Skylo™ 5" Walkable Suspension System

Assembly and Installation Instructions

Hardware to Be Purchased Separately:

- **3/8"-16 threaded rod for suspension from structure**

IMPORTANT: Do **not** remove the suspension system from the carton until you have read these instructions in their entirety.

1. SYSTEM OVERVIEW

1.1 Skylo™ Walkable Ceiling Systems are designed and constructed to support the weight of personnel and equipment. These systems provide interstitial space for HVAC systems, lighting, and other utilities, allowing for easy maintenance without compromising the cleanroom environment of the space below. This reduces downtime and eliminates the need for scaffolding or lifts. The diagram in ***(Fig 1A)*** provides an overview of the Skylo suspension system components, clips, and accessories.

IMPORTANT: Skylo accessories and hardware are designed for use with Skylo ceiling systems. Each component is engineered for specific duty loads, as specified in the load charts provided in the Skylo data pages. The Skylo system shall be designed and certified by a Professional Engineer (PE) licensed in the jurisdiction where the project is located, and must comply with all applicable building codes, standards, and regulations. Armstrong is not liable for improper use or improper installation of Skylo or its components. Please refer to Section 6 for specific information regarding allowable loads for the suspension system.

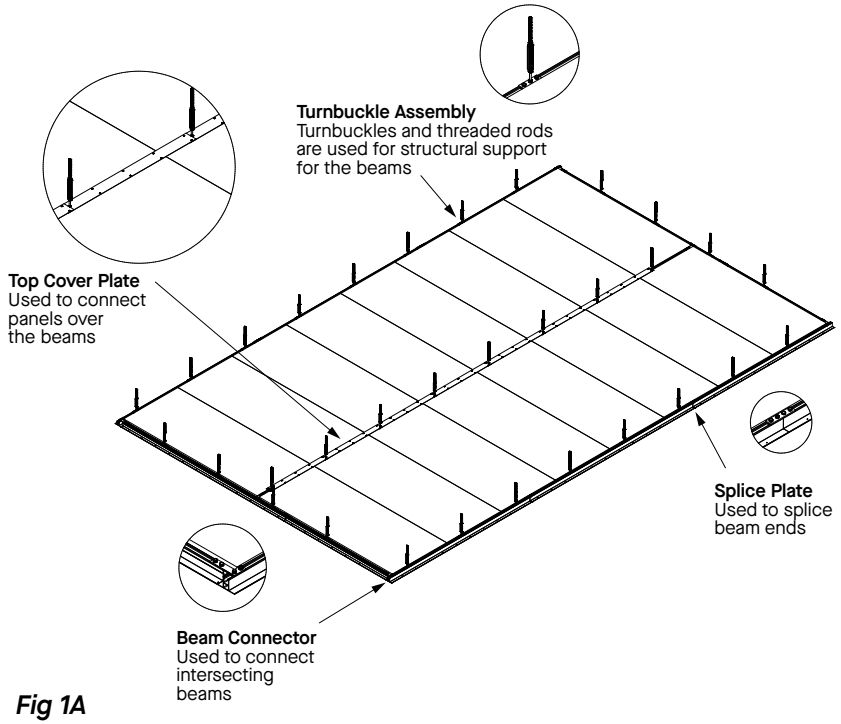

Fig 1A

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1.2. Tips for Success

1.2.1. Follow all site-specific safety rules and regulations.

1.2.2. Follow Clean Build Protocols as applicable.

1.2.3. Always follow the instructions noted below for offload and handling of insulated panels.

1.2.4. Use specified sealant at panel joints.

1.2.5. Work with a minimum of two people when handling large panels.

1.2.6. Avoid exposing panels to direct sunlight for prolonged periods. Do not store panels outdoors.

1.2.7. Always crosscheck with the specific manufacturer documentation and your project shop drawings.

1.3. Pre Delivery & Site Preparation

1.3.1. Review the shop drawings and installation specifications for your specific project (fastener layout, joint details, flashing, sealing etc.).

