, the Panel absorbs a broad range of audio frequencies.

Wall Panel Sizes

Wenger Convex Diffuser Wall Panels are made to attach directly to a permanent wall structure and are referred to by their English size such as 2x2 (two-foot by two-foot). The actual size of these Panels is different than the nominal size. A 2x2 Ceiling Panel is actually slightly smaller than two-feet by two-feet.

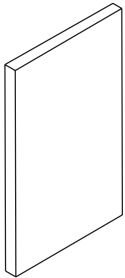
Absorber Panels are available in custom sizes that are built to exact outside dimensions that are specified on the panel purchase order.



Absorber Panels can be ordered and built to exact outside dimensions.

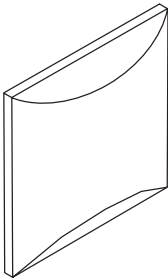
Wall Panel System Description (continued)

Wall Panel Definitions



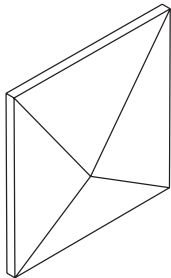
Absorber Wall Panel

Flat, fabric covered panel that absorbs sound and reduces reverberation. This Panel uses Wall Mounting Brackets for installation.



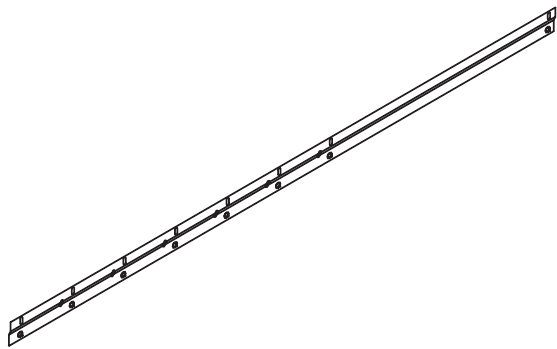
Convex Model Wall Panel

Poly-cylindrical shaped diffuser panel that scatters sound. This Panel uses Wall Mounting Brackets for installation.



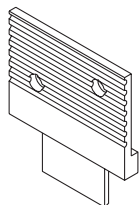
Pyramid Model Wall Panel

Pyramid shaped diffuser panel that scatters sound. This Panel uses Wall Mounting Brackets for installation.



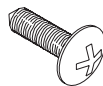
Wall Bracket

Offset metal rail that attaches to the wall and receives the Wall Panel Hanger Brackets when installing the Wall Panel.



Hanger Bracket

Z-shaped bracket that attaches to the Diffuser Wall Panel Corner Braces and engages the Wall Bracket at installation.



Pan Head Screw

Phillips sheet metal pan head screw, 6-20x1/2", used to attach brackets to the Wall Panel Corner Braces.

Rigid Ceiling Installation

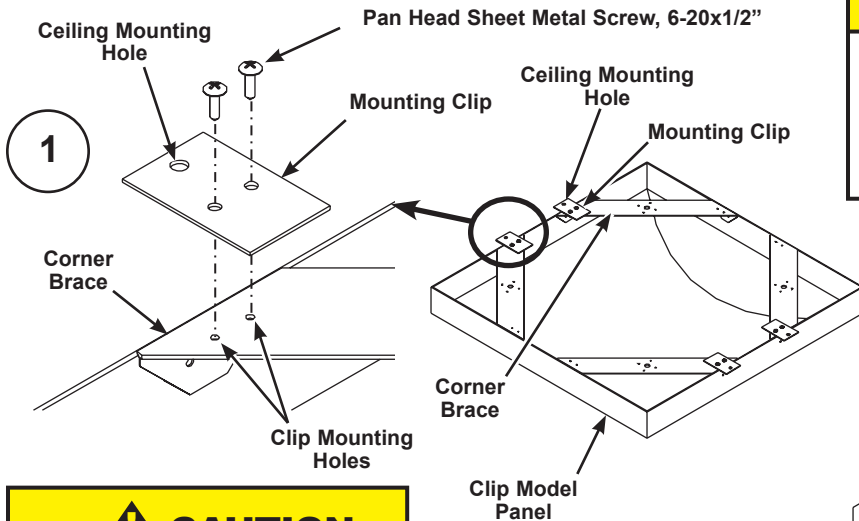
Fasten a Clip Model Panel Directly to Ceiling

Clip Model Diffuser and Absorber Panels attach directly to the Ceiling as follows.

1. Attach one Mounting Clip to each Corner Brace with two Sheet Metal Screws, 6-20x1/2", as shown in Illustration #1 below. The Ceiling Mounting Hole must be outside of the Panel perimeter.

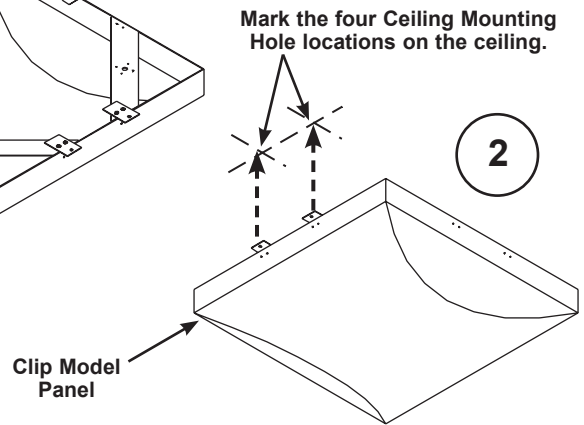
Note: Install Mounting Clips only on two sides of the Panel as shown in Illustration #1.

2. Hold the Panel against the ceiling in the exact installation position and mark the center of the each Ceiling Mounting Hole as shown in Illustration #2 below.



CAUTION
 Never attach Wall Panels to a ceiling or horizontal surface. Wall Panels do not have drainage and can fill with water. It is not permissible to drill drainage holes in Wall Panels.

