
Part 1 General

1.1 RELATED SECTIONS

- .1 Section 08 14 16 – Flush Wood Doors
- .2 Section 08 71 10 – Door Hardware
- .3 Section 08 80 50 – Glazing
- .4 Section 09 21 16 - Gypsum Board Assemblies
- .5 Section 09 51 13 – Acoustic Panel Ceilings
- .6 Section 09 68 00 – Carpeting
- .7 Section 26 00 00 – Electrical System
- .8 Section 27 00 00 – Communications System

1.2 REFERENCES

- .1 Aluminum Association (AA)
 - .1 AA DAF45-R03, Designation System for Aluminum Finishes, 9th Edition
- .2 Underwriters Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-07, Surface Burning Characteristics of Building Materials and Assemblies.
- .3 Canadian Standards Association (CSA International)
 - .1 CSA C22.1-06, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations.
 - .2 CSA C22.2 No.20, Canadian Electrical Code, Modular Wiring Systems for Office Furniture.
 - .3 CAN.CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded, Structural Quality Steel.
 - .4 CAN/CSA G164-M92 (R2003), Hot Dip Galvanizing of Irregular Shaped Articles.
- .4 American Society of Testing and Materials International, (ASTM)
 - .1 ASTM B221-06: Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profile and Tubes.
 - .2 ASTM C36: Standard Specification for Gypsum Wallboard
 - .3 ASTM C1036: Standard Specification for Flat Glass
 - .4 ASTM E90-04: Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - .5 ASTM E413-04: Classification for Rating Sound Insulation.
 - .6 ASTM E1300: Standard Practice for Determining Load Resistance of Glass in Buildings.

- .5 Architectural Woodwork Institute (AWI)
 - .1 Architectural Woodwork Standards, Edition 1, 2009
- .6 International Building Code, 2006 Edition
- .7 Health Canada/Workplace Hazardous Materials Information System
 - .1 Material Safety Data Sheets

1.3 **SYSTEM DESCRIPTION**

- .1 The movable wall system is to be a non-progressive, moveable and reconfigurable system of unitized panels, from a single manufacturer.
- .2 Unitized panels and accessories are to be fabricated off-site in a controlled factory environment and delivered fully finished, including any specified electrical requirements, to site for installation with no additional assembly, construction or finishing required.
- .3 Each unitized panel must be able to be removed, relocated and re-installed in different layouts, with all parts reusable. Panels to be scribed to exterior wall conditions.
- .4 All solid panels must be capable of providing integrated, factory installed modular power & voice/data distribution.

1.4 **PERFORMANCE REQUIREMENTS**

- .1 Acoustic Performance:
 - .1 Solid panels must be tested in accordance with ASTM E90 and achieve the following acoustic performance ratings in accordance with ASTM E413:
 - .1 Steel faced panels minimum STC 42
 - .2 Gypsum board panels minimum STC 43
 - .3 ½" MDF panels as substrate STC 42
 - .3 Butt hinged doors will be specified where acoustic performance of the wall system is paramount.
- .2 Surface Burning Performance:
 - .1 All steel and wall covering faced panels must achieve a Maximum Flame Spread of 25 when determined on the basis of 3 test runs conducted in accordance with ULC-S102-07.
- .3 Structural Performance:
 - .1 Design and size the movable partition system and components to withstand dead and live loads as calculated in accordance with the current edition of the National Building Code of Canada.
 - .2 Design and size movable partition System and components to withstand seismic loads and sway displacement as calculated in accordance with the current edition of the National Building Code of Canada.
 - .3 Load bearing capacity: tested to not less than the requirements for panel systems as defined by ANSI/BIFMA X5.6, latest edition. Specifically, a load of

- 136kgs (300lbs) on either side of each panel at both overhead and desktop elevations with a CG of no greater than 203mm (8") from the panel face.
- .4 Panes or panel framing members to exhibit lateral deflection not greater than 1/240 of span when subjected to a uniformly distributed load of 240 Pa.
- .5 At a minimum, glass thickness shall be 10mm thick laminated glass.
- .4 Electrical and Communications:
 - 1. Panels to CSA C22.1-06, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations.
 - 2. CSA C22.2 No.20, Canadian Electrical Code, Modular Wiring Systems for Office Furniture.
- .5 Combustibility Performance:
 - .1 Demountable wall system construction and finishes to be acceptable for use in Non-Combustible buildings, in accordance with International Building Codes.

