



**SECTION 13200**  
**ZONE WALL™ LABORATORY INTERIOR**  
**PARTITIONING/ISOLATION**  
**WALL, CEILING AND DOOR SYSTEMS**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

A. This Section provides the requirements necessary to fabricate, furnish and erect a complete hot/cold aisle hard containment ZONE WALL™, CEILING AND DOOR assembly within the areas indicated. The extent of this Work is indicated on the plans by wall, ceiling and door type designations. Work shall include but is not limited to the following:

1. Metal framing system, including all items such as aluminum tubes, steel tubes, brackets, clips, anchors, screws, misc. fasteners, guides, attachments, and supports, etc. which will provide a complete self-supporting assembly for ZONE WALL™, CEILING and DOORS.
  2. ZONE WALL™, panel and glazing material, as hereinafter specified, including paint, coating, or finish as called for, attached to the above framing system.
  3. Provide all reinforcing, bracing, blocking, trim finishing strips and non-outgassing type gasketing (EPDM) necessary to maintain the structural and air sealing requirements of the assembly for CFM4910 STANDARD.
  4. Lateral bracing of all portions of the support system is required. Support system (including anchorage to structural support) shall be capable of withstanding a lateral seismic force equal to 30 percent of a vertical load of 5 lbs/sqft minimum applied perpendicular to the surface of the wall.
  5. All materials, including framing, finish wall panels, doors and trim shall be wiped clean with an approved type cleaner prior to, during and after installation for cleanroom contamination control.
- B. Inspect all building areas prior to installation, where support system will be installed, for any job condition that will alter the layout or details shown on the Drawings.

**1.02 RELATED WORK**

- 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 ZONE WALL™, CEILING and DOOR SYSTEMS.



1. Division 1 sections included in the project specifications
2. Section 08410 - Aluminum Entrances
3. Section 08799 - Door Schedule
4. Section 08800 - Glazing
5. Section 09999 - Room Finish Schedule
6. Section 13000 - Server Equipment
7. Section 13100 – Access Floor

**CAUTION! Use of this Section without including all of the above listed items will result in omission of basic requirements.**

B. In the event of conflict regarding requirements for the referenced ZONE WALL™, ceiling and door systems between this Section and any other section, the provisions of this Section shall govern.

### **1.03 WARRANTY**

- A. ZONE WALL™, ceiling and door components: Submit three copies of written guarantee agreeing to repair to replace wall components that appear to have failed in general durability or any other form of apparent deterioration (excluding inherent qualities and limitations clearly specified in the manufacturer's date which was submitted).
- B. Guarantee shall be for a period of 1 year and shall begin following date of Substantial Completion of project;
- C. Prior to starting Work, submit sample copy of guarantee to be provided. Upon completion and acceptance of the Work required by this Sections, submit an executed copy of the guarantee.
- D. Complete installation shall be guaranteed jointly and severally, on a single document, by the materials manufacturer and installer, against defects of materials and workmanship, as defined on the guarantee.

### **1.04 QUALITY ASSURANCE**

- A. ZONE WALL™ ceiling and door installer shall be trained, and approved by the separate system component manufacturers and shall be experienced in the installation of ZONE WALL™, ceiling, and door systems.
- B. ZONE WALL™, ceiling and door installer shall be responsible for coordination of the work of the Sections stated in 1.02, Related Work, above.
- C. Bidder/ZONE WALL™ system installer shall arrange tour for Owner and architect



of recent installation performed by installer of selected DATA CENTER PROJECTS..  
Approval of installer is subject to approval of quality of work demonstrated.

#### **1.05 DELIVERY, STORAGE, AND HANDLING**

- A. ZONE WALL™, CEILING and DOORS shall be delivered with an approved protective coating and packaged to prevent and coatings to be done outside the cleanroom area.
- B. Deliver materials in their original unopened packages.
- C. Exercise extreme care in handling partition components to prevent damage.
- D. Store materials within the building in space designated by the Owner.
- E. Store materials in such manner as to prevent damage or intrusion of foreign matter. Conspicuously mark “Rejected” on materials which have been damaged, and remove from the jobsite.

