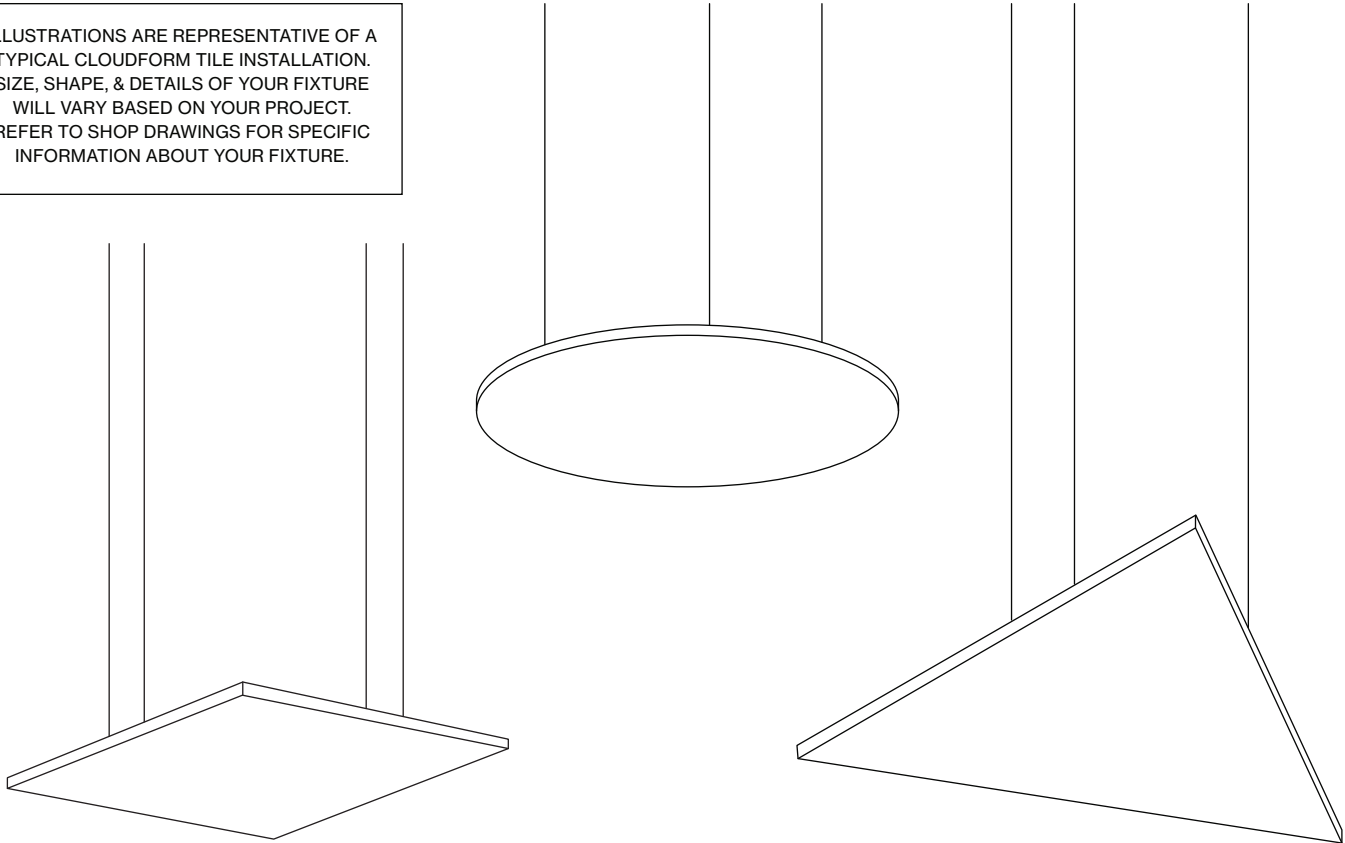


ILLUSTRATIONS ARE REPRESENTATIVE OF A TYPICAL CLOUDFORM TILE INSTALLATION. SIZE, SHAPE, & DETAILS OF YOUR FIXTURE WILL VARY BASED ON YOUR PROJECT. REFER TO SHOP DRAWINGS FOR SPECIFIC INFORMATION ABOUT YOUR FIXTURE.



Specifications

DESCRIPTION	TEMP / FIRE PERFORMANCE	HANDLING	CLEANING
<p>Cloudform Tiles are flat fiberglass panels designed to be installed in one of three types of suspension system options. There are 9 standard panel options that come in a variety of 60° and 90° shapes.</p> <p>Cloudform Tiles are finished on the front surface and all sides with acoustically transparent membrane. The back of the panel is unfinished with an embedded metal extrusion.</p> <p>Cloudform Tiles maintain a natural sag that may be noticeable when installed 6" or less apart. Minimal deflection may occur.</p>	<p>This product can be installed where the temperature is between 40°F (4°C) and 120°F (49°C). It cannot be used in exterior applications, where standing water is present, or where moisture can come in direct contact with the panel.</p> <p>Cloudform Tiles, as with other architectural features located in the ceiling plane, may obstruct or skew the existing or planned fire sprinkler water distribution pattern, or possibly delay the activation of the fire sprinkler or fire detection system. Designers and installers are advised to consult a fire protection engineer, NFPA 13, and their local codes for guidance on the proper installation techniques where fire detection or suppression systems are present.</p>	<p>The ceiling panel components must be stored in a dry interior location and must remain in the original cartons prior to installation to avoid damage and soiling. The cartons must be stored in a flat, horizontal position. Save the carton cardboard insert for potential use during installation as a guide for hanging panels. The panels should not be removed from their carton until the suspension system is ready. Proper care should be taken when handling panels to avoid damage and soiling, particularly with panel edges and the surface of color panels. Proper care should be taken to locate the hardware accessory kits shipped separately from the panels.</p>	<p>Use a melamine eraser sponge to wipe off any dirt or greasy fingerprints. If this does not clean the panel, cover the spot with touch-up paint as described below. Make sure to dab the touch-up paint onto the panel to match the existing texture rather than smearing or painting.</p> <p>For minor surface and edge scuffing, or scratches on colored panels, use matching Sherwin-Williams® paint that can be purchased from your local Sherwin-Williams store. See the product spec sheet for color match info.</p>