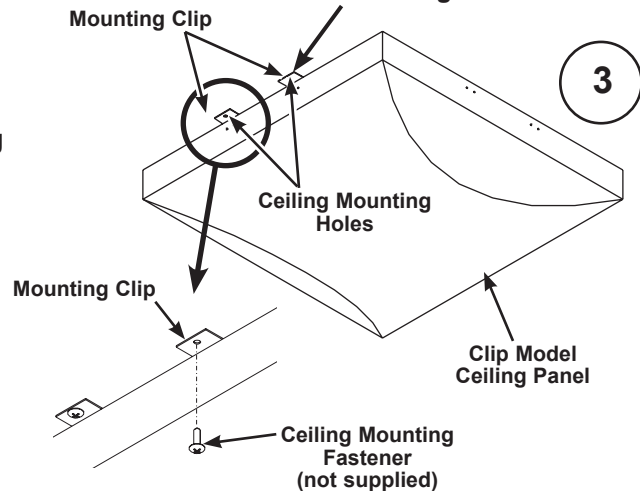
CAUTION
 When attaching Mounting Clips to a Clip Model Panel, always install two Clips on opposite sides. Never attach only one Clip on each side.



3. Attach the Panel to the ceiling using an appropriate fastener (not supplied).

Note: Ceiling construction and materials vary. Always consult local codes or building material suppliers for information regarding the correct fastener.

Attach to ceiling with a fastener in each Mounting Hole.

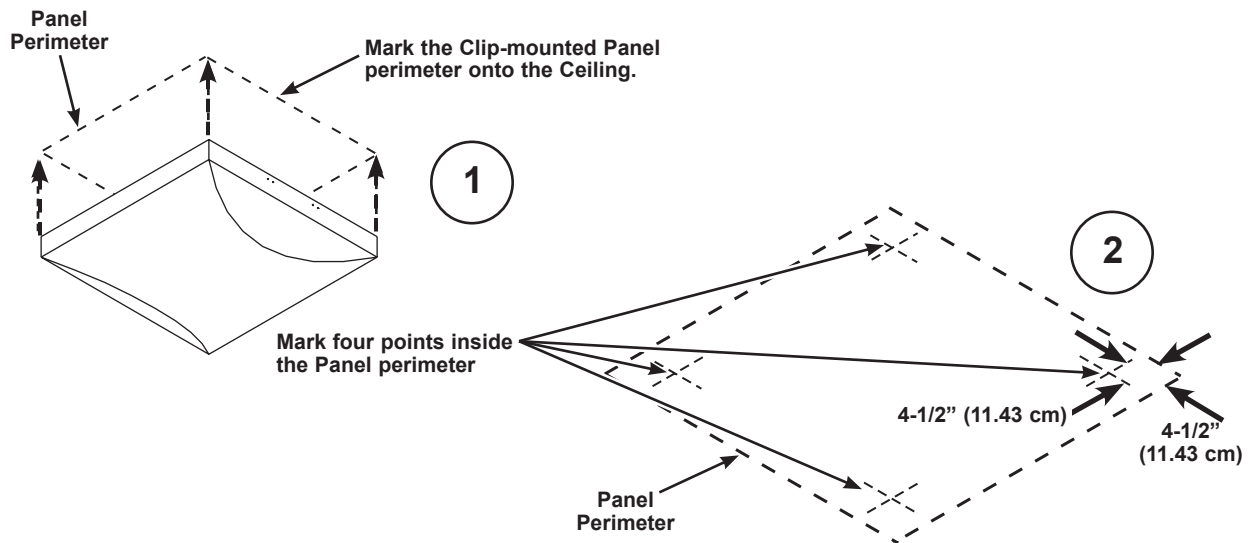


CAUTION
 Make sure that the hardware supplied by the end user is capable of supporting the Panels and is safely anchored. Because ceiling construction such as Tectum® or acoustical tile may not be capable of supporting the Panel weight, make sure the fastener extends into a substrate or structural member capable of supporting the Panel.

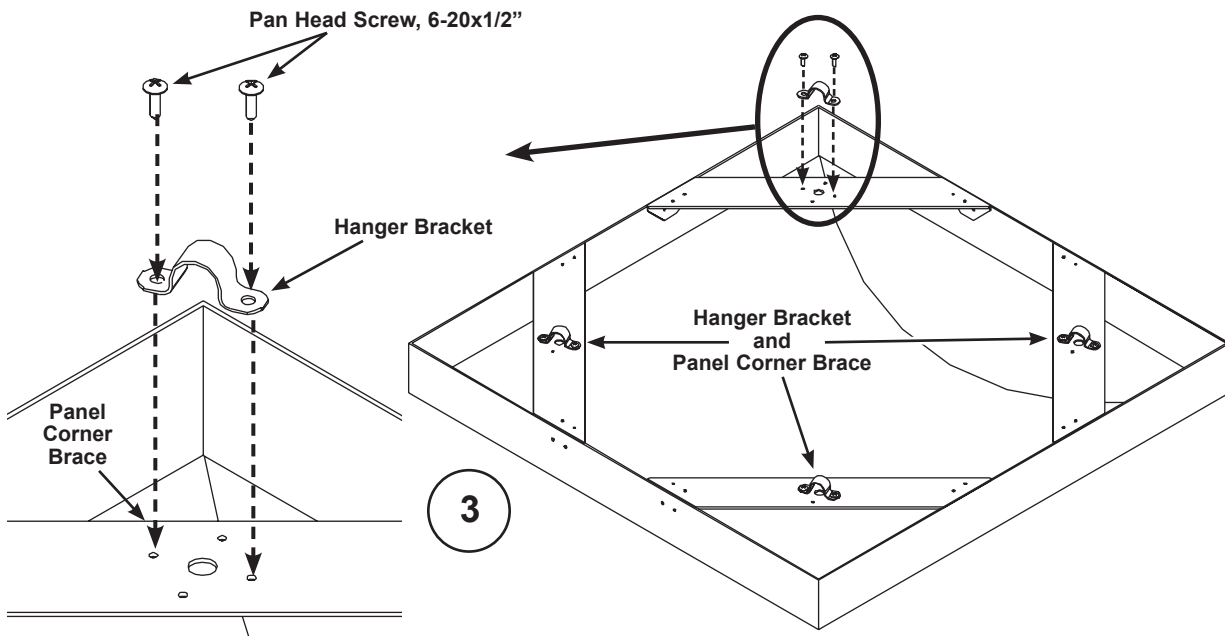
Rigid Ceiling Installation (continued)

Suspend the Clip Model Panel from Ceiling

1. Hold the Panel against the ceiling in its exact mounting position and draw an outline around the Panel perimeter as shown in Illustration #1 below. Use a plumb bob to mark the corners if the Panel cannot be held against the ceiling.
2. Mark four points, 4-1/2" (11.43 cm) inside each side of the Panel perimeter as shown in the Illustration #2 below.



