PLASCORE

INSTALLATION INSTRUCTIONS SECTION 5: 0.5" PLASCORE NON-WALKABLE CEILING SYSTEM

Instructions available in Spanish

CAUTION: ***The 0.5" Plascore non-walkable ceiling panels are non load bearing. Applications that have the potential for access above the panels should be clearly sectioned off and marked as non-walkable to prevent accidental overloading of panels. Failure to do so may result in serious injury.***

THE FOLLOWING INFORMATION IS PROVIDED BY PLASCORE, INC. AS A GENERAL GUIDELINE FOR INSTALLATION OF THE PLASCORE 0.5" NON-WALKABLE CEILING SYSTEM. THIS INFORMATION SHOULD BE REVIEWED PRIOR TO COMMENCING INSTALLATION. THE INFORMATION IS INTENDED TO COVER STANDARD INSTALLATION PRACTICES, AND MAY NOT COVER CUSTOM DETAILS SPECIFIC TO THE PARTICULAR PROJECT IN QUESTION. CONSULT PLASCORE INC. FOR QUESTIONS ON CUSTOM INSTALLATION APPLICATIONS.

1. RECEIVING MATERIAL

A. Materials are packed in crates which may be up to 3,600 lbs, and 200 inches long. Plascore advises that crates be handled by fork trucks with long forks and appropriate load ratings.

B. Standard shipping arrangements are made with box trucks to be unloaded at a shipping dock. Special arrangements can be made at an upcharge to ship materials on Flatbed trucks for side loading/unloading.

C. Crates will typically be stacked on the trucks to minimize freight costs. Considerations should be made to unload stacked crates in a safe and careful manner to avoid damage and injury.

D. Receiver should visibly inspect all crates as they are unloaded. Any crate damage should be noted on the bill of lading to facilitate a freight claim if product is found to be damaged.

E. Receiver should verify the packing slip matches the crate labels as they are unloaded. Notify Plascore immediately of any discrepancies.

F. Crates should be stored in a climate controlled area where they are protected from moisture, humidity, and temperature extremes.

(*CONSTRUCTION TIPS:)*

1. *Using short forks may result in crates tipping and being punctured by the end of the forks.*
2. *Hardware/Extrusion crates are typically built to be 4 way and handled from either side, however panel and door crates are built to be handled from the ends only. Please notify Plascore at the time the order is placed if Flat Bed trucks are required for side unloading so crates can be built to accommodate this.*

3. *Do not store crates under tarps outdoors. Tarps can become torn or lose their waterproofing characteristics quickly, allowing water to penetrate to the crates.*

2. UNCRATING/INSPECTING MATERIAL

A. Panels are packed with a protective film covering the cleanroom surfaces. All film should be left in place as long as possible to prevent damage.

B. All panels should be unloaded by two people lifting the panel straight up off of the stack. Dragging panels from the side of a crate will result in damage.

C. If damage to material is noted, stop unloading and notify Plascore immediately for further instruction. (Please reference Plascore submittals for material data sheets on acceptable product defects/tolerances)

D. It is advised that customers inventory material as they are uncrating it and notify Plascore immediately of any discrepancies from the crate label descriptions.

(CONSTRUCTION TIPS:)

1. *Remove all 4 sides from panel crates before removing the panels. This facilitates lifting panels straight upward instead of sliding them.*
2. *The use of panel suction cups may help in the handling of panels.*
3. *Protective film may show cuts or scratches; however, the panel may be undamaged underneath. Peel back the protective film in the area in question to determine if panels are actually damaged below.*
4. *Do not remove protective film until the panels have been allowed to acclimate to room temperature, and humidity is less than 50%. Allow a minimum of 36 hours of acclimation before removing film. Failure to follow these guidelines could result in adhesive residue being left behind on the panel surface. If adhesive residue is found on panels STOP removing film and contact Plascore immediately.*

3. CEILING SUPPORT STRUCTURE CONSIDERATIONS (NOT PROVIDED BY PLASCORE)

A. The 0.5" Non-walkable ceiling can be installed to a variety of substrates, including the following:

- Drywall Grid or similar grid structure
- Steel stud structure
- Concrete deck
- Existing drywall ceiling

B. The panels are provided at a width of 48". Regardless of the substrate, there must be hard points on 48" centers to fasten the panel attachment clips too per drawing details.