1.3.2. Provide support (dunnage/blocking) to keep the insulated panels off the ground while being stored.

1.3.3. Ensure access routes are properly prepared so panels can be moved without damage.

1.4. Receiving & Inspection

1.4.1. Inspect insulated panels upon delivery **before** signing receipt acknowledgement documents. Check for damage, dented corners, crushed edges, moisture, and verify that quantities and dimensions match the packing list or purchase order.

1.4.2. Do not drag panels across themselves or other surfaces — always lift panels to avoid damaging metal skins or coatings.

1.4.3. Never lift a panel by the top sheet alone — always support the full panel from beneath.

1.5. Storage on Site

1.5.1. Store insulated panels indoors in a secure, dry, and weather-tight area.

1.5.2. Keep insulated panels off the floor surface with appropriate dunnage, ensure dunnage. Maintain proper spacing (e.g. maximum spacing ~1.5m or per manufacturer's guidance) to avoid sagging or permanent deformation.

1.5.3. For panels stored in open areas, remove protective plastic film if storage exceeds approximately 30–60 days to prevent adhesion or residue buildup.

1.5.4. After protective film removal, wipe surfaces to remove dust, filings, or debris before re-stacking.

1.5.5. Cover panels with a tarp or breathable cover, leaving the ends open for ventilation—do not seal tightly. Secure covers to prevent wind damage.

Avoid stacking excessive quantities—generally, limit stacking to two bundles high.

1.6 Skylo Walkable Ceilings are designed to be installed with 3/8"-16 threaded rod suspended from structure.

1.7 Plan the installation layout, marking the locations of hanger rods, main beams, and cross tees. Identify any overhead mechanical systems that may obstruct ceiling support.

Follow the specified locations for threaded rods, hangers, main beams, and cross tees according to the directions of the specifying architect or engineer.

When vertical threaded rod drops are not possible, suitable sub-framing (trapeze framing) may be required ***(Fig 1B)***. This sub- or trapeze framing must be specified by a structural engineer to ensure the members are adequately designed to support the required loads.

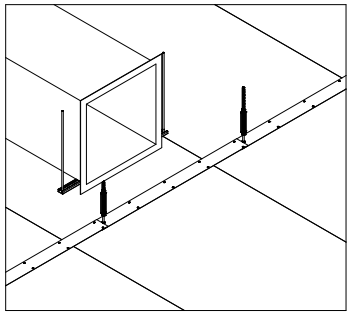

Fig 1B

2. CEILING – PERIMETER

2.1 Install threaded rods along the wall at the ceiling perimeter. The Skylo Beam is used as the ceiling perimeter member, running parallel to the wall. The main beam is suspended from the threaded rods using the Skylo Main Beam hanging hardware ***(Fig 2A)***.

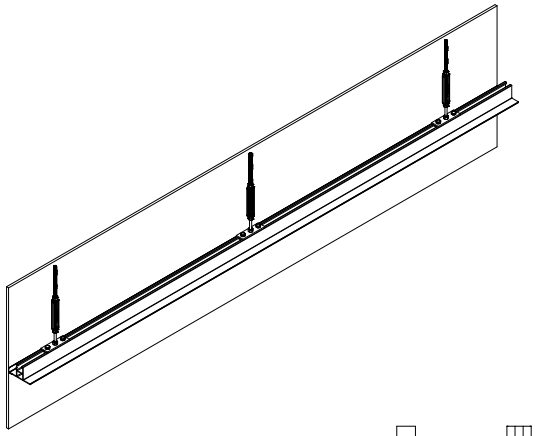

Fig 2A

2.2 Steel or aluminum angle may be used to finish the ceiling perimeter and create a seal with the perimeter beam flange. Fasten perimeter wall angle with appropriate fastener for use with the given wall substrate ***(Fig 2B)***.

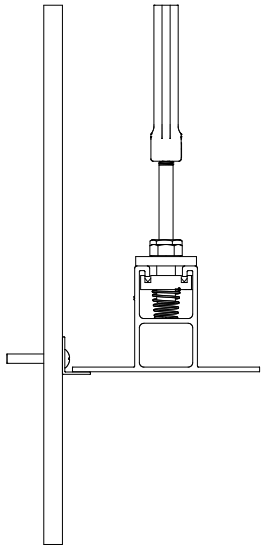

Fig 2B

2.3 Where required, the coving angle support profile can be attached during the structural component installation. PVC coving and/or corner coving can be installed during the sealing and gasketing process.