Components

Panel Shapes

Panels come in nine standard shapes with various size options available. See the product spec sheet for exact product dimensions. Panels are flat but may exhibit some natural deflection based on installation details.

Wood Look Grain Directionality

All wood-look panels are produced with wood grain running in a specific direction along the panel. Grain direction may impact the overall aesthetic of some group installations. Wood-look visuals are not dye-lotted, but are designed to mimic slight color variations as seen in real wood.

Suspension Systems

There are three types of suspension system options for use with Cloudform Tiles. All panels can be suspended individually from the deck with aircraft cable; individually direct-attached to ceilings; or suspended as a group from grouping frames. Only 90° panels can be suspended from traditional 15/16" suspension grid system with Grid Hook Kits (6-07-9978-K). It is not recommended to install 4' x 8' panels as a group from grouping frames; only independent suspension is recommended.

General Install Instructions

Before opening the panel carton, be sure to locate the hardware accessory kits needed for installation that were shipped separately. Cloudform Tiles may require two people to align and install each panel safely. **DO NOT REMOVE PANELS FROM THEIR CARTON** until the appropriate suspension system method has been prepared and is ready to accept the panels for installation.

Panels cannot be used to support any other material. The suspension system chosen must be fastened to the structure and cannot be hung from any commercial ceiling system. Cloudform Tiles are not approved for exterior applications.

Each suspension system utilizes attachment points along the metal extrusion in the back of each panel. Each metal extrusion edge is marked with guidelines to facilitate suspension with several methods, as well as the possible hook location attachments in group configurations. Those suspension system specific attachment locations are explained in detail in the following sections.

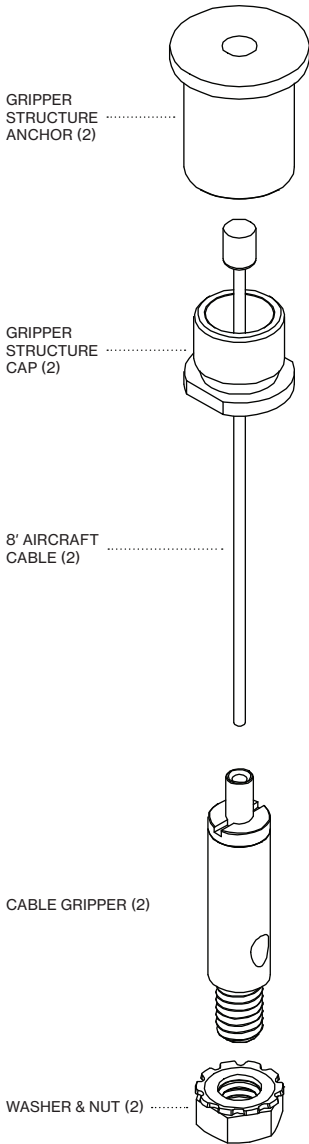
Field Touch Up and Color Match

Panels should be removed from the suspension system prior to touch-up painting and be allowed to fully dry before returning. All paints are interior flat latex paints.

COLOR NAME	SHERWIN-WILLIAMS COLOR NUMBER
BLACK FOX	SW 7020
TONY TAUPE	SW 7038
DUSTBLU	SW 9161
OLYMPUS WHITE	SW 6253
ALMOND ROCA	SW 9105
BEIGE INTENSO	SW 9096
TRES NATURALE	SW 9101
TIGEREYE	SW 6362
SOFT APRICOT	SW 6352
INVENTIVE ORANGE	SW 6633
AVID APRICOT	SW 6639
CAYENNE	SW 6881
SOCKEYE	SW 6619
CHEERFUL	SW 6903
ICY LEMONADE	SW 1667
BROCCOFLOWER	SW 9039
SUPREME GREEN	SW 6442
POWDER BLUE	SW 2863
LITTLE BOY BLU	SW 9054
SHOJI WHITE	SW 7042
STUDIO CLAY	SW 9172
IVORY LACE	SW 7013
TRICORN BLACK	SW 6258

Deck Suspension Installation

Suspended individual Cloudform Tiles panels utilize the Deck Hanging Kit (6-07-9983-K) that includes:



General Installation

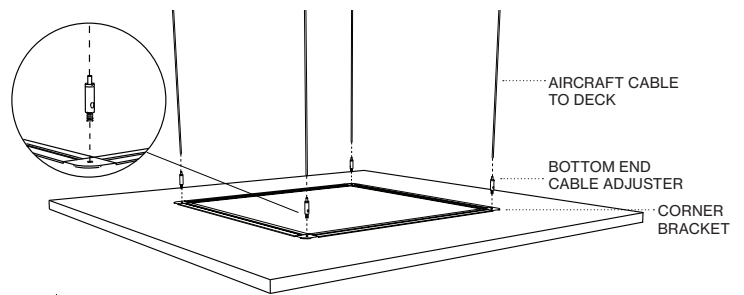
To fasten the cable connectors to the structure, use fasteners by others that are compatible with the structure. This part of the installation will utilize the Gripper Structure Anchor and Cap from the Deck Hanging Kit.

