

Part 1 General**1.1 RELATED WORK**

- .1 Section 09 21 16 - Gypsum Board Assemblies.
- .2 Section 08 80 50 - Glazing.
- .3 Section 09 53 00.01 - Acoustical Suspension.
- .4 Section 09 51 13 - Acoustical Panel Ceilings.

1.2 REFERENCES

- .1 Aluminum Association (AA)
 - .1 AA DAF45-R03, Designation System for Aluminum Finishes, 9th Edition
- .2 American National Standards Institute (ANSI)
 - .1 ANSI Z97.1-2004, Safety Glazing Materials Used in Buildings – Safety Performance Specifications and Method of Test.
- .3 American Society for Testing and Materials (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 C1396, Standard Specification for Gypsum Board
 - .5 ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials
 - .6 ASTM E90, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
 - .7 ASTM E413, Classification for Rating Sound Insulation
 - .8 ASTM E1300, Standard Practice for Determining Load Resistance of Glass in Buildings
- .4 Underwriters Laboratories of Canada (ULC).
 - .1 CAN/ULC-S102-07. Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.3 PERFORMANCE REQUIREMENTS

- .1 Acoustic Performance
 - .1 Minimum sound transmission rating of installed panel partition to be STC 45 when tested to ASTM E90.
 - .2 Provide sliding doors where indicated.
- .2 Surface Burning Performance

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- .1 Painted steel panels: Maximum Flame Spread of 25 when tested in accordance with ASTM E84
- .3 Structural Performance
 - .1 Design and size the moveable walls and components to withstand dead and live loads as calculated in accordance with the 2010 National Building Code of Canada.
 - .2 Design and size moveable walls and components to withstand seismic loads as calculated in accordance with the 2010 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 135 kg on either side of each panel at both overhead and desktop elevations with a CG of no greater than 200 mm from the panel face.
 - .4 Panels or panel framing members shall exhibit lateral deflection not greater than 1/240 of span when subjected to a uniformly distributed load 240 Pa.
 - .5 At a minimum, glass thickness shall conform to the requirements of ASTM E1300.
 - .6 Glass framing members shall be sized to limit glass edge deflection not greater than 1/175 or 19 mm, whichever is less, when subjected to a uniformly distributed load of 240 Pa.
 - .7 Glazing materials shall comply with the requirements of 16 CFR Part 1201 and/or ANSI Z97.1-2004.

1.4 DESIGN REQUIREMENTS

- .1 The moveable wall system shall be rectilinear in design and expression with crisp corners and well defined horizontal and vertical elements.
- .2 The system shall be 100 mm thick minimum, and designed and sized in horizontal and vertical modules to accommodate the partition layout indicated.
- .3 Panel heights shall be available in 3 mm increments from a minimum of 200 mm to maximum of 3,660 mm as required. Actual floor to ceiling heights shall be verified in field.
- .4 Panel widths shall be available in 3 mm increments from a minimum of 200 mm to maximum of 1,220 mm for solid panels and 1,525 mm for glass panels.
- .5 Glass panels shall be constructed of materials acceptable for use in non-combustible construction and shall exhibit Class 1 or Class A Surface Burning Performance.
- .6 The system shall be non-progressive, allowing for removal and re-installation of panels, including door frames, at any position, without disturbing adjacent panels.
- .7 Each unitized panel shall be able to be removed, relocated and re-installed in different layouts, with all parts reusable. Scribing and fitting of panels on site to individual locations is not acceptable.
- .8 The panel/floor interface shall have a reveal, recessed 19 mm from the face of the panel on both sides and adjustable in height from 32 mm to 64 mm Surface mounted base trim not permitted.

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- .9 The panel/ceiling interface shall have a reveal, recessed 19 mm from the face of the panel on both sides and adjustable in height from 16 mm to 36 mm Surface mounted top trim not permitted.
- .10 The system shall provide a vertical adjustment of not less than 50 mm in overall height to accommodate floor and ceiling irregularities.
- .11 The system shall include a freestanding option that does not require a connection or attachment to the ceiling.
- .12 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 system connectors to fixed-in-place building components shall be non-marking, removable and reusable.
- .13 The system shall be capable of extending in multiple directions using 2-way, 3-way, 4-way and variable angle corner posts.
- .14 Doors: Sliding framed glass doors. All door panels shall utilize standard panel connection methods and be reversible in field without additional modifications or materials.
- .15 Components shall be free of distortion and uniform in dimension, construction and appearance.