1.5 DESIGN REQUIREMENTS

- .1 The demountable wall system (the system) shall be rectilinear in design with crisp, 90° corners and well defined horizontal and vertical elements to harmonize and integrate with base building architectural detailing.
- .2 Wall system to offer an integrated, factory installed, modular power option. Power distribution to be consistent and compatible with power system used in furniture system.
- .3 The system shall be 102mm (4") thick minimum, and be designed and sized in horizontal and vertical modules to accommodate the partition layout shown on floor plans and sections, and to approval of design Departmental Representative.
- .4 The system shall be non-progressive, allowing for removal and re-installation of panels, including door frames, at any position, without disturbing adjacent panels.
- .5 Solid panels shall be available with either monolithic or horizontally segmented panel faces on each side. Panel faces shall be removable and reusable, attached to the panel frame without the use of screws or other mechanical fasteners.
- .6 The panel/floor interface shall be adjustable in height from 32mm (1-¼") to 64mm (2-½"). Surface mounted base trim not permitted.
- .7 The panel/ceiling interface shall be adjustable in height from 16mm (5/8") to 35mm (1-3/8"). Surface mounted top trim not permitted.
- .8 The system shall provide a vertical adjustment of not less than 51mm (2") in overall height to accommodate floor and ceiling irregularities.
- .9 The system must be erected and removed in a manner to prevent damage to adjacent building surfaces and elements, including floors, walls, ceilings, columns and window mullions. All wall system connectors to fixed-in-place building components shall be non-marking, removable and reusable.

- .10 The system shall be capable of extending in multiple directions using 2-way, 3-way, 4-way and variable angle corner posts.
- .11 System shall include options of single or double doors utilizing adjustable metal frames. All door panels to be reversible in field without additional modifications or materials.
- .12 Cut-able panels shall be available to address irregularities in the interface between the panel system and fixed-in-place construction (i.e. sills, columns, bulkheads).
- .13 Demountable wall panels to be constructed of materials acceptable for use in non-combustible construction. Wall panels to be glass or constructed of a gypsum board, MDF, or steel substrate. Painted metal and wallcovering finishes shall exhibit Class 1 or Class A Surface Burning Performance.
- .14 Components to be distortion free, uniform in dimension, construction and appearance.
- .15 The system should have the ability to be neatly shaped around existing building conditions.
- .16 Demountable wall system is to accommodate plumbing, water supply, drainage and venting with access through structural framing.

1.6 SUBMITTALS

- .1 Product Data: Manufacturer's data sheets on each type of product indicated.
- .2 Shop Drawings: Plans, sections, elevations, details and attachments to other work.
 - .1 Indicate materials, methods of construction, attachment or anchorage details, erection diagrams of pre-assembled components, connections, explanatory notes and other information necessary for completion of work. Cross reference to design drawings and specifications.
 - .2 Indicate partition layout, including doors and hardware, elevations, opening locations, special panels and conditions at adjacent construction. Indicate locations of power and data receptacles. Indicate dimensions and finishes of all panels.
 - .3 Include field measurements of existing construction that is adjacent to wall system. Manufacturer shall take field measurements to show relevant adjacencies and clearances.
 - .4 Do not commence manufacture or order materials before shop drawings are reviewed and accepted by professional of record.
- .4 Product test reports from approved independent testing laboratory, certifying compliance with STC Rating, Surface Burning Rating, and Structural Performance
- .5 Lead Time: Provide the lead time duration from the date of shop drawing approval to the date of product shipment.

- .6 Provide maintenance data and cleaning instructions for inclusion in Operations & Maintenance Manual.
- .8 Provide samples of panels and components so Departmental Representative can confirm, substrate, finish, thickness and colour of components and panels. Please provide panel samples, door face finish, and extrusions samples.

1.7 **QUALITY ASSURANCE**

- .1 Manufacturer Qualifications:
 - .1 All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years of experience.
 - .2 The manufacturer of the wall system shall operate under an ISO 9001 certified quality management system.
- .2 Installer Qualifications: Minimum of two years documented experience in the installation of products in this section and must be approved by the manufacturer.