Screw cable connectors into the threaded holes at the panel specific attachment points on the metal extrusion and configure the cable connectors as shown below. The height of a panel can be adjusted at the bottom end cable adjuster. When a final height is determined and installation is complete, cut off the excess cable wire from the side of the adjuster, leaving a 1" tail.

TIP: Excess wire can be wound up in a tight circle and left on the back of the panel for future use.

NOTE: An 8' aircraft cable is included in the standard Deck Hanging Kit (6-07-9983-K). If additional cable length is needed for high ceiling applications, order the Extended Hanging Cables Kit (6-07-9985-K), which has (4) 30' aircraft cables per kit.

For angled hanging applications up to 60°, use the Angled Hanging Kit (6-07-9984-K), which has (2) angled hanging cables per kit. To install, insert the angled hanging cable between the bottom end cable adjuster of the deck hanging kit and the corner bracket on the back of the panel.

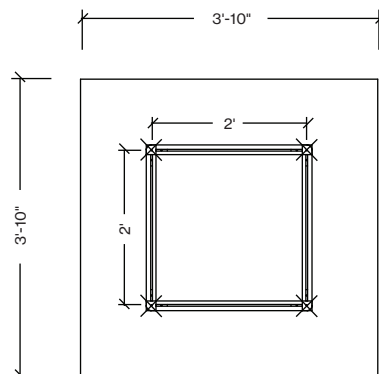


Panel Frame Attachment Points 90° Shapes

4' x 4' Panels

When installing a single 4' x 4' (nominal) panel, hang all four cables from the structure in a 2' square configuration. The cables attach to the individual panel at the four corners of the back frame using the cable adjusters supplied in the Deck Hanging Kit (6-07-9983-K).

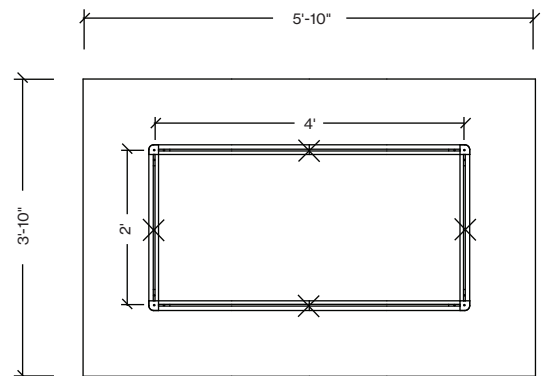
NOTE: Individually suspended panels will not use nuts and washers supplied in kit. Those are for group hanging applications only.



4' x 6' Panels

For 4' x 6' panels, attachment points are located at the midpoints of each side of the metal extrusion. First, line up the 1/4-20 nuts in the frames to the four midpoint areas of the back frames. Then screw the cable connectors into the 1/4-20 nuts in those locations. This provides the appropriate support for a 4' x 6' panel.

NOTE: Individually suspended panels will not use nuts and washers supplied in kit. Those are for group hanging applications only.



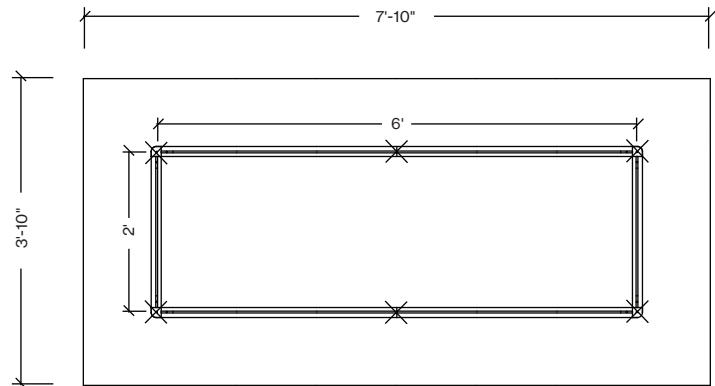
Panel Frame Attachment Points 90° Shapes Cont.

4' x 8' Panels

For 4' x 8' panels, in addition to the four corners, you will need to attach two additional cables to the midpoints of the long sides of the frames. For the midpoint attachments, first line up the 1/4-20 nuts in the frames to the midpoint areas of the frames. Then screw the cable connectors into the 1/4-20 nuts in those locations. Along with the corner attachments, this provides the appropriate extra support needed for a 4' x 8' panel.

NOTE: Individually suspended panels will not use nuts and washers supplied in kit. Those are for group hanging applications only.

IMPORTANT SAFETY AND QUALITY NOTE: Do not allow any portion of the aircraft cable to drop below the panels while adjusting final panel height. To do so could cause injury to the installer or damage to the edge of a panel.