1.5 SUSTAINABILITY CRITERIA

- .1 Total recycled content shall be greater than 10% combining both post-consumer and pre-consumer recycled content.
- .2 Steel, aluminum and glass components shall be 100% recyclable.
- .3 Polyethylene film, corrugated cardboard and wood packaging materials shall be readily recyclable.
- .4 Product shall be free of hexavalent chrome, CFC's, PDBE's, persistent organic pollutants (POP's) and heavy metals.
- .5 Fiberglass insulation materials shall be formaldehyde-free and have a minimum of 25% recycled content.
- .6 No ozone depleting substances (ODS's) shall be used in the manufacturing process.

1.6 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit shop drawings. Indicate head, jamb and sill details. Provide plans, sections, elevation and details with rough and finished opening sizes. Provide details of anchorage, clearances, hardware, surface coverings including: finish, pattern, texture and colour.
- .3 Submit samples. Submit duplicate 300 x 200 mm samples of surface covering.

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- .4 Submit Test Reports indicating compliance with design criteria including sound transmission and fire hazard classification.
- .5 Submit Test Reports certifying that the partition has been tested by an independent accredited acoustical laboratory in accordance with Design Criteria.

1.7 CLOSEOUT SUBMITTALS

- .1 Provide operation and maintenance data for partitions for incorporation into manual specified in Section 01 78 00 - Closeout Submittals. Include cleaning instructions.

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction / Demolition Waste Management.
- .2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan. Fold up metal banding, flatten and place in designated area for recycling.

Part 2 Products**2.1 MATERIALS**

- .1 Aluminum extrusions: ASTM B221
- .2 Doors and Hardware
 - .1 Provide sliding glass doors as indicated on drawings.
- .3 Glass and glazing materials
 - .1 Provide 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 partition system manufacturer's standard, gaskets for setting glass.

2.2 COMPONENTS

- .1 Glazed Panels
 - .1 Extruded aluminum frame; minimum 1.6 mm thick, stile and frame with corner brackets, installed for full frame rigidity.
 - .1 Monolithic: 10 mm thick tempered glass panels ceiling height, fit to frame with neoprene glazing gaskets.
 - .2 Segmented: 10 mm thick glass panels, [tempered][laminated], in up to eight (8) horizontal segments as per approved elevations, fit to aluminum frame with ABS glazing gaskets and supported/separated horizontally by muntins.
 - .3 Width of vertical mullions and horizontal muntins: 22 mm maximum

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- .2 Combination Panels: Full height, extruded aluminum frame, with horizontally segmented solid panel faces and glazed panels, separated by horizontal, extruded aluminum cross member not to exceed 22 mm high.
- .3 Door panels: Sliding Aluminium framed glass.
- .4 Door frames: Extruded aluminum, ceiling height, to accommodate and support 10mm tempered glass panel with fixed stops.
 - .1 Provide all hardware for sliding doors.
 - .2 Provide door frames with integrated glazed transom; dimensions as per approved elevations.

2.3 FABRICATION

- .1 Fabricate the moveable wall system off-site in a controlled factory environment and deliver panels fully finished to site for installation with no additional assembly, construction or finishing required.
- .2 Frameless glass wall assemblies greater than 1,525 mm wide may be delivered and site assembled as non-unitized components.

