



SECTION 13200
CRC575 UNITARY CLEANROOM WALL SYSTEM
175-300 STUDLESS CLEANROOM WALL SYSTEM
ME175 3-IN-1 CLEANROOM WALL SYSTEM

PART 1 GENERAL

1.01 WORK INCLUDED

A. This Section provides the requirements necessary to fabricate, furnish and erect the above non-progressive CLEANROOM WALL SYSTEM assembly within the areas indicated. The extent of this Work is indicated on the plans by wall, window and door type designations. Work shall include but is not limited to the following:

1. Alum. and metal framing system, including all items such as alum. extrusion, cleanroom panels, glazing, alum. tubes, steel brackets, clips, anchors, screws, misc. fasteners, guides, attachments, and supports, etc. which will provide a complete self-supporting assembly for the above CLEANROOM WALL SYSTEMS.
2. The above CLEANROOM WALL SYSTEMS, 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 ISO 14644-1, FDA & 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 OR 10 lbs/sqft minimum applied perpendicular to the surface of the wall.
5. All materials, including framing, finish wall panels, glazing, 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 above CLEANROOM WALL 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 13300 Cleanroom Ceilings

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 the above CLEANROOM WALL SYSTEMS between this Section and any other section, the provisions of this Section shall govern.

1.03 WARRANTY

A. The above CLEANROOM WALL SYSTEMS components: **Submit** three copies of written guarantee agreeing to repair to replace wall components which 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. The above CLEANROOM WALL SYSTEMS installer shall be trained, and approved by the separate system component manufacturers and shall be experienced in the installation of cleanroom wall and door systems.

B. The above CLEANROOM WALL SYSTEMS installer shall be responsible for coordination of the work of the Sections stated in **1.02, Related Work**, above.

C. Bidder of the above CLEANROOM WALL SYSTEMS installer shall arrange tour for Owner and architect of recent installation performed by installer of selected cleanroom walls and doors. **Approval** of installer is subject to approval of quality of work demonstrated.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. The above CLEANROOM WALL SYSTEMS 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 the above CLEANROOM WALL SYSTEMS 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 the above CLEANROOM WALL SYSTEMS components with specified finish, gasketing and connectors, or other components as necessary to illustrate a completed wall, window 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, windows and doors 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 above CLEANROOM WALL 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 equipment and inside/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. Patented CRC575 UNITARY STUD, ME175 3-IN-1 and 175-300 STUDLESS WALL SYSTEMS, single or double glazed flush windows and doors all with zero out-gassing.

B. Manufacturer:

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

C. PRODUCT REQUIRMENTS:

1. Panel types:

A. Alum. honeycomb panel; .032" thick alum.skins, 3/4" cell size core, 2 part epoxy adhesive, static

dissipated 10 to the 6th to 10 to the 9th ohms roll coat epoxy finish, strippable protective pvc film. Finished panel shall have zero outgassing, outgassing test to be done by independent lab. Outgassing test must be equal to results below:

Channel Systems supplies unique vacuum process eliminates 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 outgassing materials.

Sample	Total Organics Detected (ppm in heads space)	Organic Compounds In Outgassing
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. Framing to be aluminum extrusions of 6063T5 alloy with satin anodized or powder coated epoxy, polyester and hybrid finish. Walls shall be non-progressive. Walls shall have the ability to be disassembled from the front or back side. System will also be able to use 1/4", 1/2" or 1 3/4" thick panels. Wall shall be braced every 12 feet per code. Provide calculations to meet 5 or 10 lbs/sqft lateral load with 1/360 deflection on walls.

C. Windows mods shall be single or double sided 1/4" clear tempered glass. Provide dessicant in flush double sided window mods. Provide yellow or orange tinting for photolithagraphy areas as shown on drawings.

D. Doors and frames shall be made of aluminum 60603T5 alloy powder coated to match walls. See door

schedule for hardware and single or double glazing types. U.O.N. Standard hardware shall be Channel Systems alum. adjustable hinges, D-series lever passage set, LCN4010 closer, smoke seal, surface applied bottom sweep. All hardware to brushed satin or S.S. finish.

E. Utility studs shall be US600 or US800 extruded aluminum 6063T5 alloy with satin anodized or powdercoated finish to match framing. Utility studs shall be able to integrate vertically or horizontally into above wall system at any location and have a removable aluminum snap-in gasketed cover extrusion to access or add any utilities at any place along the US600 at anytime during or after construction.

D. Request for alternate manufacturers must be submitted to Engineer's office ten working days prior to bid in order to evaluate comparison of systems.

E. Conspicuously mark "Rejected" on materials which have been damaged, and remove from the jobsite.

2.06 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 of the above CLEANROOM WALL SYSTEMS components proposed for use including certification and other data as may be required to show compliance with the specifications.

C. Calculations: Submit design calculation for the above CLEANROOM WALL SYSTEMS to the Engineer for review prior to fabrication and erection. **Include** California or applicable States structural engineers stamp.

D. Samples:

1. Submit three samples of ME175 3-IN-1 CLEANROOM WALL SYSTEM components with specified finish gasketing and connectors, or other components as necessary to illustrate a completed cleanroom wall 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. **Show** 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, 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 cleanroom wall system. Include manufacturer'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.

2.07 FIELD SAMPLES

A. The Contractor shall erect a full-scale sample wall. This mock-up shall be a minimum of 20 feet wide, the height of the service aisle and include a mock-up joint at the filter ceiling, and specified finish, trim, studs, track and connectors to illustrate a completed wall assembly, including bulk-headed tool, walls starts and outside/inside 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.

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 otherwise impaired.

C. The nature of the project requires special attention to minimizing potential contamination of the fully developed 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 owners equipment 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 above CLEANROOM WALL SYSTEMS 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 OF SECTION