2.4 All perpendicular beams are to be connected to the perimeter beam using an L-shaped connector bracket, with the provided bolts and channel nuts. Perimeter main beams are joined together using a Beam Splice Plate and the provided bolts and channel nuts. Each perpendicular beam must be supported by a threaded rod using the beam hanging hardware kit within 12" of the end of the beam ***(Fig 2C)***.

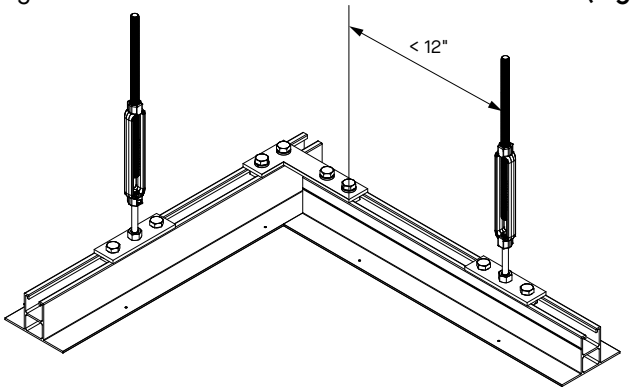

Fig 2C

3. CEILING BEAM INSTALL – FIELD

3.1 Install 3/8"-16 threaded rod hangers into the supporting structure, following following anchor manufacturer's instructions. Threaded hanger rods must be installed plumb at the specified spacing. The threaded rods may be cut to the proper length before installation. Alternatively, if attachment locations vary significantly, rods may be cut after installation using a laser level to mark the cut points. The ideal height for the bottom of the hanging rods is 11" above the finished ceiling height.

3.2 The Skylo beams and hanging hardware kit can be pre-fabricated on a jig table or floor template prior to lifting into place ***(Fig 3A)***.

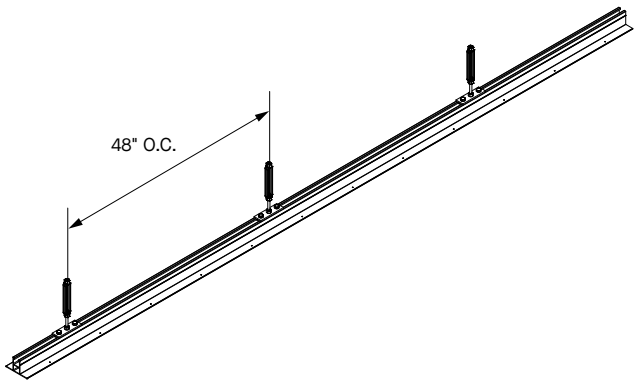

Fig 3A

3.3 The threaded starter-rods must be fully engaged with the hanging hardware kit bolts and channel nuts. It is recommended that 3 threads of the hardware kit starter-rod are exposed and visible in the turnbuckle ***(Fig 3B)***.

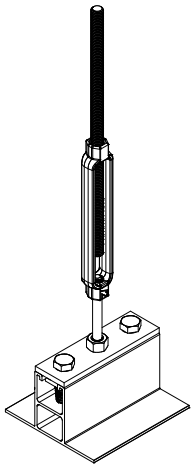

Fig 3B

NOTE: Threaded starter-rods are directional with 1-3/4" of right-hand (RH) threads that attach to the hanging bracket with a channel nut on the hanging plate, and 3" of left-hand (LH) threads that insert into the turnbuckle. A LH jamb nut is provided and must be installed on the threaded starter-rod before attachment to the turnbuckle.

3.4 Raise each beam to the threaded rod hangers and attach using the turnbuckles ***(Fig 3C)***. Ensure at least three (3) threads are exposed inside the turnbuckle from the ceiling rod hangers. Failure to do this can compromise the structural integrity of the system.