C. The fasteners required to fasten the clips to the substrate are NOT supplied by Plascore. The contractor must choose the appropriate type of fastener based on the substrate that the fastener will be installed into. The fasteners should have a minimum pullout strength of 125 lbs each. Screws should be #10 size with a truss/washer head type with head height less than 1/8" for clip clearance.

(CONSTRUCTION TIPS:)

1. *Panels are attached along the length only, making the 48" spacing of hardpoints the critical substrate dimension.*
2. *On existing drywall ceiling it may be necessary to install strapping or hat channel to create the hard points if studs are difficult to locate or are not on 48" centers.*

4. INSTALLATION OF PANEL ATTACHMENT CLIPS

A. There are two types of attachment clips for the non-walkable ceiling panels. There is a Step clip (part# 14591), and a flat clip (part# M1999). Each 8' panel receives (3) step clips along one long edge, and (3) flat clips along the other long edge. For a 10' panel use a quantity of (4) clips along each edge. **(THE EXCEPTION WILL BE AT PERIMETER LOCATIONS WHERE CLIPS WILL NOT BE REQUIRED)**

B. Install the step clips using the provided 8-18 x ½" self drilling tek screws (2 screws per clip). Torque the fasteners to **10-12 in·lbs**.

C. To locate the Step clips from the long edge of the panel, they should be installed so that the step on the bottom of the clip lines up with the outside edge of the finished panel skin. This alignment will facilitate the screws hitting the internal support extrusion along the long panel edges.

D. The Step clips should be positioned along the long edge of the panel as follows.

- The two Step clips on each end should be roughly 2" from the short edge of the panel to the center of the clip.
- On an 8' panel,the middle Step clip should be installed in the center of the panel along the long edge.
- On a 10' panel, install the two middle Step clips 38" from each short panel edge to the center of the clip.

E. Install the Flat clips using the provided 8-18 x ½" self drilling tek screws (2 screws per clip). Torque the fasteners to **10-12 in·lbs**.

F. To locate the Flat clips from the long edge of the panel, they should be installed so the center of the Flat clip lines up with the outside edge of the finished panel skin. This alignment will facilitate the screws hitting the internal support extrusion along the long panel edges.

G. The Flat clips should be positioned along the long edge of the panel as follows.

- The two Flat clips on each end should be roughly 5" from the short edge of the panel to the center of the clip.
- On an 8' panel, the middle Flat clip should be installed 45" from either short edge of the panel to the center of the clip.
- On a 10' panel, install the two middle Flat clips 42" from each short panel edge to the center of the clip.

(CONSTRUCTION TIPS:)

1. *Panels are attached along the length only, making the 48" spacing of hardpoints the critical substrate dimension.*
2. *On existing drywall ceiling it may be necessary to install strapping or hat channel to create the hard points if studs are difficult to locate or are not on 48" centers.*

5. INSTALLATION OF PANELS AT PERIMETER CONDITIONS

A. The non-walkable ceiling panels come with bent edges on all 4 sides, however panels may be field cut at all perimeter conditions where the cut edges will be hidden by coving or trim.

B. There are two methods for attaching the panels at the perimeter.

- Method #1: If the wall panels are installed prior to the ceiling, you can use the cove base to support the edges of the panels.

- Size the ceiling panel so it is within ½" of the wall.
- If starting the installation from the wall and building out, you can install the aluminum cove base extrusion E0013 first. The top of the cove base should be at ceiling height level.
- Lay the cut edge of the panel on top of the cove base extrusion and fasten the opposite side to the substrate with the clips (see later step).
- Fasten the cove base to the ceiling panel to secure the cut edge of the panel.

- Method #2: If the ceiling panels are installed prior to installing the wall panels, a fastener can be installed directly through the panel and into the panel support substrate.

- The perimeter edge of the panel can have either a factory edge or cut edge.
- Drill a clearance hole in the bottom skin of the panel to allow a fastener head to penetrate to the interior of the panel and be hidden. This will allow a headtrack or cove base to install to the bottom of the panel without screw head interference.
- Install a ¼" gasket or equivalent spacer between the support substrate and top side of the panel to maintain the same spacing as the panel attachment clips.
- Fasten the panels to the panel support substrate. The fasteners required to fasten the panels to the substrate are NOT supplied by Plascore. The contractor must choose the appropriate type of fastener based on the substrate that the fastener will be installed into. The fasteners should have a minimum pullout strength of 125 lbs each.