1.8 **WARRANTY/PRICING**

- .1 Submit, for Owner's acceptance, manufacturer's standard limited warranty document executed by authorized company official.
 - .1 Warranty period: Ten (10) years from date of substantial completion.
- .2 All transportation/shipping costs shall be included in the product price.

Part 2 **Products**

2.1 **MATERIALS**

- .1 Aluminum extrusions: to ASTM B221. Extrusions to have a powder coat finish.
- .2 Insulation: Factory installed in all solid panels, urea-formaldehyde free batt insulation.
- .3 Cladding/Panel Faces:
 - .1 Steel panels: For magnetic tackboard and whiteboard capability, Class 1 or Class A Surface Burning performance. Material: 24 gauge ceramic steel.
 - .2 Wall covering-faced panels. ½" (12mm) gypsum board, ½" (12mm) MDF or steel substrate: NFPA Class 1 or Class A surface burning rating To ASTM C960/C960M, Gypsum board, MDF or steel panel, with edges enclosed in an aluminum frame, surfaced with a minimum 0.15mm thick vinyl, fabric or environmental wall covering. Colour and pattern as selected from manufacturer's samples.
 - .3 Provide cementitious tile backer board substrate for ceramic tile at backsplash.
- .4 Doors and Hardware:
 - .1 Doors in accordance with Section 08 14 16- Flush Wood Doors
 - .2 Hardware in accordance with Section 08 71 00- Door Hardware
 - .3 All woodwork to adhere to AWI, Architectural Woodwork Standards, Custom Grade.

- .4 Door frames to include integral door seals.
- .5 Doors to have automatic bottom. Bottom to have a double neoprene bulb.
- .6 Doors to be full height swing doors and extend from floor to ceiling.

- .5 Glass and glazing materials:
 - .1 Glass and glazing: in accordance with Section 08 80 50- Glazing.
 - .2 Glazing sections: resilient ABS, extruded glazing section to suit glazing channel retaining slot, to Demountable Wall System manufacturer's standard, gaskets for setting glass.

- .6 Accessories:
 - .1 Provide manufacturer's standard connections and supports that connect and release from floor and ceiling without damage using carpet grippers and ceiling track clips.
 - .2 Fabricate components with concealed fastening devices and pressure-fit components that will not damage ceiling or floor coverings.
 - .3 Height adjustable horizontal mounting rail, in-wall blocking or backing requirements for wall mounted TV screens.
 - .4 Provide 305mm deep shelving as indicated on drawings. Shelving to be supplied by demountable partition manufacturer and compatible with installed system. Shelving to be 19mm MDF with wood veneer finish from manufacturer's full range.

2.2 FURNITURE INTEGRATION REQUIREMENTS

- .1 The wall system must be a companion system to a compatible furniture product line from the same manufacturer. Companion products shall include systems furniture, wood office suites, storage components, tables and architectural case goods. The companion wall and furniture systems must incorporate identical/compatible surface finishes, trim details and design logic.

- .2 Solid panels must come standard with integral support for wall mounted furniture components at any elevation. Furniture mounting capability must include work surfaces, storage units, systems furniture panels, flat screen monitors and shelving. Support must be provided without compromising acoustic performance and without the addition of external or surface mounted support mechanisms.

- .3 Off-module mounting of furniture components and accessories (whiteboards, tack boards, storage components) must be available at any elevation through the use of a horizontal accessory rail. This rail must not impact the wall system STC performance when in use. The horizontal, off-module mounting rail shall be removable and relocatable for application at any solid wall location. To maintain aesthetics, it shall not be mounted at locations where its function is not required.

2.3 POWER AND COMMUNICATIONS

- .1 Conduit and openings for power and data receptacles are to be provided in demountable walls. Cabling, receptacles, associated boxes and cover plates are to be supplied and installed by the electrical contractor.

- .2 Light switches, thermostats, and wiring to be supplied and installed by electrical contractor.