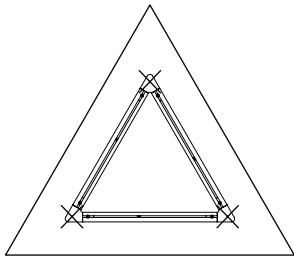


Panel Frame Attachment Points 60° Shapes

Triangle Panels

For Triangle panels, the cables attach to the individual panel at the three corners of the back frame using the cable adjusters supplied in the Deck Hanging Kit (6-07-9983-K).

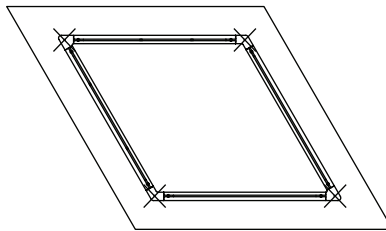
NOTE: An individually suspended panel will not utilize the nuts and washers supplied in that kit. Those are for group hanging applications.



Parallelogram Panels

For Parallelogram panels, the cables attach to the individual panel at the four corners of the back frame using the cable adjusters supplied in the Deck Hanging Kit (6-07-9983-K).

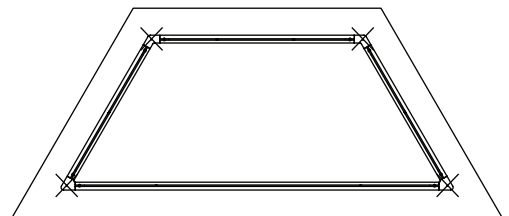
NOTE: An individually suspended panel will not utilize the nuts and washers supplied in that kit. Those are for group hanging applications.



Large Trapezoid Panels

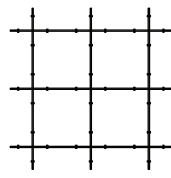
For Trapezoid panels, in addition to the four corners, you will need to attach two additional cables to the midpoints of the long, parallel sides of the frames. For the midpoint attachments, first line up the 1/4-20 nuts in the frames to the midpoint areas of the frames. Then screw the cable connectors into the 1/4-20 nuts in those locations. Along with the corner attachments, this provides the appropriate extra support needed for a Trapezoid panel.

NOTE: An individually suspended panel will not utilize the nuts and washers supplied in that kit. Those are for group hanging applications.

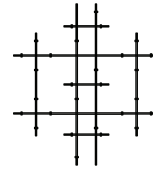
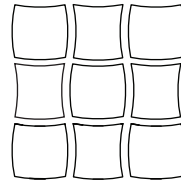


Group Suspension Installation

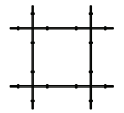
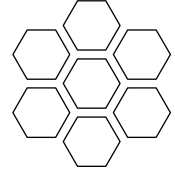
When suspending panels in a group configuration of more than two panels, Grouping Frames (6-07-9979-K) and Suspension Hooks (6-07-9974-K) provide support and systematic spacing designed for use in all seismic areas. This takes the math and extra effort out of maintaining consistent spacing. First, determine the length of the 144" grouping frame components needed based on your layout, then cut and arrange them so panels have at least 2" of clearance between them. There are a variety of grouping options with different frame arrangements needed for support.



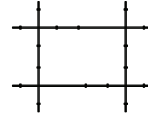
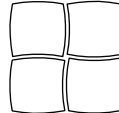
GROUP EXAMPLE 1



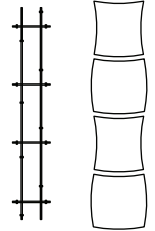
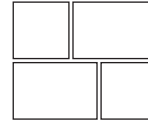
GROUP EXAMPLE 2



GROUP EXAMPLE 3



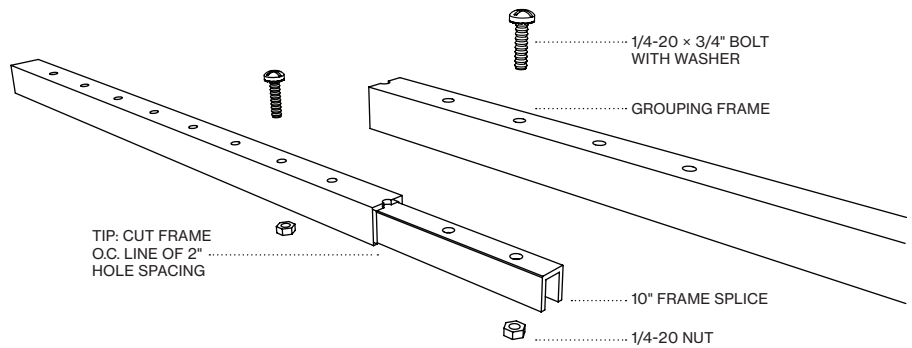
GROUP EXAMPLE 4



GROUP EXAMPLE 5

For groupings with more than 2" of space between panels, it is necessary to increase the center distances between grouping frames accordingly. If the grouping arrangement length increases, additional Grouping Frame Kits (6-07-9979-K) and Frame Splice (6-07-9980-K) Kits may be needed to connect the 144" frames. See right. Center distances must be changed in 2" increments to correspond with the 2" hole spacing in the grouping frame.