#### **1.06 SUBMITTALS**

- A. Submittals shall be provided in accordance with Section 01300, Submittals, and the requirements of the Section.
- B. Manufacturer’s Data: Submit manufacturer’s literature, specifications, and installation instructions for each cleanroom wall component proposed for use, including certification and other data as may be required to show compliance with the specifications.
- C. Calculations: Submit design calculation for ZONE WALL™ and ceiling system to the Engineer for review prior to fabrication and erection. Include California or applicable state Structural Engineering Stamp.
- D. Samples:
  - 1. Submit three samples of ZONE WALL™, ceiling and door systems components with specified finish, gasketing and connectors, or other components as necessary to illustrate a completed hot/cold aisle wall, ceiling and door assembly.
  - 2. Submit three sets of samples for each finish and color required. Submit sample finishes on aluminum having the specified alloy, temper, finish coating treatment, and thickness of metal required for the work. Provide 12 inch square sections. Samples will be reviewed for color and finish only. Compliance with all other requirements is the exclusive responsibility of the Contractor.
- E. Show Drawings - General: Submit complete shop drawings and erection diagrams. Shop drawings shall give all pertinent information of construction method proposed, including connections, together with all required dimensions for the proper fitting for the connection with other work and materials, together



with all special conditions as may be required to complete installation. Show full elevations of all walls, doors and ceilings indicating component dimensions, wall penetrations joint locations and intended closures at joints.

- F. Installer's License Certificate: Copy of "Certificate of License" issued to system installer by manufacturer.
- G. Maintenance Manual: Submit three copies of an assembled and bound maintenance manual, describing the materials, devices and procedures to be followed in cleaning and maintaining the ZONE WALL™, CEILING and DOOR systems. Include manufacture's brochures describing the actual materials used in the Work, including metal alloys, finishes, sealants, gaskets, and all other major components, as well as methods of disassembly and reassembly.

### **1.07 FIELD SAMPLES**

- A. If required the Contractor shall erect a full-scale sample wall and door mock-up. This mock-up shall be a minimum of 20 feet wide, the height of the hot/cold aisle and include a mock-up joint at the ceiling, and specified finish, trim, studs, track and connectors to illustrate a completed wall assembly, including bulk-headed servers and outside corners. Mock-up, if in acceptable condition, may be incorporated into the final partition system at the completion of the project.
- B. Mock-up shall be fabricated in accordance with the specifications for its respective components and shall be representative of finished product to be achieved throughout the project. Mock-up not acceptable to the Owner shall be modified or removed and replaced with one that is.
- C. Surfaces not comparable to the mock-up will be subject to Owner's rejection and shall be replaced at Contractor's expense.

## **PART 2 PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

A. Channel Systems, Inc. Patent Pending ZONE WALL™, CEILING AND DOOR SYSTEMS with zero out gassing.

- B. Manufacturer:
  - 1. Channel Systems, Inc. World Wide Manufacturing Group

74 - 98th Ave. Oakland, CA.  
Phone: (510) 568-7170  
Fax: (510) 568-4619  
Email: tboyden@channelsystems.com  
www.channelsystems.com



C. PRODUCT REQUIREMENTS:

1. Panel types:

A. ALUM. HONEYCOMB PANELS: up to 4' x 16' x 1/4" with .032" thick alum. skins, 3/4" cell size, 2 part epoxy adhesive, static dissipated, 10 to 7<sup>th</sup> -10 to 9<sup>th</sup> ohms, roll coat epoxy finish with strippable protective PVC film. Finished panel shall have zero out gassing, out gassing test to be done by independent lab. Outgassing test must be equal to results below:

Channel Systems supplies a unique vacuum bonding process eliminating volatile organic materials from the honeycomb panels. Test samples are placed in a sealed vial and heated to 100 degrees C for 30 minutes. The headspace above the samples is then analyzed by gas Chromatography / Mass Spectrometry to determine the presence of any organic out-gassing materials.

Sample	Total Organics Detected (ppm in heads space)	Organic Compounds In Out-gassing
Powder Coating	<0.01	NONE
Roll Coating	<0.01	NONE
Honeycomb Core	<0.01	NONE
Adhesive	<0.01	NONE

FLAME CLASSIFICATION AND SMOKE DENSITY DEVELOPED

Channel Systems Cleanroom Wall Panels were tested in accordance with ASTM Designation E84-97a, "Standard Method of Test for Surface Burning Characteristics of Building Materials". This test procedure is comparable UL 723, ANSI/NFPA No. 225, and UBC No. 8-1.