Part 3 Execution

3.1 ERECTION

- .1 Installation of partitions shall be under manufacturer's approved, direct supervision to insure wall performance and compatibility with design and specification intent.
- .2 Examine adjoining work by others. Do not proceed with fabrication or installation until unsatisfactory conditions are corrected.
- .3 Erect partitions rigid, level, plumb and aligned. Wall system shall not deviate from plumb by more than 1/8" over 10'. Install continuous light and sound seals at connection to floors, ceilings, fixed walls and abutting surfaces.
- .4 Manufacturer shall site dimension and survey floor slopes prior to installation to determine if and where conditions exist beyond manufacturer's standard levelling capabilities.
- .5 Do not deliver or install system and components until above ceiling and finishes are complete including ceiling tile, floor covering and painting.
- .6 Wall systems are to be scribed and neatly fitted to existing building conditions.
- .7 All wall system walls and components shall be washed and cleaned in accordance with manufacturer's cleaning instructions. Avoid scratching and marring the finishes.
- .8 Protect from damage for duration of construction activities.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 21 05 01 – Common Work Results for Mechanical.

1.2 REFERENCES

- .1 Authority Having Jurisdiction (AHJ)
 - .1 Conform to the requirements of the Authority having Jurisdiction. The Authority having Jurisdiction for this project is Fire Commissioner of Canada.
- .2 National Fire Protection Association (NFPA)
 - .1 NFPA 10-2007, Standard for Portable Fire Extinguishers.

1.3 SUBMITTALS

- .1 Provide Shop Drawing and Maintenance Manual submittals in accordance with Section 01 33 00 - Submittal Procedures and section 21 05 01 – Common Work Results - Mechanical.

Part 2 Products

2.1 FIRE EXTINGUISHERS

- .1 Provide quantity of extinguishers of type and size shown on the drawings.
- .2 Each extinguisher to be supplied with bracket for support.
- .3 Acceptable Products: Ansul, Badger, CFH, Diamond, Flagg, National Fire Equip., Pyrene, Strike First.

2.2 CABINETS

- .1 Semi-recessed type as indicated on drawing, constructed of 1.6 mm thick steel, 180 degrees opening door of 2.5 mm thick steel with latching device.
- .2 Cabinet to maintain fire resistive rating of construction in which they occur.
- .3 Cabinet door to be c/w metal panel, glass panel, or non-breakable glass panel as shown on the drawings.
- .4 Finish:
 - .1 Tub: prime coated.
 - .2 Door and frame: No.4 satin finish stainless steel.

- .5 Acceptable Products: Ansul, Badger, CFH, Diamond, Flagg, National Fire Equip., Pyrene, Strike First, Wilson & Cousins.

2.3 IDENTIFICATION

- .1 Identify extinguishers in accordance with recommendations of ANSI/NFPA 10, CAN/ULC-S508.
- .2 Attach bilingual tag, bar code or label to extinguishers, indicating month and year of installation. Provide space for service dates.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

- .1 Install or mount extinguishers in cabinets or on brackets as indicated in accordance with NFPA 10.

3.3 FIELD QUALITY CONTROL

- .1 Ensure extinguishers are full and have been 'inspected' at time of turnover to Departmental Representative.

END OF SECTION

1 General

1.1 WORK INCLUDED

- .1 Supply and installation of miscellaneous specialties included in this section. See drawings for quantity.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .3 Section 06 10 00 – Rough Carpentry.

1.3 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with section 01 33 00 - Submittal Procedures.
- .2 Indicate location, type, size, panel arrangement, backing, hardware, anchor or mounting details, frame or trim and accessories, details, connections and required clearances.

1.4 SUBMITTALS

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

1.6 PRODUCT DELIVERY, STORAGE & HANDLING

- .1 Package or crate, and brace products to prevent distortion in shipment and handling. Label packages and crates and protect finish surfaces by sturdy wrappings.
- .2 Deliver products to location at building site designated by Contractor.

1.7 MAINTENANCE DATA

- .1 Provide operation and maintenance data and manufacturer's warranty information for specialty items.

2 Products

2.1 SPECIALTY PRODUCTS

- .1 Provide reinforcing, fastening and anchorage required for building in of products.
- .2 Insulate between dissimilar metals, and metal and masonry materials, to prevent electrolysis with bituminous paint to meet specified requirements of CGSB Specification 1-GP-108M; or with methacrylate lacquer, 1-GP-159 if exposed to view.
- .3 Specified materials are minimum acceptable quality. Manufacturer's standards exceeding specified quality will be accepted.