(CONSTRUCTION TIPS:)

1. *A ½" hole saw and arbor works well to create the clearance hole in the bottom panel skin.*

6. INSTALLATION OF PANELS

A. If starting at a perimeter condition, install the perimeter of the panel using one of the methods from step 5. The other side of the panel should be installed by fastening the step clips into the panel support substrate. If starting in the middle of the room, both long edges of the panel should use step clips that are fastened into the support substrate. Fasteners into the support substrate are by others. The fasteners should have a minimum pullout strength of 125 lbs each. Screws should be #10 size with a truss/washer head type with head height less than 1/8" for clip clearance.

B. The subsequent panel is installed by sliding the flat plates on top of the installed panel edge, and fastening the step clips on the other edge of the panel to the support substrate. Finished panel edges should fit together tightly to form a fine line seam. The flat plates rest on top of the adjacent installed panel edge. The location of the plates in step 4 allow the flat plates and step plates to slide by each other without interference.

(CONSTRUCTION TIPS:)

1. *Panel can be cut anywhere that does not have a visible edge.*

2. *Keep ALL panel drops that contain a finished edge. Drops are figured to be used as part of the project material count.*
3. *Use panel drops as efficiently as possible.*
4. *Leave all protective film in place during cutting and handling of panel.*
5. *Cut panel with a circular saw intended for use on steel sheet metal. (i.e. Milwaukee brand 8" Metal Cutting Saw 6370-20)*
6. *Avoid using reciprocating saws if possible as they may tear skins from core if the blade catches.*
7. *Keep all surfaces that panels may rest on free of metal chips to avoid scratches.*
8. *Clip locations may need to be adjusted if they interfere with panel cutouts, etc.*
9. *Reference shop drawings for clip locations.*

7. SEALING OF PANEL SEAMS AND PENETRATIONS

A. All uPVC to uPVC surfaces should be cold welded using cold weld sealant (provided by Plascore). Any sealant against a non-uPVC surface should be an approved silicone caulk (provided by others).

B. For cold weld seams, it is imperative that the surfaces to be bonded are completely free of dirt, residue, moisture or any other foreign substance that may inhibit the chemical bonding of the cold weld sealant.

C. Cold weld sealant should only be applied once the room has been conditioned to room temperature and humidity levels. Temperature and humidity greatly impacts the curing cycle of the cold weld product.

D. For silicone seams, follow the silicone manufacturer's application instructions for best results.

(CONSTRUCTION TIPS:)

1. *The cold weld product skins over immediately and cannot be tooled. Any bubbles, gaps, or other defects should be allowed to cure before attempting to repair the imperfection. Attempting to tool the product before it has cured will generally result in smears that are difficult to deal with.*
2. *The opening of the cold weld sealant tube should be 1/16"-1/8".*
3. *When applying the cold weld sealant, hold the tip perpendicular to the seam as you go. This helps strike a flat bead as it's being dispensed.*
4. *If new to cold welding, it is recommended to practice on scrap panels, or non-visible areas first.*
5. *If cold welding long seams, it may be helpful to break the seam, allow it to cure, and start at the break point to continue with the seam.*
6. *By nature cold welding products tend to shrink as it cures, so the seams will be slightly concave once cured. It is not possible to get a completely flush seam by applying additional cold weld sealant as it will just build up on the edges and continue to shrink in the middle.*

8. CEILING EQUIPMENT PENETRATIONS

A. The Plascore 0.5" ceiling panels are not designed to support loading of ceiling equipment. All ceiling equipment (lights, filters, etc.) should use a separate framing member that supports the weight of the fixture. The framing member must have an overlapping flange to cover panel edges.

(CONSTRUCTION TIPS:)

1. *The cut edges of the panels can be reinforced with screws through the panel as described in section 5, method 2 provided the holes are covered by the trim.*

2. Alternatively, the equipment framing may support some of the load of the panel at the cut edge.