TEST RESULTS		
SAMPLE IDENTIFICATION	FLAME SPREAD	SMOKE DENSTIY
CWP-025 1/4" Honeycomb Panel	5	5
CWP-175 1-3/4" Honeycomb Panel	5	5
FLAMESPREAD CLASSIFICATION		
SAMPLE IDENTIFICATION	UBC CLASS	NFPA CLASS
CWP-025 1/4" Honeycomb Panel	I	A
CWP-175 1-3/4" Honeycomb Panel	I	A

B. ALUMINUM R-8 INSULATING PANEL; .032" thick alum., polyisocyanurate (PIR) 2-6 lbs/ft3 density 2 part non-outgassing epoxy adhesive, roll coat epoxy paint finish.

C. CLEAR OR OPAQUE ACRYLIC, POLYCARBONATE, AND POLYFLUTED PLASTIC: 1/4" panel or approved equal.



D. FRAMING SYSTEMS: Panels shall have patented ZONE WALL™ alum. framing system around the entire perimeter of each individual panel up to 4' x 16'. Panels shall be sealed with low out gassing sealant or gasket to create air-tight seal around complete perimeter of panel. Mitered joints shall have #10 x 1 ½" screws to pull joints tight. Each panel edge shall have the ability to insert one of the standard captured rubber moldings shown in details to create seals between: panel to panel, corners, T-intersections, panel to floor, panels to server cabinets, panels to door modules, and panel to existing walls. Finished panel shall be capable of allowing a 5lb/sqft lateral load with maximum deflection of 1/240. Panels shall hang from patented top track ZW-T25 with 2ea ¼ -20" seismic S.S. allen screws per panel. Panels shall have a minimum of 1,500 lbs of pull out and 2,000 lbs of compression, with a safety factor of 4. Panels shall be non-progressive so each panel can be removed without interrupting adjacent panels. Panels shall have the ability to be swapped out for our patented rubber moldings that are factory heat sealed to anti-stat strip curtains and still use the ZW-T25 top track.

E. ZONE WALL CEILING PANELS shall be same as wall panels and be attached to top of servers or on top of vertical wall panels. If wall panels do not go all the way to the ceiling an aluminum 3" X 3" structural post, ZW-SP33, shall be anchored to access floor at the end of the aisles. Provide calculations to meet seismic zone of project site. Posts may also be incorporated into door modules at the end of aisles. See details for installation method. Ceiling panels can have heat sensitive gasketing in case of fire so panels will drop to the floor via wire cables.

F. ZONE WALL DOORS shall be made of aluminum profiles, 6063T5 alloy, with powder coated finish. Frames shall have beveled extrusions, with minimum 45 degree slope to minimize any dust shelving and sealed at glass face with gasket or approved sealant. Doors shall slide easily to open position and have a catch to keep them opened if desired. Single and bi-parting sliders shall close automatically. Seals shall create an airtight seal around entire door and to servers, floor and ZONE WALL ceiling and wall panels. See door schedule for type (choose from attached) and hardware specification. Hinged doors can also be provided with standard D-series lever, LCN 2010 closer, aluminum adjustable hinges, smoke seal, door stop/ hold open and surface applied door sweep. See side panel details to complete openings on all doors. Side panels to be made of same materials as doors with flat surface from floor to ceiling. Transom panels shall be used if ceiling is higher than servers, see details for installation method.

G. Request for alternate manufacturers must be submitted to Engineer's office ten working days prior to bid in order to evaluate comparison of matter. Conspicuously mark "Rejected" on materials which have been damaged, and remove from the jobsite.

### 3.04 CLEANING

- A. Provide cleaning methods required for each component part as recommended by the respective manufacturer's.
- B. Cleaning methods shall be carefully selected, applied, and maintained so that finishes will not become uneven or other wise impaired.
- C. The nature of the project requires special attention to minimizing potential contamination of the fully developed datacenter clean room environment.



All construction dust and contaminants left on surfaces or in recesses that will be exposed to cleanroom air will have the effect of contaminating servers and unduly loading up the filter system. Daily cleanup and vacuuming of the work area is essential to an ongoing control of contaminants.

### 3.05 PROTECTION

- A. Protect the ZONE WALL™, ceiling and door systems throughout the construction period in a clean and proper condition so that it will be without any indication of use or damage at the time of Substantial Completion.
- B. Protect the Work during shipment, storage, erection and construction so as to avoid development of non-uniformity of appearance or other deleterious effects in the Work.
- C. Remove protection when requested by Engineer or Owner for inspection of finishes, and replace.
- D. Remove protection when no longer required.
- E. Materials found to be defective or improperly installed shall be replaced.

END

#### *DISCLAIMER NOTICE:*

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