2.2 PRODUCT LIST

The following is a list of the miscellaneous manufactured specialty products required for this project:

.1

Rear Loading Mailboxes:

.1 Materials:

- .1 Mailbox frame to be 3/16" (5mm) thick 6061 T6 brushed and lacquered aluminum.
- .2 Mailbox doors to be made of 1/4" (6mm) thick 6061 T6 brushed and lacquered aluminum in the required dimensions to form front closures.
- .3 Mailbox cabinet to be constructed of 22 gauge steel (0.76mm thick), cold rolled for interior installation.
- .4 Hinges: Full door length plated steel 180 degree hinge, 0.75mm thick, 6.35mm long knuckle, 2.5mm diameter pin.
- .5 Each mailbox to have one key lock. Each lock to be 5 pin cylinder cam style lock. Each set to have a different combination
- .6 All steel parts of mailboxes to be phosphate treated and finished with a baked enamel coating. Aluminum frames to line polished horizontally with a #80 fine grain finish and surfaces protected with a clear, transparent baked lacquer.
- .7 Each compartment to have engraved number plates on front and rear and label holder for identification.
- .8 Fastening Devices: Supply units complete with non-ferrous nuts and bolts as required for installation and assembly.
- .6 Mail box unit to have front and rear integrated flange trim to conceal rough opening. Trim finish to match unit finish.
- .7 Mail box sizes:
 - .1 5" (127mm) high x 12" (305mm) wide x 14" (356mm) deep.
 - .2 10.5" (266.7 mm) high x 12" (305mm) wide x 14" (356mm) deep.
- .8 Mail box chutes size:
 - .1 10.5" (266.7mm) high x 20" (508mm) wide x 6.75" (171.45mm) deep.
- .9 Follow manufacturer's installation instructions.
- .10 Securely and rigidly support and brace mail box cabinet. Manufacturer to approve in-wall structural support for cabinet.
- .11 Cabinet to be level and plumb to a 1/16" tolerance All doors to be plumb and level to 1/32" tolerance.
- .12 Refer to drawings for locations
- .13 Fabricate units so that they are self stacking and securely fastened to wall structure. Individual boxes are to be bolted together. Holes are to provided on the sides, together with nuts and bolts, so that each box section can be securely bolted together.
- .14 Door numbers are to be engraved in the aluminum.
- .15 Doors to be securely fastened to frame with a continuous hinge.
- .16 Label holders to be 280mm long and 12.7mm wide. Label holders to be spot welded to the top rear of each box.

- .17 Contractor to coordinate and provide structural support and blocking for mail box installation.

.2
Mail Chute

.1 Materials and Fabrication:

- .1 Mail chute frame to be 3/16" (5mm) thick 6061 T6 brushed and lacquered aluminum. Frame flange to extend 2" beyond opening on each side.
- .2 Mail chute door to be made of 1/4" (6mm) thick 6061 T6 brushed and lacquered aluminum. Door size to be 406mm wide and 165mm high. Door to have engraved text in aluminum face. Text to be determined at shop drawing stage. Chute door to have aluminum pull welded to door face. Provide full length plated steel hinge on bottom of door.
- .3 Chute frame to be fastened to wall assembly with stainless steel carriage bolts.
- .4 Contractor to coordinate and provide structural support and blocking for mail chute installation.
- .5 Follow manufacturer's installation instructions.
- .6 Securely and rigidly support and brace mail chute.
- .7 Chute to be level and plumb to a 1/16" tolerance
- .8 Refer to drawings for locations

.3
CPU Holder

.1 Materials:

- .1 Fixed mount convertible CPU holder for reception desk.
- .2 Material: Steel
- .3 Finish: Black
- .4 Width Dimensions: 9.25" to 13.5"
- .5 Height Dimensions 17.5" to 22"
- .6 Load Capacity 35lbs to 65lbs

3 Execution

3.1 INSTALLATION

- .1 Install specialties in accordance with manufacturer's instructions, plumb and level. To a tolerance of 1/16".

3.2 CLEANING

- .1 Clean surfaces after installation using manufacturer's recommended cleaning procedures.

3.3 MAINTENANCE

- .1 Include maintenance and operating instructions in maintenance manual.

END OF SECTION