

Part 1 General**1.1 SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for marker boards. Include product characteristics, performance criteria, physical size, finish, and limitations.

1.2 QUALITY ASSURANCE

- .1 Regulatory Requirements:
 - .1 Surface burning characteristics of materials: Listed and labelled by an organization accredited by Standards Council of Canada.

1.3 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements, and with manufacturer's written instructions.
- .2 Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products**2.1 MATERIALS**

- .1 Marker Board Surface Materials (WB)
 - .1 Writing Surface Face Sheet: Dry erase surface.
 - .2 Core: Lightweight polystyrene foam.
 - .3 Board thickness: 4.7 mm (3/16 inch).
 - .4 Colour: White, low gloss.
 - .1 Mount whiteboards on aluminum angle hangers with concealed fasteners.
 - .5 Mounting channel: Extruded aluminum, 6063-T5 alloy, 'h' shaped profile, anodized satin finish. Attach with stainless steel screws. Provide channel of width to give firm retention of marker board when installed.
 - .6 Location: As indicated on the Drawings.

Part 3 Execution**3.1 EXAMINATION**

- .1 Verify that conditions of substrate are acceptable for installation in accordance with manufacturer's written instructions. Proceed with installation only after unacceptable conditions have been remedied.

3.2 INSTALLATION

- .1 Confirm location and height with Departmental Representative prior to installation unless indicated on Drawings.
- .2 Secure units level and plumb.
- .3 Use heavy duty fasteners to provide secure attachment.
- .4 Marker Boards:
 - .1 Butt panels tight with concealed spline to hairline joint.
- .5 Mechanical Attachment:
 - .1 To concrete or solid masonry use lag screw and expansion bolts or screws and lead plugs as appropriate for loads and stresses involved.
 - .2 To hollow masonry use toggle bolts or equivalent.
 - .3 To steel studs or metal furring use metal screws. Secure framing members in stud walls.

3.3 CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

3.4 PROTECTION

- .1 Protect installed products and components from damage during construction.

END OF SECTION

Part I General**I.1 REFERENCES**

- .1 ASTM International
 - .1 ASTM A276/A276M-15, Standard Specification for Stainless Steel Bars and Shapes.
 - .2 ASTM A314-15, Standard Specification for Stainless Steel Billets and Bars for Forging.
 - .3 ASTM A582/A582M-12e1, Standard Specification for Free-Machining Stainless Steel Bars.
 - .4 ASTM B221-14/B221M-13, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - .5 ASTM B247/B247M-09, Standard Specification for Aluminum and Aluminum Alloy Die Forgings, Hand Forgings, and Rolled Ring Forgings.
 - .6 ASTM E90-04, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - .7 ASTM E336-05, Standard Test Method for Measurement of Airborne Sound Insulation in Buildings.
- .2 Underwriters Laboratories' of Canada (ULC)
 - .1 CAN/ULC S102-07, Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

I.2 DESIGN REQUIREMENTS

- .1 Provide doors that, when fully extended and latched, completely close off opening in which installed.
- .2 Design system to withstand door operation under normal traffic without damage, racking, sagging, or deflection.
- .3 Design and fabricate glazed partitions with minimum STC of 40 tested to ASTM E90.

I.3 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Manitoba, Canada.

- .1 Indicate installation requirements including dimensions, head and jamb conditions, track layout, stacking arrangement, switching, hardware, finish and colour, operating mechanism, and location.
- .4 Samples:
 - .1 Submit duplicate 200 x 200 mm samples of partition finish for each colour selected.
- .5 Quality assurance/control submittals: submit following in accordance with Section 01 45 00 - Quality Control.
 - .1 Submit test data indicating compliance with design requirements regarding sound transmission and fire hazard classification.
 - .2 Submit acoustical test data to ASTM E90 and ensure construction details and weight are provided.
 - .3 Certificates: Submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .4 Manufacturer's Instructions: submit manufacturer's installation instructions. Indicate special handling criteria, installation sequence, and cleaning procedures.
 - .5 Manufacturer's Field Reports: Manufacturer's field reports specified.
- .6 Closeout Submittals:
 - .1 Provide operation and maintenance data for folding panel partitions for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

I.4 QUALITY ASSURANCE

- .1 Site Meetings: As part of Manufacturer's Services described in PART 3 - FIELD QUALITY CONTROL, schedule site visits, to review Work, at stages listed.
 - .1 After delivery and storage of products, and when preparatory Work is complete but before installation begins.
 - .2 Upon completion of Work, after cleaning is carried out.

I.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 MATERIALS

- .1 Glazed partition system: Factory fabricated assembly consisting of frameless glass panels fastened with top and bottom rails.

2.2 COMPONENTS

- .1 Overhead suspension system:
 - .1 Track: Tempered anodized aluminum channel housing designed to support partitions; track joints reinforced with stainless steel junction plates.

- .2 Trolley:
 - .1 Bearings: High carbon chromium stainless steel body to ASTM A276 or ASTM A314.
 - .2 Rollers: Austenitic stainless steel to ASTM A582, type 303.
 - .3 Body: To ASTM B247, forged aluminum.
- .2 Glass panel rails: Sufficient to structurally support glazing and doors under specified loads.
 - .1 Extruded aluminum to ASTM B221, 6063-T6 alloy, with end caps, slide block, end brackets, keyed cylinder thumb turn lock.
 - .2 Setting blocks: Aluminum and neoprene, size as recommended by manufacturer.
 - .3 Gaskets: EPDM as recommended by manufacturer.
- .3 Hardware:
 - .1 Equip partition with manufacturer's standard hardware. Hardware finish selected from manufacturer's standard finishes.
- .4 Sound seals:
 - .1 Provide sound seals at floor, ceiling, jambs, and abutting edges.
 - .2 Use manufacturer's standard astragal inserts for jamb and panel joint seal.