3. Attach one Hanger Bracket to each Corner Brace with two Pan Head Screws, 6-20x1/2", as shown in the Illustration #3 below.



Rigid Ceiling Installation (continued)

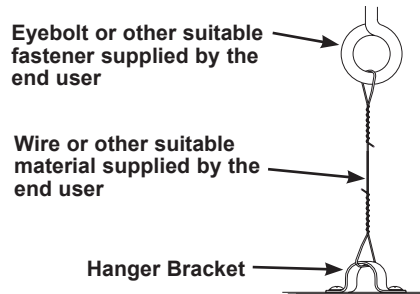
Suspend the Clip Model Panel from Ceiling (continued)

4. Attach fasteners (not supplied by Wenger Corporation) to the ceiling at the four points marked inside the Panel Perimeter in Step 2 on the previous page.

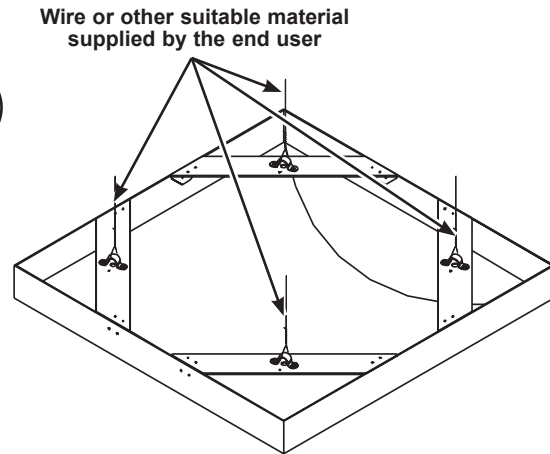
⚠ CAUTION

Make sure that the hardware supplied by the end user is capable of supporting the Panels and is safely anchored. Because ceiling construction such as Tectum® or acoustical tile may not be capable of supporting the Panel weight, make sure the fastener extends into a substrate or structural member capable of supporting the Panel.

5. Using wire, cable, or some suitable material (not supplied by Wenger Corporation), attach the four Hanger Brackets to the four fasteners as shown in the Illustration #5 below (or by some other safe method).



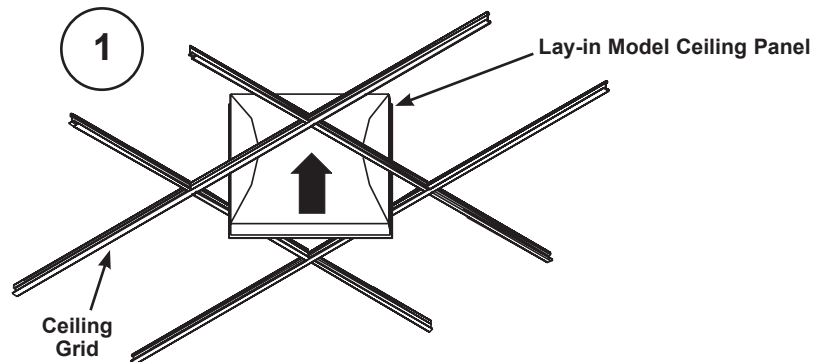
5



Standard Ceiling Grid Lay-In Diffuser Panel Installation

Lay-in Model Ceiling Panels are installed into the standard ceiling grid without additional hardware.

1. Insert a Lay-in Model Ceiling Panel upward through the ceiling grid as shown in Illustration #1.

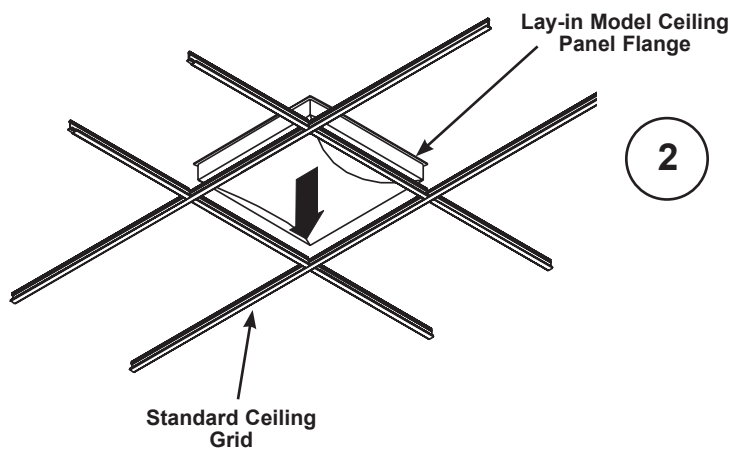


2. Orient the Ceiling Panel above the ceiling grid and lower the Panel into the grid making sure that all four flanges on the Panel rest on the grid rails as shown in Illustration #2 below.
3. Clip the provided Safety Cables on the Panel onto the nearest Suspension Wire.

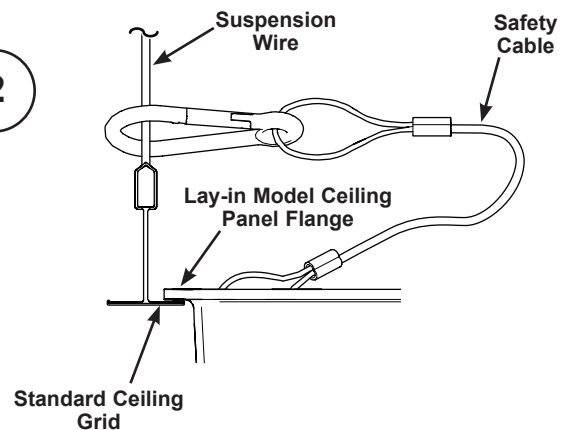
CAUTION
Make sure that all four Ceiling Panel Flanges rest on the grid walls.

CAUTION
The provided safety cables must be used in all suspended ceiling grid installations.

CAUTION
*Only Flanged Ceiling Panels may be installed into suspended ceiling grids.
 Make sure that all four Ceiling Lay-in Panel Flanges rest on the ceiling grid rail flange.*



2



CAUTION
In the event of a Ceiling Panel failure, check the suspended ceiling grid and panel for damage. Do not reinstall a damaged Ceiling Panel.