In every group suspension system, multiple Deck Hanging Kits (6-07-9983-K) are used to suspend grouping frame assemblies to deck. The Gripper Structure Anchor is attached to the deck with appropriate deck fastening hardware supplied by others. The cable is then inserted into the Gripper Structure Cap as shown on page 3, and threaded into the Gripper Structure Anchor. The bottom end cable adjuster must be attached to the bottom or "lower" grouping frame, and not to the top or "upper" grouping frame.



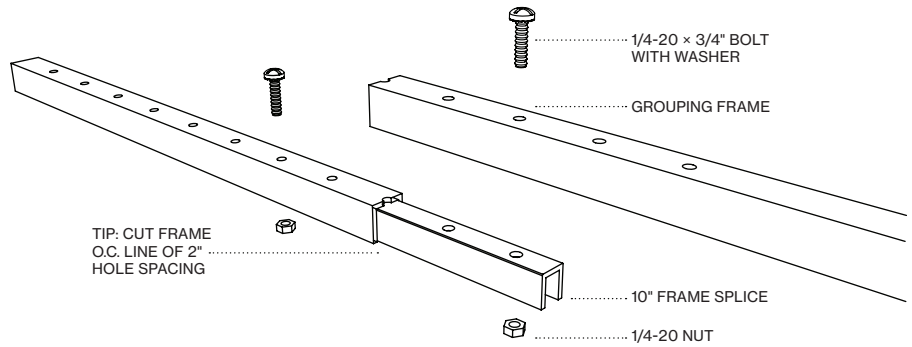
Group Suspension Installation Cont.

Grouping Frame Assembly

All grouping frame kits (6-07-9979-K) come with (4) 144" long pieces. Cut the frames to the appropriate lengths needed for the application. The aluminum frames can be field cut with a hacksaw or a miter saw equipped with a carbide blade.

When determining the required frame length, consider that the frame should extend at least 2" beyond the point where the panel hooks will engage them. This ensures that the hooks will not slip off the frames. However, due to the specific angles of 60° shapes, it might be necessary to extend the frame slightly more than 2" to ensure proper hook engagement. To maintain a clean and unobtrusive appearance, it is recommended not to exceed 4" beyond the embedded framing on the back of the panel.

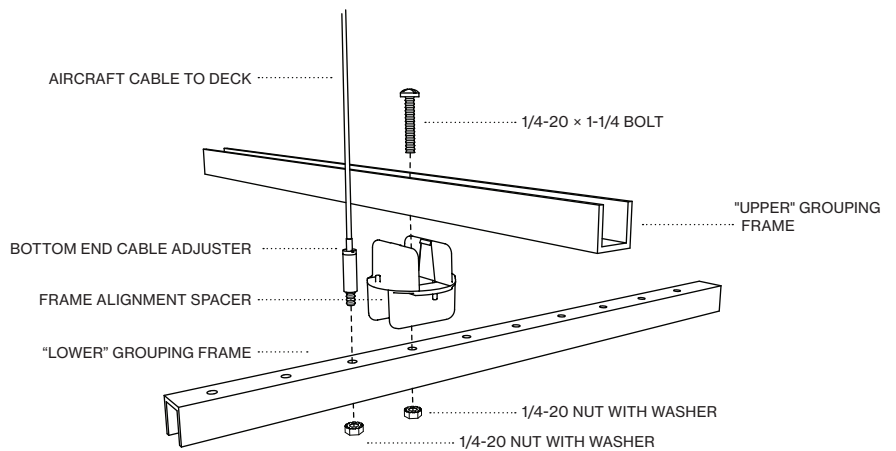
NOTE: If the design requires grouping frames longer than 144", a 10" Frame Splice Kit (6-07-9980-K) can be used to join the frame members, as shown to the right.



Next, arrange the grouping frames into the desired design layout, and determine top and bottom elements to maximize the efficiency of installation hanging points. In all cases, the top or "upper" grouping frames should be oriented with the U-profile facing up, and the bottom or "lower" grouping frames facing down, as shown on the right. The bottom grouping frames are the support mechanisms that will be suspended from the structure with the Deck Hanging Kits (6-07-9983-K).

Install Frame Alignment Kits (6-07-9981-K and 6-07-9982-K) where grouping frames cross to establish either a 90° or 60° alignment angle. Use the nuts and bolts supplied with the Frame Alignment Kit to secure the connection through the pre-drilled grouping frame holes spaced every 2". Finally, attach the bottom end cable adjuster every 4' along the supporting (bottom) frame for 90° systems, and at every intersection for 60° systems. The bottom end cable adjuster is inserted into one of the pre-drilled holes in the bottom grouping frame at the appropriate 48" or intersection location. Use the nuts with washers provided to secure the cable adjuster to the frame. Reference image to the right.

TIP: The grouping frame configuration can be laid out on the floor to install all of the components. The entire assembly can be hung as one unit utilizing the bottom end cable adjusters to gradually position the frame upward. Frame members can also be suspended one by one from the structure, and built into a grouping framework incrementally or in sections.



Group Suspension Installation Cont.

Panel Hook Attachment

Once the group assembly is finished, suspended, and leveled, support hooks can be secured to the backs of the panels.

One Panel Hook Kit (6-07-9974-K), is required for all 4' x 4', 4' x 6', Triangle, and Parallelogram panels. Each kit includes 4 hooks - 2 "high" hooks and 2 "low" hooks.

Trapezoid panels require 6 hooks - 3 "high" hooks and 3 "low" hooks, so 2 Panel Hook Kits are required.

