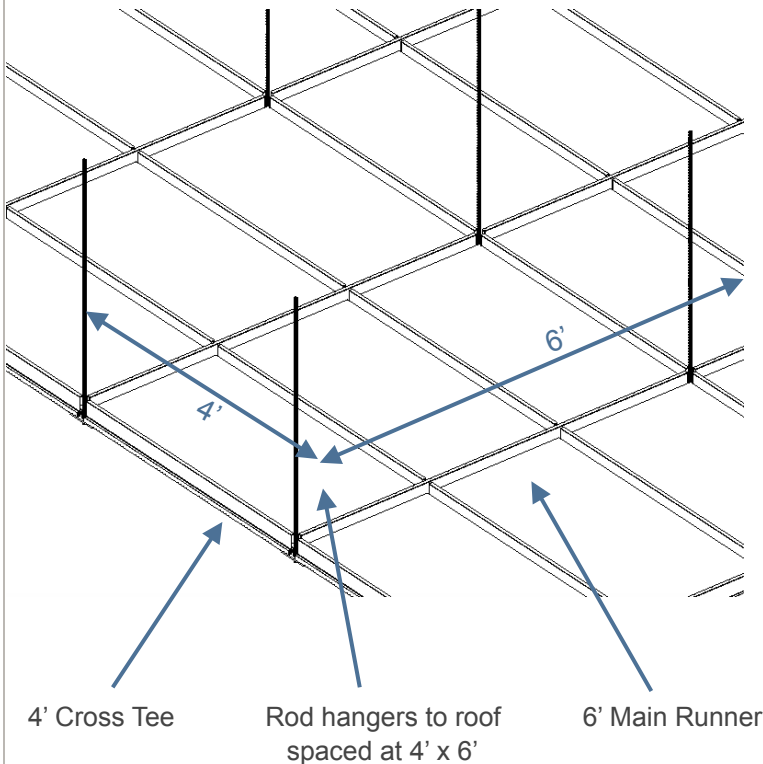




# PICS - Polargy Integrated Ceiling System

## Data Sheet

September 8, 2019

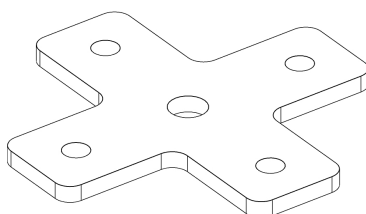
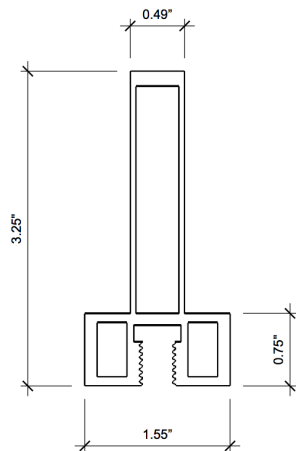


### PICS SPECIFICATIONS

- Architectural structural data center ceiling grid made of aluminum with a 3/8-16 continuous threaded slot.
- Grid typically configured of 6' Main Runners and 4' Cross Tees connected using bottom plate connectors.
- Capable of supporting power bus bar, light fixtures, cable trays, aisle containment partitions, and other accessories.
- Load Performance (Typical) based on building roof connection spacing of 6 ft. x 4 ft. on center.
  - Max grid uniform load of 38 lbs/ft<sup>2</sup>
  - Max grid point load at midspan of 400 lbs
- Load Performance (High Capacity) with building roof connection spacing of 4 ft. x 4 ft. on center.
  - Max grid uniform load of 90 lbs/ft<sup>2</sup>
  - Max grid point load at midspan of 575 lbs

### MAIN EXTRUSION

- H 3.25" x BTM 1.55" x TOP 0.49"
- 6063-T6 Anodized Aluminum
- Tall box profile for strength
- 3/8-16 screw slot threaded boss runs continuously along bottom
- Ceiling Tiles & Lights (supplied by others)
- Threaded Rod Connection to Building (supplied by others)



### PLATE CONNECTORS

- Galvanized steel at 0.25" thick
- 4-Way connector plate is 5 3/16" x 5 3/16"
- Connected to grid members with (4) 3/8-16 x 3/4" Hex Head Machine Bolts
- For seismic zones plate connected to grid members with (4) 3/8-12 x 2" Hex Head Self Drilling Screws



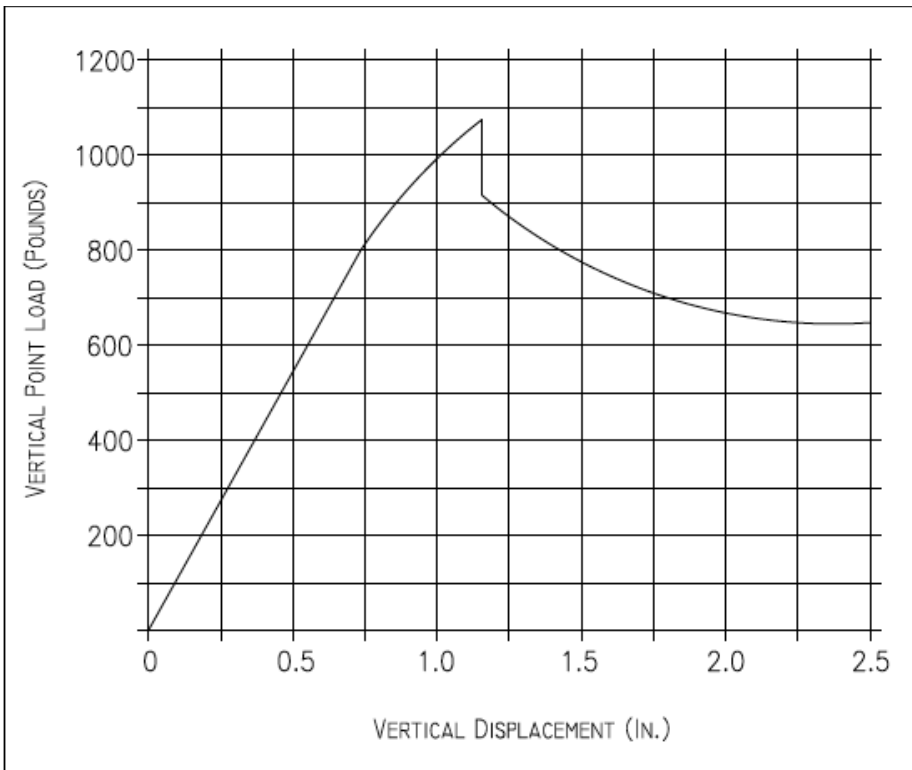
# PICS - Polargy Integrated Ceiling System