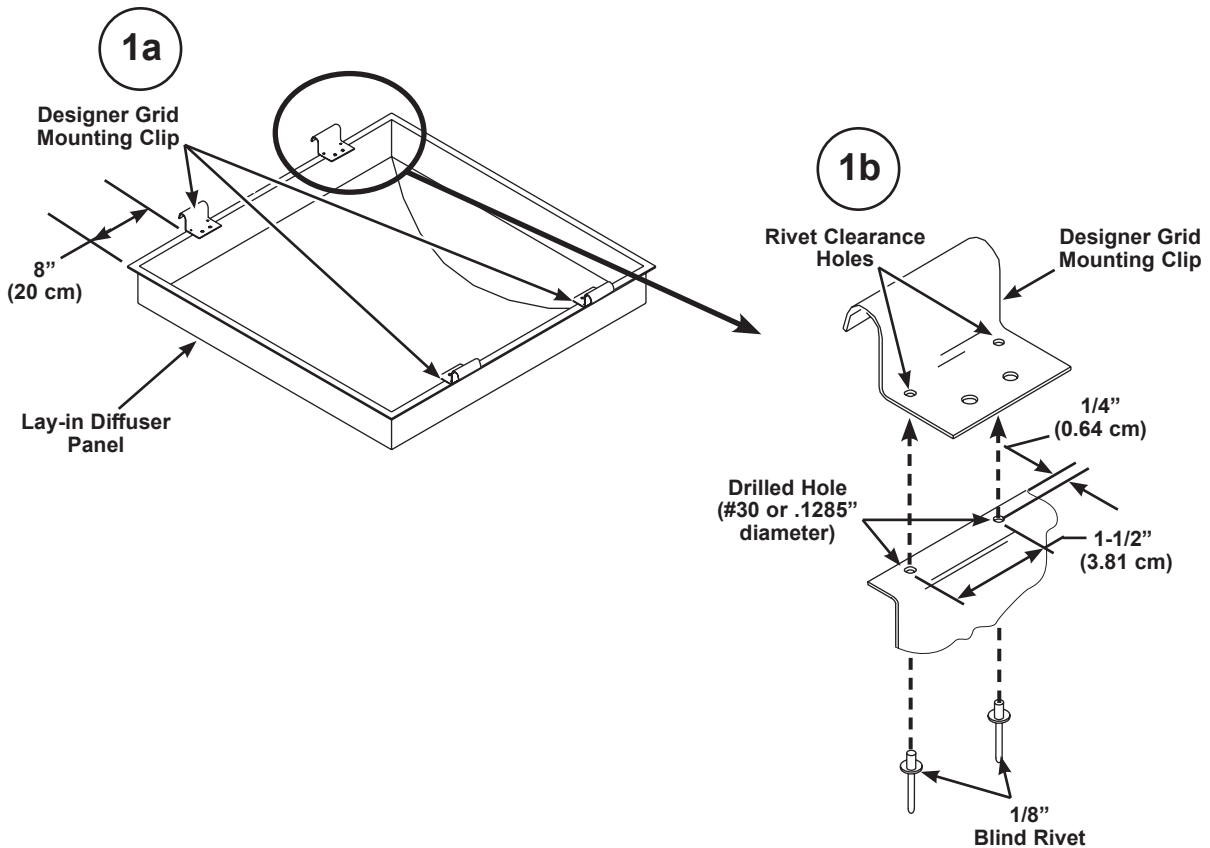
Designer Ceiling Grid Lay-In Diffuser Panel Installation

1. Attach the Designer Grid Mounting Clips to the Lay-in Panel as follows.
 - a. Using a Designer Grid Mounting Clip as a template, mark four hole locations on one flange of a Diffuser Panel as shown in Illustration #1a below. Each two-hole pattern should be about 8" (30 cm) from the end of the panel.
 - b. Using a number-30 drill bit (0.1285"), drill four holes in the Lay-in Diffuser Panel Flange as shown in Illustration #1b below.
 - c. Using a blind rivet tool, attach each Designer Grid Mounting Clip to the Lay-in Panel Flange by inserting two 1/8" Blind Rivets upward through the two Drilled Holes and the two Mounting Clip Rivet Clearance Holes.
 - d. Repeat steps a to c on the opposite Lay-in Panel flange.

⚠ CAUTION

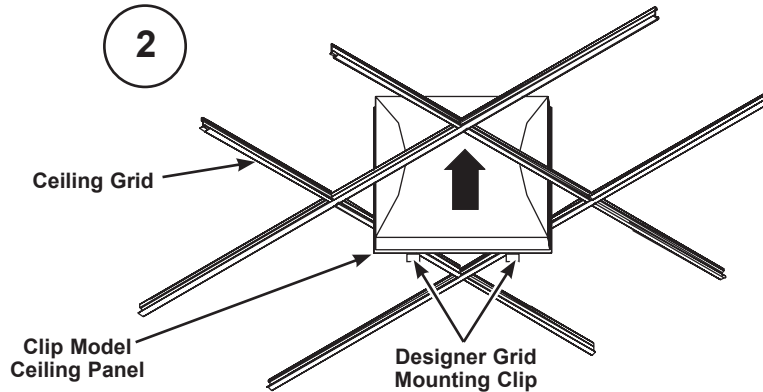
Do not install a Lay-in Diffuser Panel into a designer grid without attaching the Designer Grid Mounting Clips.

Do not install a single Clip on each Panel flange. Install two Clips on one flange and two Clips on the opposite flange.



Designer Ceiling Grid Lay-In Diffuser Panel Installation

2. Insert a Lay-in Diffuser Model Ceiling Panel with Designer Grid Mounting Clips upward through the ceiling grid.



3. Orient the Diffuser Ceiling Panel above the ceiling grid and lower the Panel into the grid making sure that all four Designer Grid Mounting Clips on the Panel rest on the grid rails as shown below.
4. Clip the provided Safety Cables on the Panel onto the nearest Suspension Wire.

CAUTION

Make sure that all four Mounting Clips rest on the grid. Improperly placed Ceiling Panels can fall.

