INSTALLATION INSTRUCTIONS SECTION 1: 2" PLASCORE WALKABLE CEILING SYSTEM

Instructions available in Spanish

THE FOLLOWING INFORMATION IS PROVIDED BY PLASCORE, INC. AS A GENERAL GUIDELINE FOR INSTALLATION OF THE PLASCORE 2" 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. INSTALLATION OF TURNBUCKLE ASSEMBLIES

A. Locate the Plascore reflected ceiling plan to confirm the location of required panel hangers. The Plascore reflected ceiling plan will indicate the rough hanger locations required to maintain the design loads indicated in the specification sheet..

B. Make sure strut, or other means of attachment to the existing building structure are installed and ready to accept the threaded rod for panel hangers. Some jobs may have a strut drawing (BY OTHERS) to help facilitate the location and type of strut to install. Plascore does not supply the strut, threaded rod, or other interstitial hardware.

C. Hang the specified threaded rod and cut the rod off at the desired height. Plascore supplies turnbuckles threaded for 1/2”-13 threaded rod unless otherwise specified.

D. Assemble turnbuckles as indicated in shop drawing details and thread them onto the installed threaded rod. Be sure to differentiate between 4-way attachment plates and 2-way attachment plates as indicated in the Plascore reflected ceiling plan.

E. Use a laser level or other means to adjust the bottom of the turnbuckle plates to the finished ceiling height, plus 2” for the panel thickness.

(CONSTRUCTION TIPS:)

1. *The turnbuckle assembly is 4-9/16” tall total. Cut the threaded rod off 4.5” above the room ceiling height for a 2” engagement in the turnbuckle tube for maximum up and down adjustment. For Example: If the finished ceiling height on the room side is 120”, cut the bottom of the threaded rod off at 124-1/2”*

2. *Using survey equipment, locate the high point of the floor within the room. Use this as your starting point for the specified room height. This will allow the adjustable floor track to take up any discrepancy in floor-to-ceiling height as that distance increases at the low point of the floor.*
3. *Use strut trapeze or other methods to work the threaded rod around ducting, process piping, or other obstructions. (Design and configuration of trapeze should be validated by the engineer of record on the project.)*

4. CEILING PANEL PREPERATION

A. Determine a starting point to begin installing Plascore walkable ceiling panels. The ceiling panels are installed progressively, so be sure to choose a starting point that allows the panels to be installed continuously out to the ceiling perimeter.

B. Locate the Plascore reflected ceiling plan and/or the panel label key drawing to determine the next panel size required for installation. If referencing the panel label key drawing, the key will depict the panel number corresponding to a sticker located on each panel edge. Panels designated as "-cut" on the key indicate the panel is to be field cut in the length or width. If referencing the reflected ceiling plan, you can use the dimensions on the plan to find the correct sized panel.

C. Locate the final HVAC and Lighting plans to determine if the panel to be installed requires cutouts for ceiling equipment. (Plascore drawings show a rough location of ceiling equipment only, not to be used for final cut locations)

D. **All equipment cutouts should be spaced a minimum of 8" from each other, and 3" from a panel edge unless otherwise indicated. Additional turnbuckle locations may be used to re-enforce the ceiling panel in the event these conditions cannot be met. Contact Plascore for design options if the spacing is less than the stated minimums.**

E. Move panels to an area designated for panel cutting, and make cuts for ceiling equipment penetrations and any panel sizing required.

(CONSTRUCTION TIPS:)

1. *Start installation in a corner, preferably where a field cut is not required and build towards the perimeter where field cuts may be allowed.*
2. *Ceiling panels can only be field cut along one edge.*
3. *Tie first installed panel into existing building if possible to provide a stable point to build from and keep ceiling platform from moving during the first few panels of installation.*
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. *Be sure to keep ceiling penetrations at least 3" away from walls to avoid coving overlapping the frame.*

5. CEILING PANEL INSTALLATION

A. Peel back protective film 1" from edge of the prepared panel so it does not get pinched in the panel seam.

B. If the panel is not field cut, use the factory installed threaded inserts. If the panel has been field cut, a 5/16"-18 rivnut provided by Plascore must be installed into the panel edge extrusion. The rivnut should be installed 21/32" from the edge of the panel, located along the edge to match the adjacent panel (See Construction Tips for installation notes). **ALL TURNBUCKLE ATTACHMENTS SHOULD BE MADE TO A FACTORY INSTALLED THREADED INSERT, OR A PROPERLY INSTALLED PLASCORE RIVNUT. SUBSTITUTIONS ARE NOT ALLOWED.**

C. Use a scissor lift or other means of a hoist system to lift the panel in place.

D. Fasten the panels to the turnbuckle plates using the provided 5/16" x 1" Low head Cap screw with a lock washer. Fasteners should be torqued down to **6-12 ft·lbs**. **ALL TURNBUCKLE ATTACHMENTS SHOULD BE MADE USING THE PLASCORE SUPPLIED FASTENERS. SUBSTITUTIONS ARE NOT ALLOWED.**

E. Install an aluminum spline (part# E0055) into the installed panel edge. The end of the spline should stop within 1"-6" from the corner of the panel.

F. Continue installing adjacent panels by engaging the panel edge with the spline of the installed panel and fasten the panel to the turnbuckle as described previously.

(CONSTRUCTION TIPS:)

1. *Field installed rivnuts are installed by using a turnbuckle plate to locate the hole 21/32" from the edge of a panel (within a perimeter extrusion). Drill a hole with a "Z" drill (.413") and install rivnut per instructions provided with the rivnut installation tool. (Using the improper size drill bit may lead to failure of the rivnut resulting in material damage, injury or death.)*
2. *It may be beneficial to have one person on the ceiling platform to fasten the far panel corner to the turnbuckle after lifting the panel in to place. (Only stand on panels that have been properly installed.)*

6. CEILING EQUIPMENT INSTALLATION

A. Locate the correct size Plascore ceiling equipment frame (if provided).

B. Insert the frame into the previously prepared ceiling penetration from below.

C. Fold the tabs on top of the frame down onto the top of the ceiling panel.

D. Use the provided #8 x ¾" tek screws to fasten the tabs down to the top of the ceiling panel. Torque fasteners down to **6-9 in·lbs**.

E. Install the ceiling equipment onto the ceiling frame flanges similar to a T-bar Grid installation.

(CONSTRUCTION TIPS:)

1. *Some equipment items may require gasket on the frame flanges before installing. (not supplied by Plascore).*
2. *Some equipment may not require Plascore ceiling frames. In such case always follow equipment manufacturers installation instructions.*

7. FINAL INSPECTION AND WIPE DOWN

A. Once installation is completed and ready for cold welding, remove all protective film.

B. Clean panels thoroughly with a 70% IPA, 30% distilled water solution to remove all dirt, residue, etc.

(CONSTRUCTION TIPS:)

1. *If any protective film adhesive residue remains that cannot be removed with IPA, it is recommended to use a product such as Orange Tough 40 that contains D-limonene as the active ingredient. (Products such as Goof Off 2, or similar have been known to eat the uPVC surface and smooth out the texture, always try any cleaner in a non-visible area first.)*

8. 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.*