



Polargy Fan Walls Data Center

Product Specification

SECTION
13 34 19

PART 1 - GENERAL

1.1 Work Included

A. This Section specifies all requirements necessary to furnish and install a complete modular wall system including, but not limited to, the following:

- a. 1.00" thick modular wall system, non-loadbearing, completely demountable, non-progressive, including all installation attachments.
- b. Modular wall panel material.
- c. Extrusions, fasteners and trim finishing strips.
- d. Prefabricated door modules and hardware.
- e. Service doors and wall openings.
- f. Product design.

B. All building areas must be inspected by modular wall installer prior to installation for any job condition that will alter the layout or the details of the installation. Coordinate installation with other trades to avoid conflicts.

C. Drawings, General and Supplementary Conditions, Division 00 Procurement and Contracting Requirements, and Division 01 Specifications sections apply to this Section.

1.2 Related Sections

A. This Section shall be used in conjunction with the following other specifications and related Contract Documents to establish the total requirements for the referenced modular wall system.

- a. Division 01 sections included in the project specifications.
- b. The Subcontract.
- c. Division 08: Openings
 - i. Section 08 06 10: Door Schedule.
 - ii. Section 08 71 00: Door Hardware.

C. In the event of conflict regarding requirements for modular wall systems between this Section and any other sections, the provisions of this Section shall govern.



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1.3 References

A. Aluminum Association (AA):

- a. International Alloy Designations and Chemical Composition Limits for Wrought Aluminum and Wrought Aluminum Alloys.

B. International Code Council (ICC):

- a. 2018 International Building Code (IBC).

C. Refer to Polargy Modular Wall System Specification Drawings for technical data, design requirements, and additional information.

1.4 System Description

A. Materials to be provided for modular data center walls that can be used for, but not limited to, the following applications: wall partitions, demising walls, privacy suites, office partitions, and cleanrooms. The proposed design and materials incorporate the use of modular components to be assembled onsite and provides the ability to disassemble this system at a later date and expand, or relocate, to a new location.

B. Modular wall systems covered by this section shall be of the flush panel type; no framing shall protrude more than 1/8" from the finished panel exterior surface. Finished walls shall not exceed 3-1/8" in total thickness. All exposed aluminum shall be finished with an anodized clear finish.

C. The modular wall system must be designed to withstand 5 PSF lateral loadings as dictated by the National Building Codes for interior partition walls with a maximum deflection of L/180. The manufacturer of this wall system shall provide detailed submittal drawings for approval. Drawings shall be available for electronic transmission from the manufacturer.

D. The modular walls shall be constructed utilizing Modular Wall System as manufactured by Polargy, Incorporated in Sunnyvale, CA. Manufacturer must have a minimum 10 years of experience designing modular wall systems in a data center environment. Installation shall be performed according to standard details as described by the manufacturer.



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1.5 Submittals

A. Submit product information showing compliance with these Specifications to the Owner 2 weeks prior to shipment to the site.

B. Action Submittals:

- a. Product Data: Submit manufacturer's written specification sheets, installation instructions, and material characteristics for manufactured products and accessories.
- b. Shop Drawings: Dimensioned plans, elevations, layout of components, connection details, and interface with other building construction.

C. Information Submittals

- a. Manufacturer's Installation Instructions: Submit detailed instructions illustrating sequence of installation and coordination with other installation activities.
- b. Include a schedule of the time required for manufacturing, onsite final fabrication, and installation.

D. Closeout Submittals

- a. Final Shop Drawings: If as-built drawings are substantially different from original drawings.

1.6 Quality Assurance

A. Manufacturer Qualifications: Minimum 10 years producing types of products specified.

B. Installer Qualifications: Minimum 5 years specializing in performing work of this section and that is approved by manufacturer.

1.7 Delivery, Storage, and Handling

A. Accept modular wall components onsite in manufacturer's original containers. Inspect for damage.

B. Exercise extreme care in handling all modular wall system components to prevent damage.

C. Store materials and products in strict compliance with manufacturer's instructions and industry standards. Protect components from damage during handling and installation.



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1.8 Project Conditions

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 Warranty

A. The warranty specified in the Section does not deprive the Owner of rights under other provisions of the Contract and shall be in addition to, and run concurrent with, other warranties made by the manufacturer under requirements of the Contract.

B. Repair or replace components that fail in materials or workmanship within specified warranty period. Include labor, material, and related expenses to restore system and/or components from failures.

C. Warranty Period: One year after completion of startup and integrated commissioning and/or Contract, unless stated otherwise.

1.10 Maintenance

A. Additional Materials:

a. Wall Panels, Extrusions, and Hardware: Provide material as specified by Customer.

1.11 Technical Services

A. Polargy offers technical service support. For services regarding layout, design, and product selection, as well as suggested specifications, contact the main office.