NOTE: 2 of the 8 hooks will not be used.

It is not recommended to install 4' x 8' panels as a group from grouping frames; only independent suspension is recommended.

While installing the hooks to the panel frames, be aware of the location of the "high" and "low" hooks. High hooks are always across from each other, and low hooks are always across from each other.

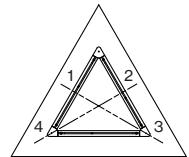
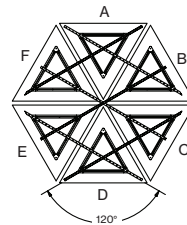
For non-symmetrical shapes, such as squares and circles, reference the factory marks on the frames, along with the diagrams in the following section to determine high and low hook placement.

Hook Placement: 60° Shapes

Depending on the pattern layout, the 60° panels can be in different orientations which can change where the hooks are located on the grouping frame. Shown are diagrams showing the possible directional orientations for each panel and the corresponding hook placements, located in the charts.

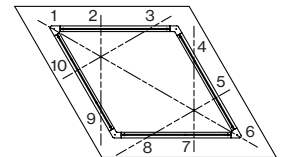
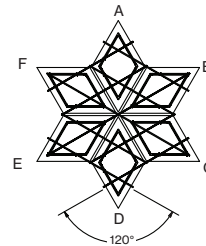
Triangle Panels

HOOK PLACEMENT				
POSITION	LOCATION 1	LOCATION 2	LOCATION 3	LOCATION 4
ALL POSITIONS	L	H	L	H



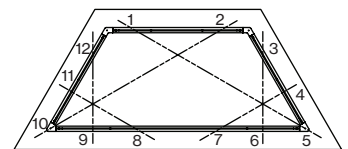
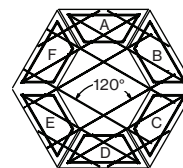
Parallelogram Panels

HOOK PLACEMENT										
POSITION	LOC. 1	LOC. 2	LOC. 3	LOC. 4	LOC. 5	LOC. 6	LOC. 7	LOC. 8	LOC. 9	LOC. 10
A & D	-	H	-	-	L	-	-	L	H	-
B & E	H	-	-	L	-	H	-	-	L	-
C & F	L	-	H	-	-	L	-	H	-	-



Trapezoid Panels

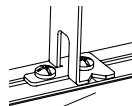
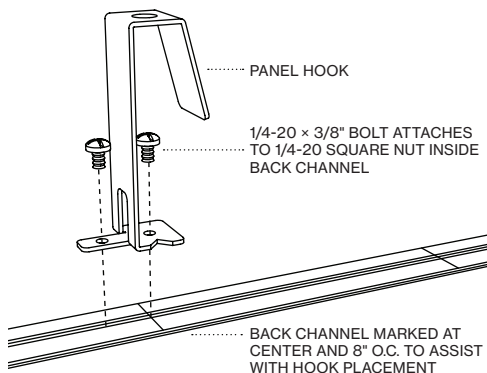
HOOK PLACEMENT												
POSITION	LOC. 1	LOC. 2	LOC. 3	LOC. 4	LOC. 5	LOC. 6	LOC. 7	LOC. 8	LOC. 9	LOC. 10	LOC. 11	LOC. 12
A & D	-	H	-	-	L	-	-	L	H	-	-	-
B & E	H	-	-	L	-	H	-	-	L	-	-	H
C & F	L	-	H	-	-	L	-	H	-	-	H	-



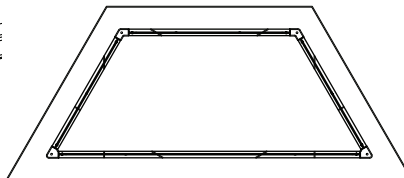
Group Suspension Installation Cont.

There is a notch cut into the base of the hooks to align the hooks with the appropriate marks on the frame. The notch will always face outwards. 1/4-20 nuts for securing the hooks to the frames are factory installed in the extrusion channels. Line up the nuts with the correct location for the hooks, and screw hooks to the panel using bolts included in the Panel Hook Kit (6-07-9974-K).

NOTE: The back channel is marked in various locations on each product to assist with hook placement. See the Trapezoid panel frame below as an example.

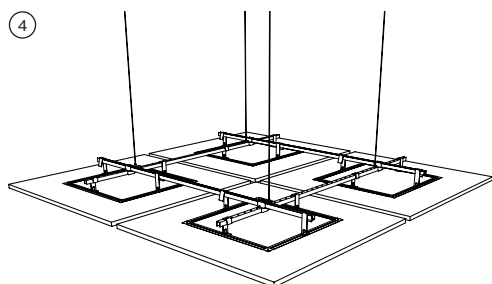
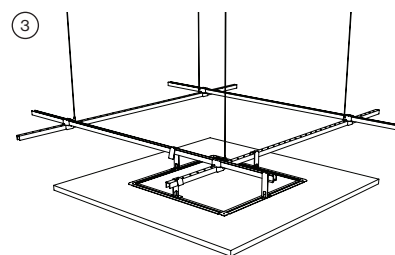
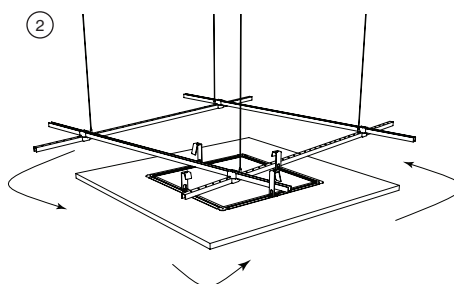
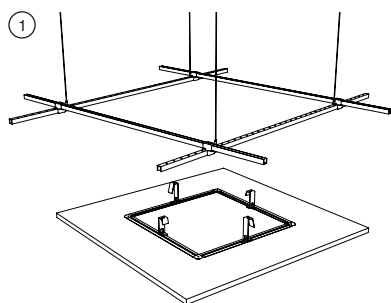