## Data Sheet

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### PERFORMANCE CRITERIA

The chart shows deflection testing results on 6' span and the table below shows load performance ratings.



6' span  
 Yield Point 800 lbs  
 Failure Point 1053 lbs

Performance Criteria	Typical Capacity: Roof Supports at 6'x4' Spacing	High Capacity: Roof Supports at 4'x4' Spacing
Point Load	400 lbs	575 lbs
Safety Factor Over Yield	2	2
Deflection at Point Load	0.36" over 72", or L/200	0.1167" over 48", or L/380
Uniform Load	38 lbs/sq ft	90 lbs/sq ft
Linear Load on Main	152 lbs/ft	240 lbs/ft



# PICS - Polargy Integrated Ceiling System

## Data Sheet

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### 1. In-Service and Configuration

- a. The Ceiling Grid System as indicated herein is subject to installation exactly as noted by the manufacturer. The installer shall ensure that the Ceiling Grid System installation shall conform to local/or national codes, which ever is more stringent, and that the system be vertically and laterally braced as required by code.
- b. Other configurations not indicated herein may not have been designed, analyzed, or tested and as such other configurations are not warranted by the manufacturer to perform as indicated or to be safe for use. If there is a need for a configuration other than what has been indicated herein the manufacturer reserves the right to accept or decline it's use for other configurations. The manufacturer offers analysis of other configurations for in-service use for a fee. The manufacturer reverse the right to accept or decline requests for other configurations.

### 2. Testing Standards

Testing was performed in conformance with the ASTM Designation C635-13 Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings as modified for load size and bracing conditions for in-service conditions. The in-service use of this system may exceed the arbitrary esthetic limit of deflection of  $L/360$  as stated within the specification for typical non-hybrid systems that are used for lightweight acoustical panels. Test results as indicated were for conditions of the main grid members longitudinally braced at both ends or longitudinally braced at one end, and unbraced for the full length of the member between member ends. Installations with bracing at the ends of the member, and at every 24-inch intervals between member ends may expect better performance than what is represented in the testing results.

### 3. Design

The information contained herein does not take the place of required engineering calculations, signature, and seal for the support rods and/or connections and lateral bracing requirements per code required for submittal to approving jurisdictions. The designer and/or installer is required to be competent in code requirements for the specific jurisdiction for which the Ceiling Grid System will be installed.

#### Allowable Fastener Loads

The following allowable in-service loads were developed from laboratory testing of the materials the fasteners are intended to be attached to and the specific fastener as identified herein. Two different types of fasteners were tested to accommodate a wide range of loading applications and conditions for both the vertical and lateral load conditions required by the ASCE 7. Vertical load as defined as a load parallel to the shaft of the fastener and lateral load defined as a load perpendicular to the shaft of the fastener.



# PICS - Polargy Integrated Ceiling System

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### Fastener Specifications:

#### **Type A Fastener: 3/8" $\varnothing$ x 3/4" Hex Head Machine Bolts with 16 threads per inch with a material Grade 2 and minimum yield strength of 60 ksi.**

Type "A" bolt is installed to a maximum torque of 80 in-pounds. Bolt head shall be seated and/or bearing properly on the part it is fastened to. The threaded end of bolt shall not bear or seat on the internal top of the channel slot so as not to create additional load and material strain from bolt tightening against the top of channel slot. Overtightening of this bolt will weaken and strip the thread engagement of the bolt to the channel walls.

TA = 350 pounds (Allowable tension Load)

VA = 106 pounds (Allowable lateral parallel to open channel slot)

#### **Type "B" Fastener: 3/8" $\varnothing$ x 2" Hex Head Self-Drilling Screw with 12 threads per inch and #3 Point with a material Grade 410 SS and minimum yield strength of 65 ksi.**

Type "B" self-tapping or drilling screw is tightened until seated with full bearing of screw head and penetration of screw shaft through the internal top of the channel slot. Overtightening of this bolt will weaken and strip the thread engagement of the bolt to the channel walls.

TA = 350 pounds (Allowable tension Load)

VA = 739 pounds (Allowable lateral load)

This information is intended for use by the structural Engineer of Record (EOR) responsible for the design and analysis of the in-service loading conditions of the fasteners and support systems. Any fastener that has been attached to a member resulting in overtightening will be considered damaging of both the fastener and the main member and both shall be abandoned and replaced with new fasteners and members.