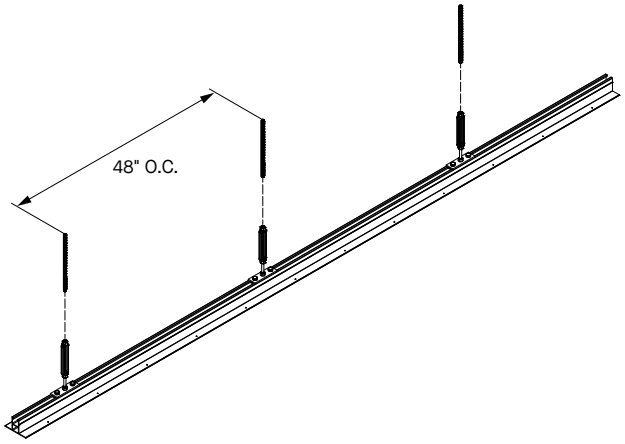

Fig 3C

The ceiling height can be adjusted using the turnbuckles. Once the beam height is set and leveled, lock the turnbuckle in place using the jamb nut on the threaded starter-rod.

3.5 Suspend additional beams in the same manner, adjusting the height and level of each beam with the turnbuckles.

3.6 At locations where beam ends meet, connect the beams using the provided splice plate, bolts, and channel nuts ***(Fig 3D)***.

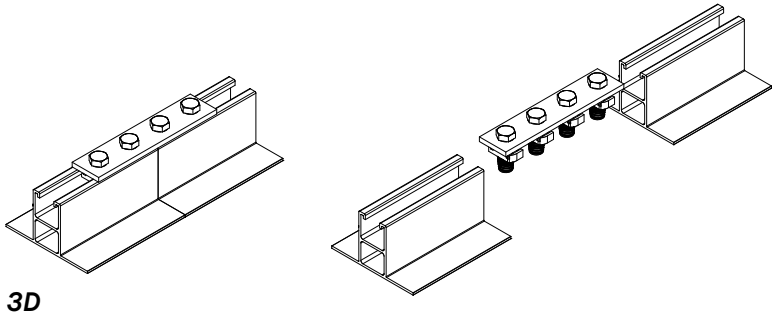

Fig 3D

4. CEILING PANEL PREPERATION & INSTALLATION

4.1. Panel Handling & Lifting

4.1.1. For panels ≤ 30 ft (≈ 9m), use a single forklift with widely spaced forks positioned beneath the center of the bundle. Take care to protect the panel finishes against dents and scratches.

4.1.2. For crane lifts, use nylon straps and spreader bars at both the top and bottom to protect panel edges. Avoid sudden or jerking lifts.

4.1.3. Vacuum lifters (with properly rated suction cups) may be used—especially beneficial for large or long panels.

4.1.4. Never drag or slide panels across other surfaces during unstacking or handling. Always lift panels cleanly away.

4.2. Cutting & Fabrication

4.2.1. Perform all cutting operations in a designated area, preferably prior to installation.

4.2.2. Use a circular saw with fine-tooth, carbide-tipped blade (minimum 40 teeth) or a suitable band saw. Do not use tools that generate high heat, such as grinders or torches.

4.2.3. When cutting both the interior and exterior skins, remove approximately 1/4 of the foam core from one side, then flip the panel and complete the cut. This helps prevent delamination.

4.2.4. For creating openings, cut incrementally—first the skins, then the foam core—to maintain precision.

4.2.5. After cutting, file or sand burrs, remove all metal shavings, and ensure all edges are smooth and clean.

4.3. Structural Alignment and Panel Installation

4.3.1. Before installing the insulated panels, verify that the supporting structure (support grid) is in the correct plane, level, and plumb — within the specified tolerances.

4.3.2. Remove any excess foam from joint edges to ensure proper engagement of male/female joints and fitment into the suspension system.

4.3.3. Apply butyl sealant (or manufacturer-specified sealant) in the female joint prior to engaging panels. Typically fill ~50%–75% of the female pocket.

4.3.4. Begin installation with a starter panel. Trim its trailing edge if necessary to ensure joints align properly.

4.3.5. Carefully lift the panel and place it between parallel runs of suspended beams. Engage the panel into the sealant and joint geometry, pressing firmly to seat. Take care to maintain horizontal alignment throughout.

4.3.6. Panels should rest on the beam flanges. Where design requires, panel ends must be screw-attached through the beam face using sharp-point, self-piercing framing screws, as shown on the shop drawings. Beam flanges contain pilot holes to speed installation. Ensure all panels are parallel and properly spaced before final screw attachment.