NOTE: USE HOOK LOCATOR TO CORRECTLY PLACE HOOKS AT PRE-MARKED LOCATIONS



Grouping Frame Assembly

Install the panels onto the Grouping Frame by rotating the panel hooks over the frame members as shown to the right.



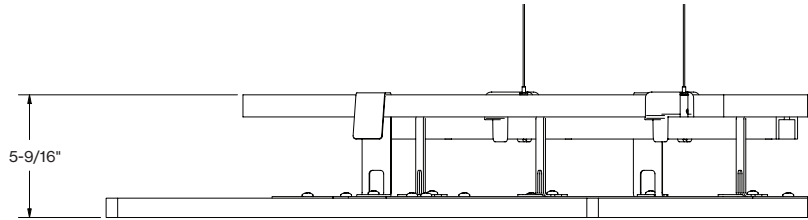
Group Suspension Installation Cont.

After panels are installed, there should be 5-9/16" spacing from the top of the upper frame to the panel face when using the Panel Hook Kit (6-07-9974-K). Adjust the final height of the group assembly as needed.

IMPORTANT SAFETY AND QUALITY NOTE: Do not allow any portion of aircraft cable to drop below the panels while adjusting final panel height. To do so could cause injury to the installer and/or can damage panel edges.

Multi-Plane Hanging Kits

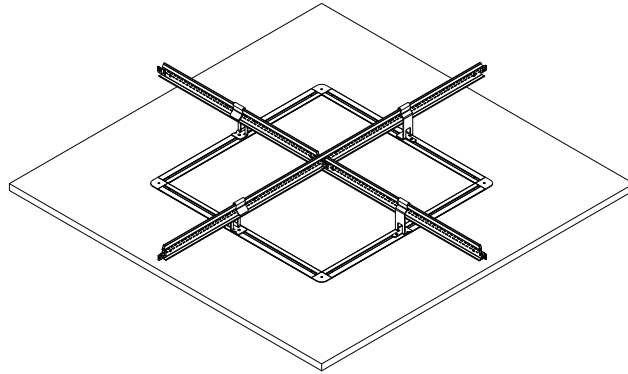
Refer to page 7-8 for panel hook placements. The only difference with the Multi-Plane Hanging hooks (6-07-9975-K, 6-07-9976-K, 6-07-9977-K) is that they lower the panels either 1", 2", or 3" from the grouping frame.



Grid Attachment Installation

To install Cloudform panels on grid, install the Grid Hooks (6-07-9978-K) on the back of the panels. Refer to page 7-8 for installation of hooks on the back of the panels. However, these hooks will all be the same height. When these hooks are used, the panel can be installed at any grid intersection (assuming that the existing grid is no closer than 24" O.C.) that allows enough space for the panel between the intersection to the wall. Install on grid only when the mains and tees have the same web height. Use heavy-duty Prelude® XL® 2' Cross Tees to maintain 1-11/16" cross tee height. Use only with Prelude main beam 15/16" grid face. For additional seismic requirements refer to Section 7.2.

NOTE: The 60° panels are not able to be installed by hanging on grid. Only 90° panels can be installed on grid.



Installing Aircraft Cables (6-07-9985-K)

The following are modifications to installations that are Seismic Category C, D, E, or F.

This system has been tested and approved for installation in all IBC Seismic Design Categories. ASCE 7 provides an exception to the restraint requirement for architectural components stated in Section 13.5.1 provided that:

- The connection to the structure must allow a 360° range of motion in the horizontal plane

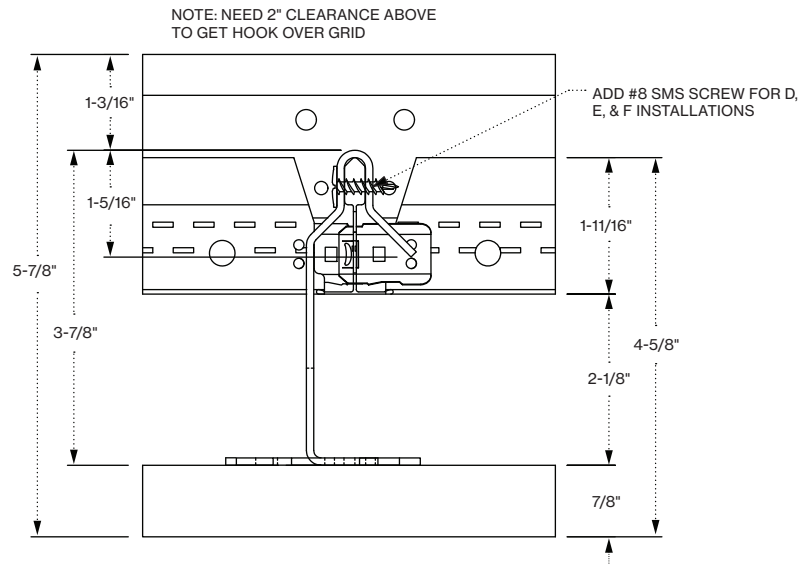
- The component may not cause damage to an essential building element

The International Building Code allows architectural components to swing freely as long as they will not be damaged or cause damage. Cable lengths less than 20" will generate the greatest amount of pendulum reaction during a seismic event and should, therefore, be avoided.