2.4 CONNECTION METHODS

- .1 Moveable wall system to ceiling: Extruded aluminum track, attached to ceiling grid using non-marking clip, lined with closed cell neoprene seal. Ceiling track shall support extruded ABS top reveal profile, friction fit to track providing a continuous top channel for panel system. ABS channel shall fit securely against interior panel faces to ensure integrity of acoustic and visual barrier.
- .2 Moveable wall system to floor: Integrated extruded aluminum channel/base assembly, designed to grip and hold to carpet flooring without damage to floor surface. Threaded adjustable leveling legs with leveler saddles set into floor channel. Sidewalls of channel shall fit securely against interior panel face on both sides of panel without gaps.
- .3 Moveable wall system to fixed-in-place construction: Extruded aluminum wall start channel, affixed to permanent building components without the use of permanent fasteners, lined with closed cell neoprene seals.
- .4 Panel to panel, door frame or post connector: Continuous, extruded ABS connector applied to aluminum frame providing a 8 mm reveal, recessed 5 mm from panel face and ensuring integrity of sound and light seal.
- .5 Panel face to frame: Continuous, extruded ABS retention clip affixed to back of panel face secured to aluminum frame.
- .6 For all exposed ends and corners, provide one piece aluminum extrusion to match panel finish, attached to end panel with standard panel-to-panel connector.

2.5 FINISHES

- .1 Aluminum surfaces: Finish exposed surfaces of aluminum components to AA DAF45. Textured or metallic powdercoat finish. Non-repairable, anodized aluminum finishes are unacceptable.

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- .2 Steel Surfaces: Epoxy powder coated. Color as selected by Departmental Representative from manufacturer's standard range.
- .3 ABS extrusions: Selected from manufacturer's samples.

Part 3 Execution**3.1 INSTALLATION**

- .1 Prepare openings to receive partition in accordance with approved shop drawings. Do not deliver door to site until immediately prior to installation and only when opening is prepared to receive the door assembly.
- .2 Ensure overhead suspension structure is complete and ready for attachment of partition suspension assembly.
- .3 Install partition in accordance with manufacturer's printed instructions.
- .4 Level tracks and fasten securely to header.
- .5 Touch up damaged finishes, repair damage to partitions to match original finish.
- .6 Adjust and leave sliding doors in smooth operating conditions.
- .7 Install the moveable wall system under manufacturer's approved, direct supervision to ensure performance and compatibility with design and specification intent.
- .8 Erect the moveable wall system rigid, level, plumb and aligned. Install continuous light and sound seals at connection to floors, ceilings, fixed walls and abutting surfaces.
- .9 Coordinate the moveable wall system installation with work of other trades which are affected. Avoid damage to installed work.
- .10 Repair damaged or defaced work or replace with new work, as acceptable to Departmental Representative. Completely refinish defaced partition components with factory finished materials, or replace defaced components.
- .11 Install doors and hardware. Adjust hardware and doors and leave in proper operating condition.
- .12 Acoustical Gaskets and Sealant: Seal cut-outs in panels, penetrations through partitions, and intersections with adjacent construction. Use gaskets where practical; use sealant at other locations and at fire rated partitions.

3.2 PROTECTION

- .1 Protect installed moveable wall system components until completion of project.
- .2 Touch-up, repair or replace damaged moveable wall system components before Substantial Completion.

END OF SECTION

OPERABLE PARTITIONS**Part 1 General****1.1 RELATED WORK**

- .1 Section 05 50 00 - Metal Fabrications
- .2 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM E90-09. Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- .2 Underwriters Laboratories of Canada (ULC).
 - .1 CAN/ULC-S102-07. Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.3 DESIGN REQUIREMENTS

- .1 Design operable partitions to be manually operated, paired panels. Design closure jamb to be dual mechanical latching, capable of opening from either side of partition.
- .2 Design and fabricate operable partitions with minimum STC of 45 tested to ASTM E90.
- .3 Design surface covering with maximum ratings as follows when tested to ULC-S102:
 - .1 Flame spread: 25.
 - .2 Fuel contributed: 35.
 - .3 Smoke developed: 50.

1.4 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit shop drawings. Indicate location and extent of operable partitions. Include plans, elevations, sections, details, attachments to other construction, and accessories. Indicate dimensions, weights, conditions at openings, and at storage areas, and required installation, storage, and operating clearances. Indicate location and installation requirements for hardware and track, including floor tolerances required and direction of travel. Indicate blocking to be provided by others. Indicate head, jamb and sill details. Provide elevation with rough and finished opening sizes. Provide details of surface coverings including: finish, pattern, texture and colour.
- .3 Submit samples. Submit duplicate 300 x 200 mm samples of surface covering.
- .4 Submit Test Reports indicating compliance with design criteria including sound transmission and fire hazard classification.
- .5 Submit Test Reports certifying that the partition has been tested by an independent accredited acoustical laboratory in accordance with Design Criteria.