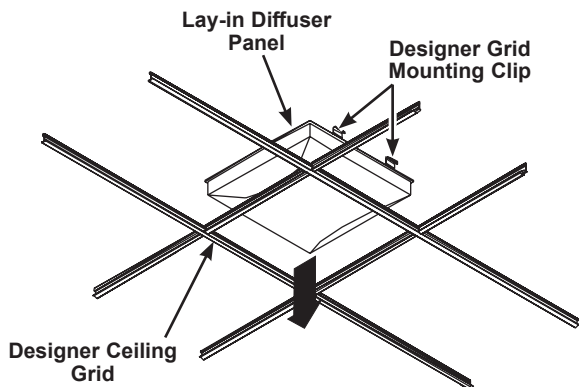
CAUTION

The provided safety cables must be used in all suspended ceiling grid installations.

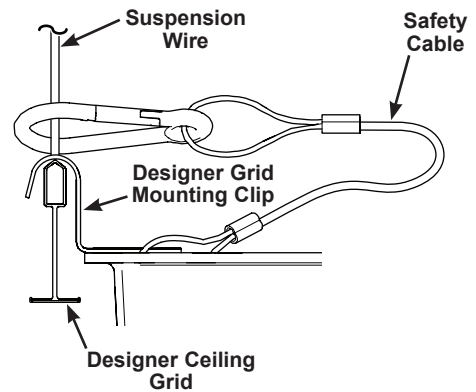
CAUTION

Only Flanged Ceiling Panels may be installed into suspended ceiling grids.

Make sure that all four Ceiling Lay-in Panel Flanges rest on the ceiling grid rail flange.



3



CAUTION

In the event of a Ceiling Panel failure, check the suspended ceiling grid and panel for damage. Do not reinstall a damaged Ceiling Panel.

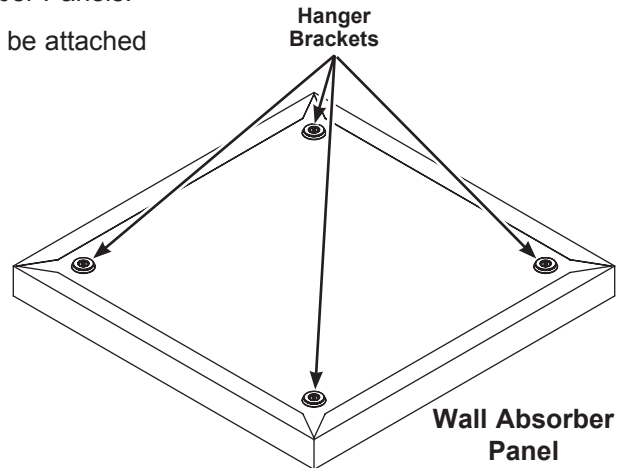
Wall Panel Installation

Attach Hanger Brackets to Wall Diffuser Panels

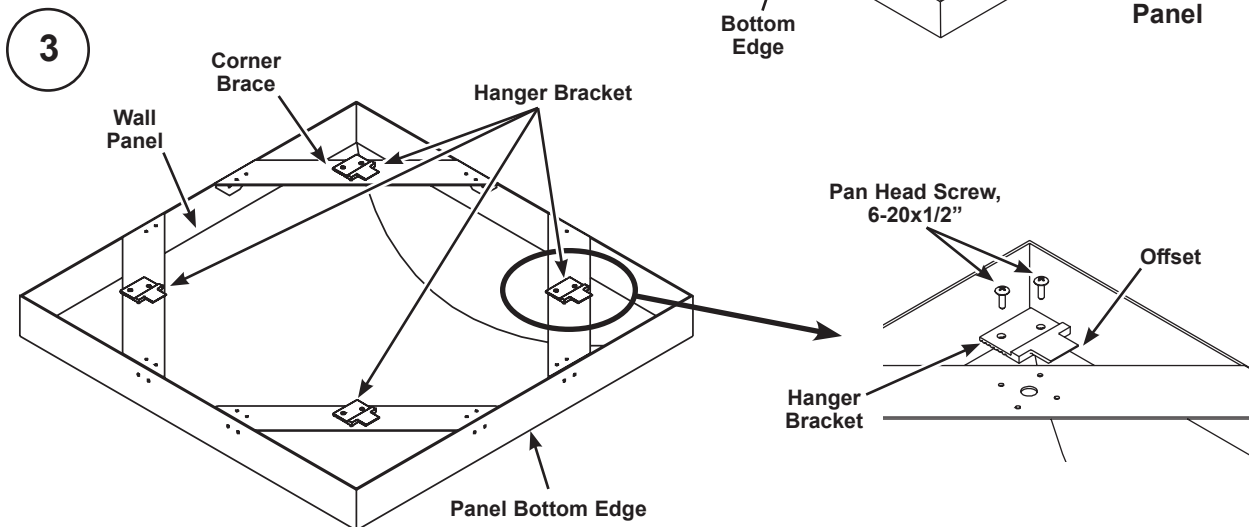
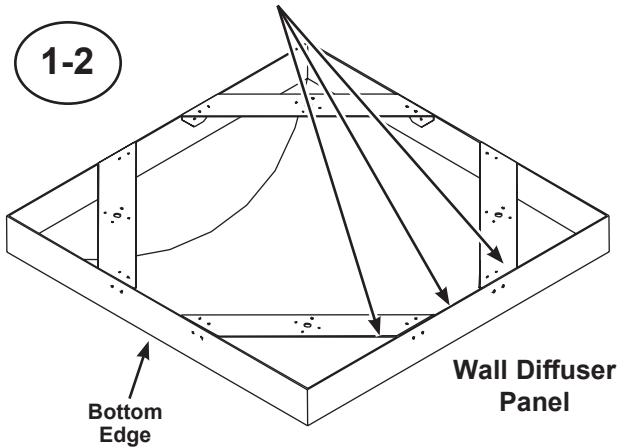
Hanger Brackets are already installed on Wall Absorber Panels.

For Wall Diffuser Panels, four Hanger Brackets must be attached to each Panel before installation as follows.

1. Place the Panel face down on a clean, dry work surface.
2. Place a mark on the back inside of the Panel close to the bottom edge indicating the bottom of the Panel after it is installed.
3. Using a phillips screwdriver, attach four Hanger Brackets to the Panel using four Pan Head Screws, 6-20x1/2", as shown in Illustration #3 below.
 - a. Orient the Offset toward the bottom of the Panel.
 - b. The offset must be away from the Panel Corner Brace.
 - c. Use the **upper pair of Mounting Holes** on Panel Corner Bracket.