4.3.7. Install hold-down fasteners as shown on the shop drawings. Avoid overtightening fasteners to prevent panel damage.

4.3.8. Lift and position the next ceiling panel onto the beam flanges in the same manner as the previous one. Panels are directional, with a tongue-and-groove profile—slide each panel along the beam flanges, ensuring the profiles are fully engaged and seated.

4.3.9. Once again, confirm that beams are parallel and correctly spaced before screw-attaching through the beam face ***(Fig 3E and 3F)***.

4.4 Continue installing panels progressively in both the parallel and perpendicular directions, following the same procedures described above.

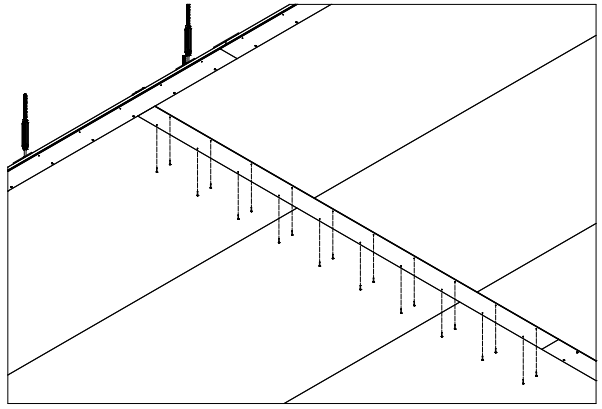

Fig 3E

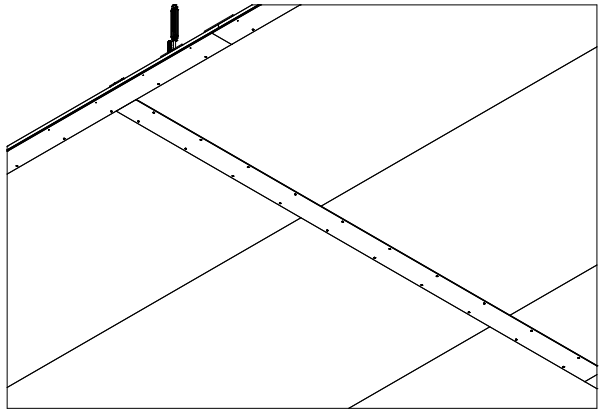

Fig 3F

5. GASKETS & SEALS

5.1 Install trim, flashing, etc. in the proper sequence with sealants, or fasteners as specified.

5.2 Seal all joints, penetrations, perimeter interfaces, and terminations consistent with the system and air/weather barrier specifications.

5.2.1. Closed-cell spray foam insulation is specified for its superior thermal and acoustic performance, vapor barrier properties, and resistance to mold growth. Apply spray foam from the top side of the walkable ceiling to fill small gaps between panels and beams.

5.2.2. Butyl rubber gaskets are widely used due to their unique combination of low gas and moisture permeability, aging resistance, and vibration absorption. In cleanroom applications, ultra-pure butyl and fluoropolymer gaskets are specified for their properties of low outgassing, nonshedding/particle free, and harsh chemical resistance.

5.2.3. For sealing the face of cleanroom ceiling panels, the sealant must meet strict standards for low outgassing, chemical resistance, and durability in controlled environments.

5.3 As panels are installed, remove the protective film (if not removed earlier). Remove film daily to prevent bonding to the panel surface.

5.4 Clean any adhesive residue using a recommended cleaner (e.g., household cleaner such as Formula 409 or an approved equivalent). Rinse thoroughly, taking care to protect adjacent finishes and surfaces.

5.5 After the application of expanding foam and once it has cured, cut or shave excess foam flush with the beam and panel surfaces.

5.6 Install the top cover plate over the gap between panels and over the beams to create a flush, walkable surface. Secure the top cover plate along both edges using sharp-point, self-piercing framing screws ***(Fig 4)***.