OPERABLE PARTITIONS**1.5 CLOSEOUT SUBMITTALS**

- .1 Provide operation and maintenance data for partitions for incorporation into manual specified in Section 01 78 00 - Closeout Submittals. Include cleaning instructions.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction / Demolition Waste Management.
- .2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan. Fold up metal banding, flatten and place in designated area for recycling.

Part 2 Products**2.1 COMPONENTS**

- .1 Panels shall be nominally 76 mm thick in manufacturer's standard widths.
- .2 Panel faces shall be laminated to appropriate substrate to meet the STC requirement set out in Section 1.3.2 Design Requirements.
- .3 Frames shall be of 1.42 mm (16 Gauge) painted steel with integral factory-applied aluminum vertical edge and face protection.
- .4 Vertical sound seals shall be of tongue and groove configuration, ensure panel-to-panel alignment and prevent sound leaks between panels.
- .5 Horizontal top and bottom seals shall be fixed continuous contact dual 4-finger vinyl.
- .6 Horizontal trim shall be of aluminum.
- .7 Suspension system.
 - .1 Suspension system shall consist of anodized thermally treated architectural grade extruded aluminum track connected to the structural support by pairs of steel threaded rods provided by the manufacturer. Guide pins will ensure perfect alignment of track joints. Track design shall be clear anodized aluminum, provide precise alignment at the trolley running surfaces and provide integral support for adjoining ceiling, soffit, or plenum sound barrier. A section of track should be removable in order to make it possible for a panel to be removed from the track for later maintenance.
 - .2 Each panel shall be supported by one trolley assembly consisting of four (4) steel ball bearing wheels nylon coated. Friction disc puck type carrier and track systems are not allowed. A report showing that a reliability test covering a distance of 160 Kilometers (100 miles) was completed and must be available on request.

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- .3 Plenum closure: Design of plenum closure must permit lifting out of header panels to adjust track height. Plenum closure required for optimum sound control of partition.
- .8 Surface finish: Face finish shall be:
 - .1 Factory applied reinforced vinyl fabric with woven backing weighing not less than 465 g/m. Pattern, style, colour and texture to be selected by the Departmental Representative from manufacturer's standard and extended range of materials.
- OR -
 - .2 High pressure laminate (factory installed). Pattern, style, colour and texture to be selected by the Departmental Representative from manufacturer's standard and extended range of materials
- .9 Accessories:
 - .1 Whiteboard for dry eraser marker and projection.
- .10 Hardware:
 - .1 Pull bar, draw latches, screws and installation hardware: as per manufacturer's standard. Hardware finish selected from manufacturer's standard finishes.

Part 3 Execution**3.1 INSTALLATION**

- .1 General: Comply with ASTM E557, operable partition manufacturer's written installation instructions, Drawings and approved Shop Drawings.
- .2 Install operable partitions and accessories after other finishing operations, including painting, have been completed.
- .3 Match operable partitions by installing panels from marked packages in numbered sequence indicated on Shop Drawings.
- .4 Broken, cracked, chipped, deformed, or unmatched panels are not acceptable.

3.2 CLEANING AND PROTECTION

- .1 Clean partition surfaces upon completing installation of operable partitions to remove dust, dirt, adhesives, and other foreign materials according to manufacturer's written instructions.
- .2 Provide final protection and maintain conditions in a manner acceptable to the manufacturer and installer that insure operable partitions are without damage or deterioration at time of Substantial Completion.