Place a mark toward the bottom edge of the Panel. The mark can be on a Corner Brace, on the inside edge, or anywhere inside the Panel close to the bottom edge.



Wall Panel Installation (continued)

Wall Panel Locations

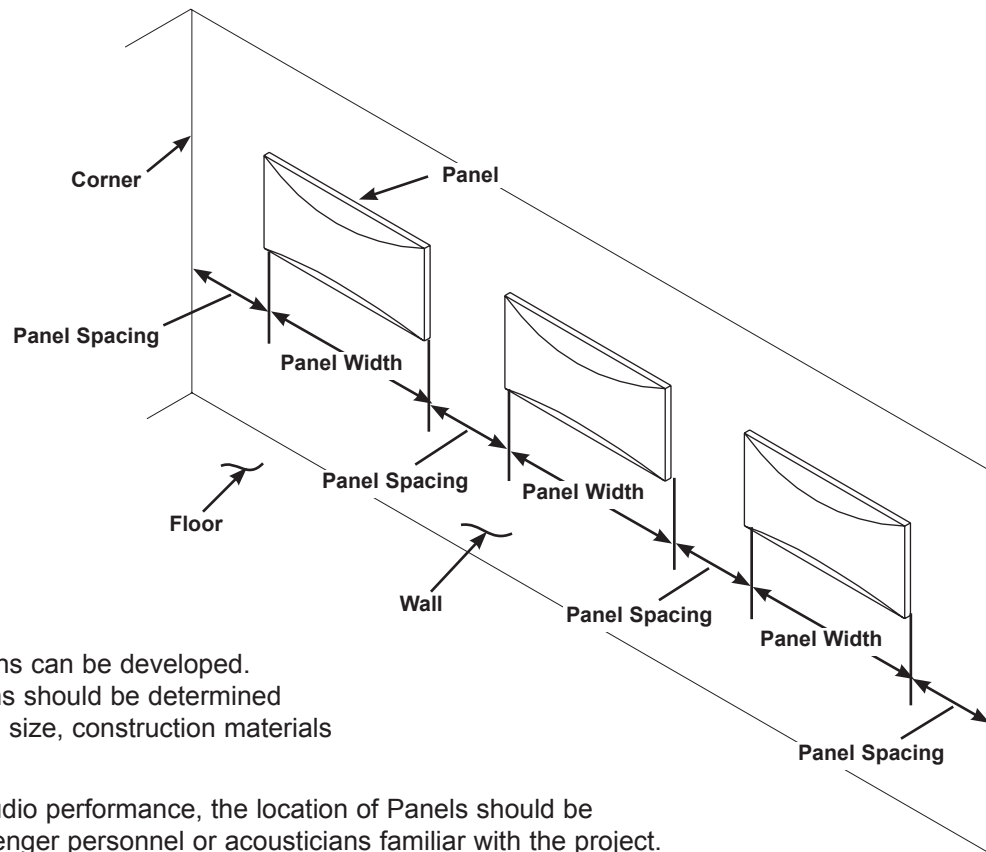
Determine and mark the centerline of each Panel location as shown on the architectural drawings for the installation.

The following example can be followed if drawings have not been submitted with the panels. This example considers a single row of Convex Panels equally spaced across a wall with the spacing between panels equal to the space between the corners and adjacent panel. Refer to the illustration below.

Note: After the Panels are installed, it may be necessary to adjust the position of the Panels to obtain the optimum audio performance.

One way to calculate the centerline locations is as follows.

1. Measure the length of the wall.
2. Measure the width of the Panel.
3. Multiply the number of Panels times the **Panel Width**.
4. Subtract the total of the Panel Widths from step 3 from the Length of the Wall. Call this value the **Free Space**.
5. Divide the **Free Space** by the number of Panels plus one. That is, if there are three panels in the row, add one to create a value of four. In this example, divide the **Free Space** by four.
6. The resulting value is the **Panel Spacing** which is the distance between a corner and adjacent panel or between the Panels.



Other spacing patterns can be developed. Actual Panel locations should be determined by the room's shape, size, construction materials and other factors.

For the best room audio performance, the location of Panels should be recommended by Wenger personnel or acousticians familiar with the project.

Wall Panel Installation (continued)