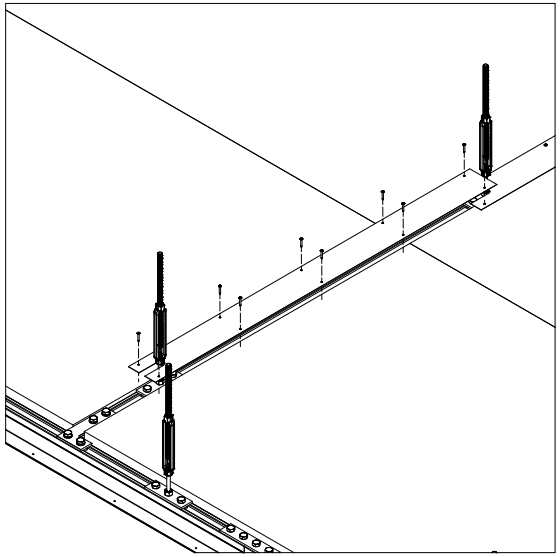

Fig 4

5.7 A butyl rubber gasket (or similar material) may be applied to the underside of the top cover plate prior to installation to enhance the seal.

5.8 Apply cleanroom-grade caulk at the intersection of the panel and beam flange where specified by the project design.

6. QUALITY CHECKS & FINAL STEPS

6.1 Inspect each joint for full panel engagement and seal.

6.2 Check level, and alignment frequently throughout installation.

6.3 Verify that all panel fasteners meet the specified size, type, and spacing requirements.

6.4 Ensure all flashing and trim components (if applicable) are properly secured and sealed.

6.5 Clean up metal chips, screws, and debris promptly to avoid damage to panels.

6.6 Maintain a record or checklist for inspections during installation. Daily checks are recommended.

7. PLENUM CAP / MULTIPLE CEILINGS

7.1 Unless otherwise designed by the structural engineer, when installing multiple levels of walkable ceilings or plenum caps, the threaded hanger rods must align vertically from the ceiling above to the ceiling below.

7.1.1. NOTE: Before raising and installing beams of the upper ceiling, it is advantageous to install the hanging hardware for suspending the lower ceiling ***(Fig 5A and 5B)***. Alternatively, mark the upper beams to indicate the locations of threaded hanger rods for the ceiling below if that hanging hardware will be installed at a later stage.

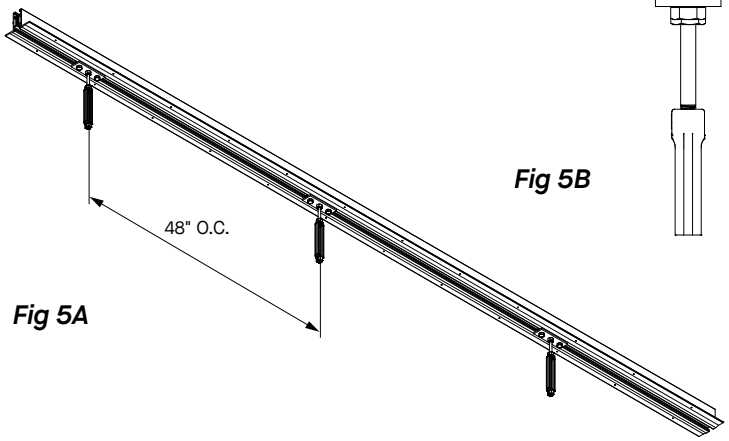

Fig 5A

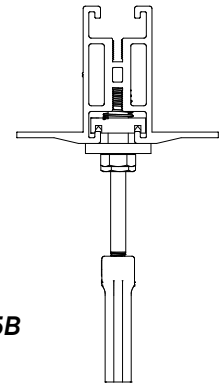

Fig 5B

8. LOAD CHARTS

8.1 Skylo Walkable Ceiling Systems support uniform loads using 3/8"-16 threaded hanging rods at 4' × 4' connection points. For detailed structural load data please refer to the Skylo Data Pages, available at: ww.armstrongceilings.com/skylo

9. SEISMIC CONSIDERATIONS

9.1 Various methods may be used to brace the Skylo system against lateral seismic loading. The seismic analysis and lateral bracing must be designed and certified by a Professional Engineer (PE) licensed in the jurisdiction where the project is located, in full compliance with all applicable building codes, standards, and regulations.

MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 877 276-7876.
For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 877 276-7876.

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