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PART 2 - PRODUCTS

2.1 Product Names

- A. Polargy Modular Wall System
- B. Polargy Demising Wall
- C. Polargy Privacy Suite
- D. Polargy Fan Wall

2.2 Manufacturers

- A. Basis of Design: Product specified is manufactured by Polargy, Inc. Modular wall system specified is to establish a standard of quality for design, function, materials, and appearance.
- B. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified:
 - a. Modular/Demising Walls:
 - i. Polargy, Inc. 1148 Sonora Court Sunnyvale, CA 94086 U.S.A. Phone: (888) 816-8338
 - b. Other Owner-approved manufacturer.
- C. Substitutions: Proposed substitutions must be approved prior to bidding.

2.3 Components

- A. Modular Wall Support System:
 - a. Framing Components – General:
 - i. All studs, battens, and brackets shall be aluminum extrusions with an anodized clear finish. The studs shall fasten together tightly with panels creating a sealed joint connection and secure alignment of panels.
 - ii. The framing system shall be coordinated with building structure to perform under vertical and lateral design loads and seismic requirements.
 - iii. Materials and connections shall be manufacturer's standard, capable of supporting design forces.
 - b. Materials:
 - i. Aluminum Framing: 6063-T6 aluminum with an anodized clear finish.



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B. Modular Wall Panel – General:

a. Panel Constructions – General:

i. Panels shall be of polycarbonate construction with a fire safety rating of ASTM Class A designed at a standard width for center to center spacing of 48" between stud posts.

b. Panel Thickness: Panel thickness as specified.

i. 1.00"/25mm

c. Colors: As selected by the Owner from the manufacturer's standard panel colors.

C. Doors:

a. Doors shall be swing style in either single or dual format with a continuous hinge.

i. Standard Sizes: 3'x7' Single, 4'x8' Single, 8'x8' Dual

b. Doors inserts shall be of polycarbonate construction with a fire safety rating of ASTM Class A designed to match the color of the wall panels.

c. Hardware Options:

i. A keyed lock outside with thumb turn inside is standard for every door. Door will be equipped with smooth push bar exiting device.

ii. (Option) Electronic lock outside with thumb turn inside.

iii. (Option) Magnetic lock.

2.4 Manufacturers

A. Metal Framing Requirements:

a. Thickness: 3-1/8" maximum for complete component system.

B. Metal framing shall conform accurately to the shape and dimensions as shown on the drawings.

C. Cut edges shall be true to line and free from projections.

D. Clear away chips and filings from cut extrusion prior to handling to reduce damage to the raw surfaces.

PART 3 - Execution

3.1 Examination

A. Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper and/or timely completion.

a. Verify location of covered or built-in work.

b. Verify that bearing surfaces are ready to receive the work.

c. Do not proceed until unsatisfactory conditions have been corrected.



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3.2 Preparation

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Inspect all materials upon arrival to job-site to ensure correct quantity, finishes, and quality of product. Report, in writing, any conditions that appear to have failed in general durability or any other form of apparent deterioration.
- C. Clean surfaces thoroughly prior to installation.

3.3 Installation

- A. Final installation of partition components shall assemble into a rigid structure with tight, straight-line joints. Completed installation shall interface with building area in a preplanned and craftsman-like manner.
- B. Install in accordance with manufacturer's instructions and approved submittals.
- C. Anchor securely in place, allowing for required movement, including expansion and contraction.
- D. Install a system free of rattles, noise due to thermal movement, and wind whistles.
- E. Install door frames and service doors in compliance with manufacturer's instructions.

3.4 Erection

- A. Verify dimensions of supporting structure by field measurements so that the modular wall will be accurately designed, fabricated, and fitted to the structure.
- B. Coordinate modular wall work with the work of related sections and provide items to be placed during installation of other work at the proper time to avoid delays in the work.
- C. Erect all component parts of the modular wall in accordance with the manufacturer's written instructions and recommendations.
- D. Erection Tolerances:
 - a. Erect all component parts within the following tolerances – variations from plumb or angle shown: 1/8" maximum variation in height or 10' length, noncumulative.
 - b. Offsets in end-to-end or edge-to-edge alignment of consecutive members: 1/8" maximum offset in any alignment, noncumulative.



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E. Cutting and Trimming of Component Parts:

- a. Cut and trim component parts of the modular wall during erection only with the approval of the manufacturer or fabricator in accordance with their recommendations. Restore finish completely to protect material and remove all evidence of cutting and trimming.

F. Do not erect members which are observed to be warped, bowed, deformed or otherwise damaged, or defaced to such to impair strength or appearance.

G. Set units level, plumb, and true to line with uniform joints. Support and secure in place by connecting stud sections to panels with and over recommended factory fasteners.

3.5 Cleaning

A. Provide cleaning methods required for each component part as recommended by the respective manufacturers.

B. Cleaning methods shall be carefully selected, applied, and maintained so that finishes will not become uneven or otherwise impaired.

3.6 Protection

A. Protect the modular wall system throughout the construction period in a clean and properly protected condition so that it will be without any indication of use or damage at the time of substantial completion.

B. All work must be protected during shipment, storage, erection, and construction so as to avoid development of nonconformity of appearance or other deleterious effects in the work.

C. Protection should be removed when requested by the construction manager for inspection of finishes.

D. Remove protection when no longer required. Any material found to be defective or improperly installed shall be replaced.