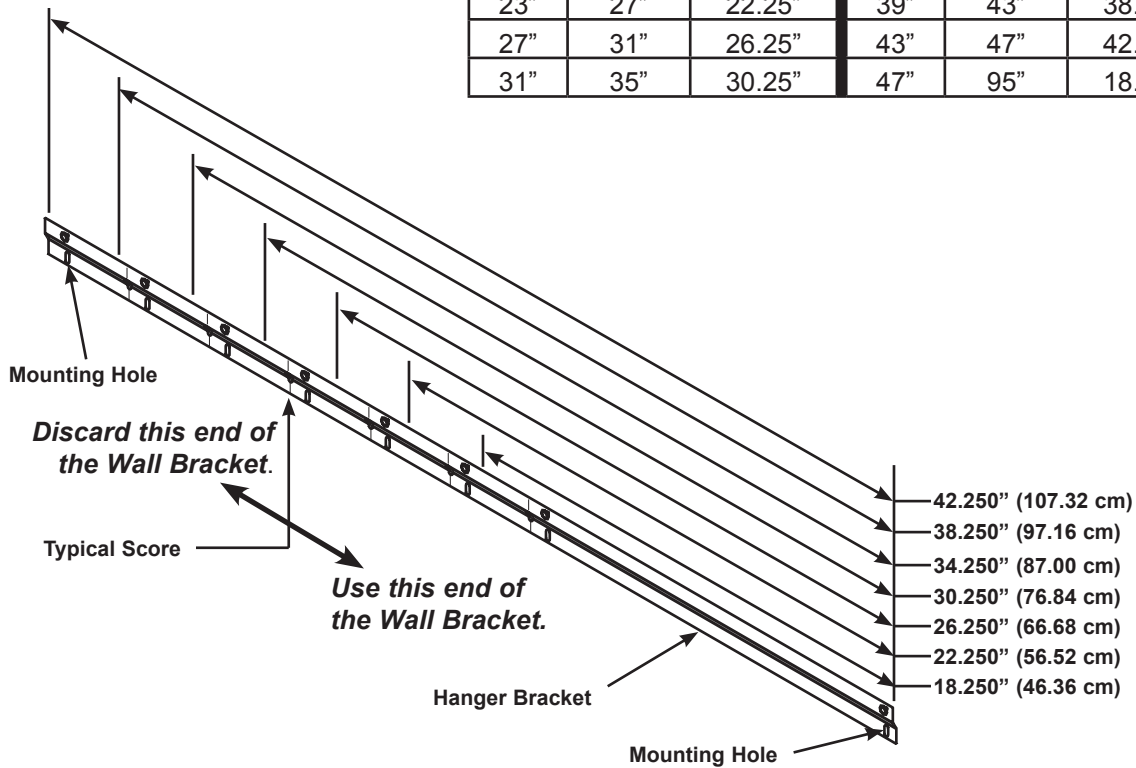
Prepare the Wall Brackets

Wall Panels must be attached to walls using the Wall Brackets that are supplied with the Wall Panels.

The brackets that are shipped with Wall Panels are 42.250" (107.32 cm) long and must be modified to match the Panel Width.

1. Each Wall Bracket has score marks that match the bracket lengths required to attach the Panel to a wall.
2. Bend each Bracket on the appropriate score mark to shorten the length.
3. Refer to the illustration below.

Panel Width		Bracket Width	Panel Width		Bracket Width
From	Less Than		From	Less Than	
19.5"	23"	18.25"	35"	39"	34.25"
23"	27"	22.25"	39"	43"	38.25"
27"	31"	26.25"	43"	47"	42.25"
31"	35"	30.25"	47"	95"	18.25"



Wall Panel Installation (continued)

Attach the Wall Brackets

Two Wall Brackets, one at the Panel top and one at the Panel bottom must be attached to the wall to support the weight of the Panel and to hold it against the wall.

CAUTION

Both Top and Bottom Wall Brackets must be used to hang all Wall Panels.

CAUTION

*Only use the Brackets supplied with the Panels to attach them to the wall.
Only mount the Panels using the procedures in these instructions.*

Before installing the Wall Brackets, consult the architectural drawings to determine the Wall Panel locations and distance from the ceiling.

Note: The top of the Wall Panel cannot be attached closer than 3/4" (1.91 cm) to the ceiling or any other object.

To engage the Wall Bracket, the Wall Panel Hanger Bracket lower edge must be lifted 3/4" (1.91 cm) higher than the Wall Bracket Top Edge.

To install the Top Wall Bracket:

1. Determine where the height of the top edge of the Wall Panel will be.

Measure down 6-1/4" (15.875 cm) and mark the location.

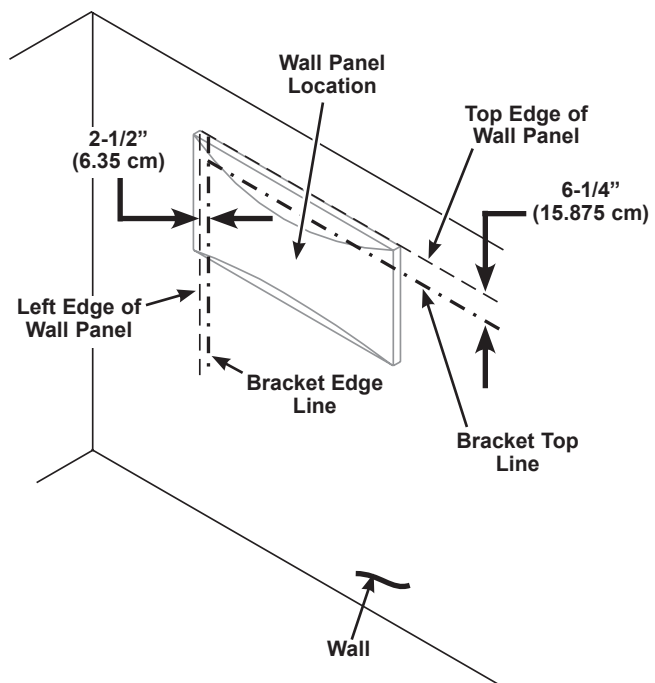
This will be the bottom edge of the Top Wall Bracket.

2. Determine where the left edge of the Wall Panel will be.

Measure in 2-1/2" (6.35 cm) and mark the location.

The Wall Bracket sits 2-1/2" in from the edge of the Panel.

Refer to the illustration below.



Wall Panel Installation (continued)

Attach the Wall Brackets (continued)

3. Attach the Top Wall Bracket to the Wall using appropriate fasteners (not supplied).

⚠ CAUTION

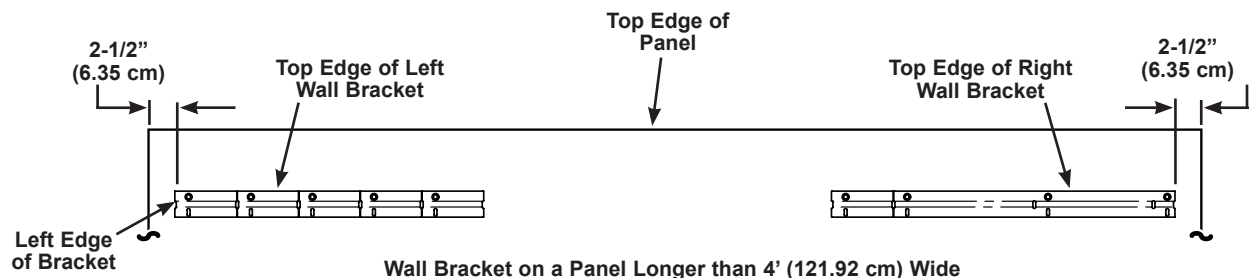
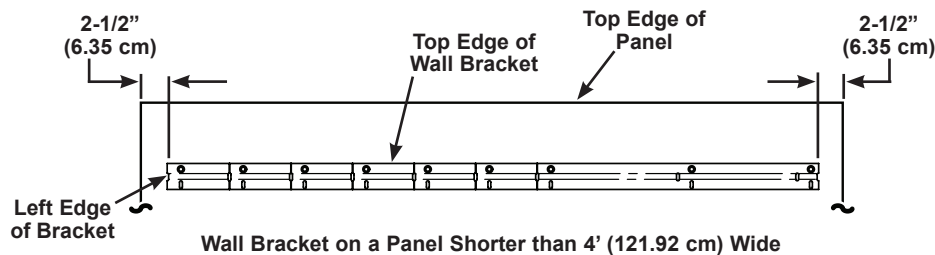
Make sure that the hardware supplied by the end user is capable of supporting the Panels and is safely anchored.

