Polargy Integrated Ceiling System (PICSTM)

Data Center Structural Ceiling System Specification

SECTION 09 54 00

SPECIALTY CEILINGS

**PART 1 - GENERAL**

* 1. SUMMARY

1. Structural Ceiling Grid System.  
   1. SYSTEM DESCRIPTION
2. Furnish and install an extruded aluminum suspended structural ceiling grid system that includes a threaded screw slot along the bottom of the extrusions.
3. Finish & Material:
   1. Extrusions and Perimeter Angles shall be constructed of 6005-T6 aluminum and have clear anodizedfinish.
   2. Plate connectors shall be constructed of high strength steel with corrosion resistant finish that is zinc plated.

1.3 DESIGN REQUIREMENTS

1. Structural ceiling grid shall have a continuous 3/8-16 screw slot threaded boss.
2. Connectors to include tabs to help align the system and prevent racking.
3. Ceiling grid system shall be supported by a 6’ x 4’ suspension from building structure.

1.4 PERFORMANCE REQUIREMENTS

1. The ceiling system shall capable of supporting direct attachment of cable trays, power buses, partition and privacy wall systems, surface-mounted lighting fixtures, aisle containment tracks or other accessories.
2. Loads:
   1. Ceiling system shall be capable of supporting a uniform load up to 30lbs/ft2.
   2. Ceiling system shall be capable of a maximum static point load of 380 lbs.

1.5 SUBMITTALS

1. Bid Submittals:
   1. Product Data: Provide cut sheets, specification sheets, installation instructions, and material characteristics for manufactured products and assemblies.
2. Action Submittals:
   1. Shop Drawings: Dimensioned plans, elevations, sections, and details.
   2. Indicate a preferred sequencing and coordination with other trades and installation activities.
   3. Include a schedule of the time required for manufacturing and onsite final fabrication and installation time.
3. Closeout Submittals:
   1. Final Shop Drawings if as built substantially different from original drawings.

1.6 DELIVERY, STORAGE, AND HANDLING

1. Deliver materials to the project site in original wrappings and containers, labeled with manufacturer’s name, and location information, if any.
2. Coordinate with customer for material delivery and staging. The customer shall store/stage materials in their original, undamaged wrappings and containers, inside an area protected from weather, moisture, soiling, extreme temperatures, and humidity.
3. Inspect for dents, scratches, or other damage. Replace damaged products.

1.7 WARRANTY

1. Ceiling System hall be warranted against defects in materials and workmanship for a one-year period for the first 12 months after initial start-up or 18 months after ship date, whichever occurs first.

**PART 2 – PRODUCTS**

2.1 MANUFACTURERS

1. Basis of Design: Product specified is PICSTM Structural Ceiling System as manufactured by Polargy, Inc. PICSTM is specified to establish a standard of quality for design, function, materials, and appearance.
2. Subject to compliance with this specification, the following Manufacturers may propose on the project:
   1. Polargy, Inc.
3. Substitutions: Proposed substitutions must be approved prior to bidding.

2.2 PRODUCT

1. The ceiling grid main runners and cross tees shall be a common extrusion profile and manufactured of extruded aluminum alloy 6063, temper T6, with a clear anodized finish. The extrusion profile shall have a 1.5-inch wide face on the bottom with a continuous 3/8-16 screw slot threaded boss feature that is at least 0.4” deep. The screw slot function is to allow direct attachment of cable trays, power buses, partition and privacy wall systems, surface-mounted lighting fixtures, aisle containment tracks or other accessories.
2. Main runners shall be nominally 6’ and cross tees shall be nominally 4’ to correspond to the required building structure support spacing.
3. Main runners and cross tees shall be sized and spaced to accommodate either a 24”/48” on center layout or a wider layout to accept standard sized ceiling tiles and fixtures.
4. Bottom plate connectors shall be used at all grid intersections and to suspend the grid system via 3/8-16 threaded rods or 1/2-13 threaded rods. Four 3/8-16 x 3/4" Hex Tap Bolts shall be used to fasten the plate connectors to the extruded aluminum grid members. Bottom plate connectors shall include tabs that bend into the bottom screw slot to prevent grid twisting or racking.

2.3 STRUCTURAL

1. A 6’ x 4’ suspension from building structure is required. (Note: 3/8-16 or ½-13 threaded rod between building structure or intermediate steel and the bottom plate connector is by the installing contractor.)
2. The ceiling support system with 6’ x 4’ suspension shall be capable of supporting a fully populated ceiling grid, including HVAC supply and return registers, light fixtures, cable trays, power busways and other ceiling suspended components.

**PART 3 – INSTALLATION**

3.1 GRID INSTALLATION

1. Structural Ceiling Grid shall be deployed as a nominal 2’ x 4’ grid supported with nominal spacing of 4’ x 6’ connections to building structure.
2. Main Runners shall be installed on 48” centers and all main runners shall be parallel to one another. 48” Structural Tees shall be installed perpendicular to Main Runners.
3. Level entire ceiling to within 0.125” overall and/or 0.06” in any 6’ length.
4. Brace grid for seismic conditions when required by local code.
5. Perimeter Installation:
   1. Fixed perimeter installation: Mount Perimeter Extrusions at proper ceiling height. Perimeter Extrusions shall be fastened to perimeter wall with appropriate wall type fasteners. Joints shall fit with no more than .125” gaps.
   2. Floating perimeter installation: Mount Perimeter Angle Extrusions at proper ceiling height. Perimeter Angle Extrusions shall be fastened to perimeter wall with appropriate wall type fasteners. Main Runners and Cross Tees shall be suspended from structure above at the proper ceiling height with perimeter plate connectors. Joints shall fit with no more than .125” gaps.

3.2 INSTALLATION GENERAL

1. Coordinate all work with other trades to be performed in or on ceiling system including HVAC, low voltage, electrical, partition and privacy wall systems, and aisle containment systems.
2. Installers shall provide appropriate installation hardware as defined by local code or the authority having jurisdiction (AHJ).

END OF SECTION