3.3 ADJUSTING

- .1 Adjust operable partitions to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

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3.4 EXAMINATION

- .1 Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

END OF SECTION

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM International).
 - .1 ASTM D1308-02(2007). Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
 - .2 ASTM F476-84(2002). Standard Test Methods for Security of Swinging Door Assemblies.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide the following submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Submit manufacturer's printed product literature, specifications and data sheet.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets. Indicate VOC's for caulking materials during application and curing and for adhesives.
 - .3 Submit shop drawings. Indicate large scale details, materials, finishes, dimensions, anchorage and assembly.
 - .4 Submit samples. Submit duplicate 300 mm long samples of profiles. Indicate colours for corner and wall guards.
 - .5 Submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction / Demolition Waste Management and Disposal.
- .2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan.

Part 2 Products**2.1 MATERIALS**

- .1 **TYPE CG:** Stainless Steel Corner Guard. 50 x 50 mm x 1220mm high radiused outside edge profile. Corner guard shall be manufactured from Type 304, 16 gauge stainless steel.

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- .1 Provide profiles for both 90 degree and 135 degree corner wall junctions. Refer to plan for locations.
- .2 Fasteners: non-corrosive and compatible with aluminum retainers. Concealed mounting.
- .2 Finishes: Brushed finish.

Part 3 Execution**3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 INSTALLATION

- .1 For stainless corner guards: Install units on solid backing and erect with materials and components straight, tight, lying flat on substrate, and in alignment. Mechanically fasten corner guards with concealed fastener system to substrate at 200 mm on centre or as indicated.

3.3 CORNER GUARDS

- .1 Install corner guards at all outside corners as indicated in the drawings.

3.4 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Clean surfaces after installation using manufacturer's recommended cleaning procedures.

END OF SECTION

ACCESSORIES**Part 1 General****1.1 RELATED SECTIONS**

- .1 Section 07 92 00 - Joint Sealants.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM).
 - .1 ASTM A167-99 (2009). Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - .2 ASTM A653/A653M-09. Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian Standards Association (CSA).
 - .1 CAN/CSA-B651-04. Accessible Design for the Built Environment.

1.3 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate size and description of components, base material, and surface finish inside and out, hardware and locks, attachment devices, description of rough-in-frame, building-in details of anchors for grab bars. Show anchorage, accessory and finishes.
- .3 Submit manufacturers Product Data sheets. Provide manufacturer's catalog cuts including hardware and fastenings. Submit manufacturer's installation instructions for each component.

1.4 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit representative samples of each specified item, including mounting brackets, fastenings and trim. Reviewed samples will be returned for inclusion into the work.

1.5 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data for toilet and bath accessories for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.6 DELIVERY STORAGE AND HANDLING

- .1 Deliver and store materials in manner to prevent damage and in accordance with manufacturers written instructions. Deliver pre-finished materials in original, unopened cartons or other packaging materials necessary to protect structure and finishes.
 - .1 Label packages clearly with manufacturer's name and item description.
 - .2 Store materials in original packaging until installation.

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- .3 Store components with adequate support to ensure flatness and to prevent damage to pre-finished surfaces.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction / Demolition Waste Management.
- .2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan.

1.8 EXTRA MATERIALS

- .1 Provide special tools required for accessing, assembly/disassembly or removal for toilet and bath accessories as specified in Section 01 78 00 - Closeout Submittals.
- .2 Deliver special tools to Departmental Representative.

Part 2 Products**2.1 MATERIALS**

- .1 Sheet steel: to ASTM A653/A653M with ZF001 designation zinc coating.
- .2 Stainless steel sheet metal: to ASTM A167, 18-8, Type 304 with brushed finish. Apply manufacturer's proprietary finish to minimize visual markings and appearance of fingerprints.
- .3 Stainless steel tubing: Type 304 commercial grade, seamless welded. Wall thickness as specified for each component.
- .4 Fasteners: concealed screws and bolts hot dip galvanized, exposed fasteners to match face of unit. Expansion shields fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use.