Note: Construction and materials vary. Always consult local codes or building material suppliers for information regarding the correct fastener.

- For Wall Panels shorter than 4' (121.92 cm) wide, align the Top Wall Bracket to the wall marks and attach.
- Wall Panels longer than 4' (121.92 cm) wide require that the Wall Brackets be snapped in half on a score mark before attaching to the wall.
 - a. Use the left half of the Wall Bracket on the left side of the Wall Panel and the right half of the Bracket on the right side of the Panel.
 - b. Align the Left Side to the wall marks and attach to the wall.
 - c. Determine the horizontal space for the Right Side Wall Bracket by subtracting 5" (12.7 cm) from the total Panel length (2-1/2" in from the edge of the Panel on both sides).

Example; 6' panel = 72" minus 5" = 67" span from the outside of both Wall Brackets.
Leaving 5" (2-1/2" on each side) to accommodate the Wall Panel edges.
 - d. Attach the Right Bracket to the wall with the right side 67" straight across from the left edge of the Left Bracket.

Refer to the illustration below.



Wall Panel Installation (continued)

Attach the Wall Brackets (continued)

To install the Bottom Wall Bracket:

1. Depending on the Wall Panel height, measure down from the **top edge of the Top Bracket** and **mark the location for the bottom edge of the Bottom Bracket** according to the following chart.

Panel Height	Measure down from Top Bracket edge
2' (60.96 cm)	16-1/4" (41.275 cm)
3' (91.44 cm)	28-1/4" (71.755 cm)
4' (121.92 cm)	40-1/4" (102.235 cm)
6' (182.88 cm)	64-1/4" (163.195 cm)
8' (243.84 cm)	88-1/4" (224.155 cm)

This will be the bottom edge of the Bottom Wall Bracket.

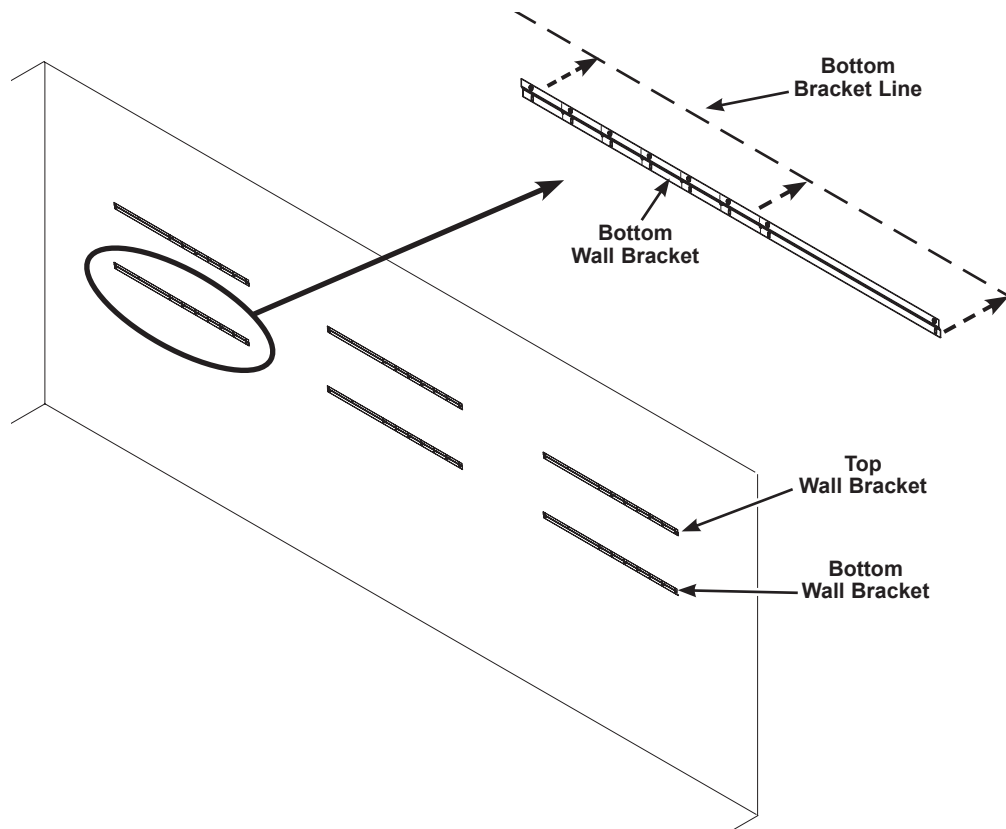
2. Determine where the left edge of the Wall Panel will be.

Measure in 2-1/2" (6.35 cm) and mark the location.

The Wall Bracket sits 2-1/2" in from the edge of the Panel.

3. Attach the Bottom Wall Bracket to the Wall using the same method and procedure as the Top Wall Bracket.

Refer to the illustration below.



Wall Panel Installation (continued)

Attach the Wall Panel to the Wall

Note: Always install the highest Wall Panel first to avoid debris falling onto lower Wall Panels.



1. Attach the Wall Panels by placing each Panel against the wall about 1" (2.54 cm) above the intended final position.
2. Lower the Wall Panel downward guiding the four Hanger Brackets onto the Top and Bottom Wall Brackets. Be sure that all four Hanger Brackets have engaged the Wall Brackets.
3. Adjust the Wall Panel horizontal location by sliding the Panel horizontally to the right or left for final positioning.
Dimples on the Wall Brackets prevent moving the Wall Panel too far and disengaging a Hanger Bracket from the Wall Bracket.
4. When the Wall Panel horizontal position is fixed, pull the Panel downward to make sure that the Hanger Brackets are engaged with the Wall Brackets.



Note: If the Wall Panels are low enough to be either accidentally or mischievously dislodged from the Wall Brackets, contact the Wenger Corporation for recommendations regarding additional securing of the Wall Panels to the wall.