When it is not practical to use cables greater than 20" long, allow lateral clearance around the architectural component equal to, or greater than, the length of the cable. Architectural components suspended from cables greater than 20" long will swing no more than 8". Restraint of architectural elements has proven to be ineffective and is not recommended.

Grid Attachment Installation

In addition to the installation steps outlined in this guide, when using the grid hook clip, a screw is required to be installed through the clip into the grid for a positive attachment, as shown on the right.



Applications always require more than one kit.

Item #	Kit Contents
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6-07-9983-K – Deck Hanging Kit

Allows for suspending individual shapes or grouping frames from deck and bottom-end adjustment of height at panel or frame level.

- (2) Gripper Structure Anchors
- (2) Gripper Structure Caps
- (2) 8' Aircraft Cables
- (2) Bottom-End Cable Adjusters
- (2) Nuts with Washers



6-07-9984-K – Angled Hanging Kit (60° Maximum Angle)

For use when hanging panels at different angles. Extends from the end of Deck Hanging Kit.

- (2) Angled Hanging Cables



6-07-9985-K – Extended Hanging Cables

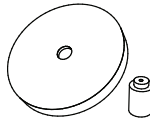
For use with Deck Hanging Kit when longer cables are needed.

- (4) 30' Aircraft Cables

6-07-9986-K – Escutcheon Kit

Used when hanging panels below an existing ceiling.

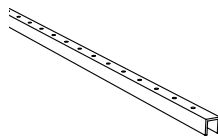
- (2) Collars with Set Screws
- (2) 2" Escutcheons



6-07-9979-K – Grouping Frames Kit

Suspension frames used to group panels together.

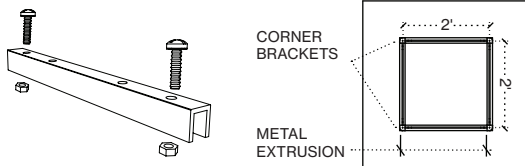
- (4) Suspension Frames, 12' long



6-07-9980-K – Frame Splice Kit

Connects group suspension frames for longer runs (> 12 feet).

- (2) Group Frame Connectors, 10" long
- (4) Bolts with Washers
- (4) Nuts



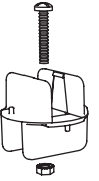
NOTE: ACCESSORY KIT HARDWARE IS ATTACHED TO PANELS VIA THE METAL EXTRUSION OR CORNER BRACKETS ON THE BACK OF EACH PANEL. IF YOU NEED ASSISTANCE IDENTIFYING WHAT AND HOW MANY ACCESSORY KITS ARE NEEDED FOR YOUR PROJECT, PLEASE CONTACT LIGHTART.

Item #	Kit Contents
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6-07-9981-K – 90° Frame Alignment Kit

For use with 90° group suspension frames.

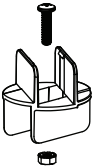
- (4) Frame Alignment Spacers, Clear Plastic
- (4) Bolts
- (4) Nuts with Washers



6-07-9982-K – 60° Frame Alignment Kit

For use with 60° group suspension frames.

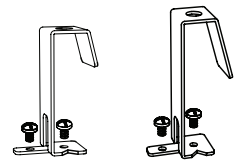
- (4) Frame Alignment Spacers, Clear Plastic
- (4) Bolts
- (4) Nuts with Washers



6-07-9974-K – Panel Hook Kit

For use with group frames. All panels require 1 kit, except Large Rectangle and Large Trapezoid require two kits.

- (2) 4-1/2" High Panel Hooks
- (2) 3-1/2" High Panel Hooks
- (8) Bolts

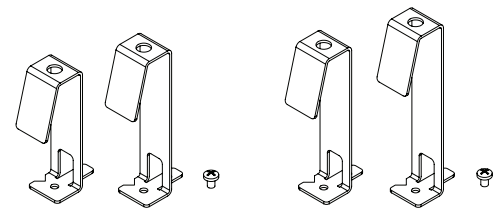


Multi-Plane Hanging Kit

- 6-07-9975-K – 1" Drop Hook Kit**
- 6-07-9976-K – 2" Drop Hook Kit**
- 6-07-9977-K – 3" Drop Hook Kit**

For use when hanging panels at heights below Panel Hook Kit.

- | | | |
|-------------------------|-------------------------|-------------------------|
| 1" Drop Hook Kit | 2" Drop Hook Kit | 3" Drop Hook Kit |
| (2) 4-1/2" Hooks | (2) 5-1/2" Hooks | (2) 6-1/2" Hooks |
| (2) 5-1/2" Hooks | (2) 6-1/2" Hooks | (2) 7-1/2" Hooks |
| (8) Screws | (8) Screws | (8) Screws |



6-07-9978-K – Grid Hook Kit

For hanging individual panels from a standard suspension system.

- (4) Hooks
- (8) Screws