2.2 COMPONENTS

- .1 Surface-mounted paper towel dispenser shall be type-304 stainless steel with all-welded construction; exposed surfaces shall have satin finish. Door shall be secured to cabinet with a full-length stainless steel piano-hinge and equipped with a tumbler lock. Key lock to base building standard. Paper towel tray shall have hemmed opening to dispense paper towels without tearing. Unit shall be capable of dispensing 200 C-fold or 275 multifold paper towel measuring 79 to 97mm deep.
- .2 Surface-mounted soap dispenser shall be type-304 stainless steel with satin-finish. Corrosion-resistant valve shall dispense commercially marketed all-purpose hand soaps. To prevent corrosion, use only chloride-free pH-neutral liquid soaps. Valve shall be operable with one hand and with less than 22.2 N of force. Soap dispenser to have radius face and rounded corners. Depth of body to be 65mm and depth of dispenser to be 85mm, as measured from wall surface. Overall size of unit 180mm in width and 170 mm in height. Container body and back plate shall be epoxy-sealed to prevent warping and leakage. Soap dispenser shall have concealed, vandal-resistant

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mounting. Locked, hinged stainless steel lid for top filling shall require special key to open. Capacity shall be 1.2 liters.

2.3 FABRICATION

- .1 Weld and grind joints of fabricated components flush and smooth. Use mechanical fasteners only where approved.
- .2 Wherever possible form exposed surfaces from one sheet of stock, free of joints. Brake form sheet metal work with 1.5 mm radius bends. Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- .3 Back paint components where contact is made with building finishes to prevent electrolysis.
- .4 Hot dip galvanize concealed ferrous metal anchors and fastening devices.
- .5 Shop assemble components and package complete with anchors and fittings.
- .6 Deliver inserts and rough-in frames to job site at appropriate time for building-in. Provide templates, details and instructions for building in anchors and inserts. Provide steel anchor plates and components for installation on studding and building framing.
- .7 Manufacturers or brand names on face of units is not acceptable.

Part 3 Execution**3.1 INSTALLATION**

- .1 Install and secure accessories rigidly in place as follows:
 - .1 Stud walls: install steel back-plate to stud prior to drywall finish. Provide plate with threaded studs or plugs.
 - .2 Hollow masonry units or existing plaster/drywall: use toggle bolts drilled into cell/wall cavity.
 - .3 Solid masonry, marble, stone or concrete: use bolt with lead expansion sleeve set into drilled hole.
 - .4 Toilet/shower compartments: use male/female through bolts.
- .2 Install grab bars on built-in anchors provided by bar manufacturer. Provide solid wood blocking between studs at all grab bar location in hollow wall types.
- .3 Use tamper proof screws/bolts for fasteners.
- .4 Fill units with necessary supplies shortly before final acceptance of building.
- .5 Comply with manufacturer's written data, including product technical bulletins, installation instructions, carton installation instructions, and datasheet. Manufacturer's recommendations will be considered as minimal instructions.

ACCESSORIES**3.2 SCHEDULE**

- .1 Locate accessories where indicated and as follows. Exact locations determined by Departmental Representative.
- .2 Where mounting heights are not indicated in the drawings, mount at heights as recommended by manufacturer. Where barrier free washrooms are provided, mount fixtures and accessories at heights as required by CAN/CSA-B651.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

- .1 Federal Identity Program Manual.
 - .1 Chapter 4 - Signage.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 National Fire Protection Association (NFPA)
 - .1 NFPA 10-2013, Standard for Portable Fire Extinguishers.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit copies WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures.
- .3 Provide shop drawings.
- .4 Closeout Submittals:
 - .1 Provide operation and maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Packing, shipping, handling and unloading:
 - .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management.

PART 2 PRODUCTS

2.1 MULTI-PURPOSE DRY CHEMICAL EXTINGUISHERS

- .1 Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for A, B and C class protection.
 - .1 Sizes 2.25 and 4.5 kg, as indicated on drawings.

2.2 EXTINGUISHER BRACKETS

- .1 Type recommended by extinguisher manufacturer.

2.3 CABINETS

- .1 Flush type as indicated, 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: with 5 mm full glass panel.
- .4 Finish:
 - .1 Tub: prime coated.
 - .2 Door and frame: No.4 satin finish stainless steel.

2.4 IDENTIFICATION

- .1 Identify extinguishers in accordance with recommendations of FIP standard.
- .2 Attach bilingual tag 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 on drawings.
- .2 Install tops of fire extinguishers 1200 mm above finished floor.

END OF SECTION