2.3 ACCESSORIES

- .1 Provide manufacturer's standard stack jamb closure panel.
- .2 Provide pass door with keyed latch.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

- .1 Secure and level track to structural steel supports.
- .2 Install folding glazed panel partitions in accordance with manufacturer's printed instructions.
- .3 Touch up damaged finishes, repair damage to partitions to match original finish.
- .4 Clean partition system and protect from damage.
- .5 Adjust and leave partitions in smooth operating condition.

3.3 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Services:

- .1 Obtain written report from manufacturer verifying compliance of Work, in handling, installing, applying, protecting and cleaning of product and submit Manufacturer's Field Reports as described in PART I - SUBMITTALS.
- .2 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
- .3 Schedule site visits, to review Work, as directed in PART I - QUALITY ASSURANCE.

3.4 CLEANING

- .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

Part I General**I.1 REFERENCES**

- .1 ASTM E90-04 - Airborne-Sound Transmission Loss of Building Partitions and Elements.
- .2 ASTM E413-04 - Classification for Rating Sound Insulation.
- .3 ASTM E557-00(2006) - Standard Guide for the Installation of Operable Partitions.
- .4 CAN/CSA-C22.2 No. 100-04 - Motors and Generators.
- .5 CAN/ULC S102-07 - Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
- .6 NEMA LD3-2005 - High - Pressure Decorative Laminates.
- .7 NEMA MG 1-2006 - Motors and Generators.

I.2 PERFORMANCE REQUIREMENTS

- .1 Sound Transmission Coefficient (STC): 53-57 when measured in accordance with ASTM E90, for completely functioning operable wall.
- .2 Install partition system track capable of supporting imposed loads, with maximum deflection of 1/360 of span.
- .3 Operation: Vertical raised opening; continuous hinged panels.
- .4 Design operable partition wall to have design life of at least 10,000 complete closed-to-open-to-closed cycles.

I.3 SUBMITTALS

- .1 Section 01 33 00: Submission procedures.
- .2 Product Data: Provide data on partition operation, hardware and accessories, electric operating components, track switching components, colours and finishes available.
- .3 Shop Drawings: Indicate opening sizes, track layout, details of track and required supports, static and dynamic loads, adjacent construction and finish trim, and stacking sizes.
- .4 Samples:
 - .1 Submit two (2) samples of each surface finish, 200 x 200 mm size, illustrating quality, colours selected, and texture.
- .5 Installation Data: Manufacturer's special installation requirements including special procedures, perimeter conditions requiring special attention, and installation sequence.

1.4 CLOSEOUT SUBMITTALS

- .1 Section 01 78 00: Submission procedures.
- .2 Operation and Maintenance Data:
 - .1 Include recommended cleaning methods, cleaning materials, and stain removal methods.
 - .2 Describe cleaning materials detrimental to surfaces and hardware finish.

Part 2 Products**2.1 PARTITIONS**

- .1 Automatic vertically retractable acoustic wall.
 - .1 Closed position: Hard, rigid, flat, plumb; two vertical planes of panels separated by acoustical air space.
 - .2 Open position: Accordion stacking operation, self storing within ceiling.

2.2 COMPONENTS

- .1 Panel Construction:
 - .1 Panel Substrate Facing: Steel sheet, architecturally flat with no bowing, oil canning, warping, or waviness.
 - .2 Core: Acoustic construction utilizing manufacturer's standard fabrication methods.
 - .3 Panel to Panel Seals: Continuous flexible seal fitted to panel edge construction.
- .2 Folding mechanism:
 - .1 Primarily constructed of structural grade aluminum.
 - .2 Hangers: Steel, welded or bolted to supporting structure.
 - .3 Ropes: Wire cable for each set of folding mechanisms, 6 x 31 galvanized steel aircraft cable, wrapped on yoyo drums with 2 safety wraps and multiple layers of cable.
- .3 Carriers: Ball bearing, steel wheels on trolley carrier, sized to carry imposed loads, with capability for vertical adjustment.
- .4 Acoustic Seals: Flexible acoustic seals at jambs, ceilings, floor, and above track to structure acoustic seal.
- .5 Pocket Enclosures: Door, frame, and trim to match adjacent walls.
- .6 Sensor edge: Installed to full length of bottom edge of wall, pressure sensing strip; designed to cut power to motor drive and to activate electromagnetic brake if activated.
- .7 Acoustic Sealant: Specified in Section 07 92 00.

2.3 ELECTRICAL CHARACTERISTICS AND COMPONENTS

- .1 Motor: Sized to deliver sufficient torque to safely raise and lower the operable wall.
- .2 Control box: NEMA 1.
- .3 Brake: Electromagnetic type, activates firmly when power to system is lost; minimum retarding torque rating equal to 200% of motor drive full load torque.

2.4 PANEL FINISHES

- .1 Wood Veneer Finish: Birch species, AA grade face veneer, contact adhesive laminated to panel substrate.
- .2 Whiteboard finish: HPDL laminate for use as marking surface, white colour.

Part 3 Execution**3.1 EXAMINATION**

- .1 Verify existing conditions before starting work.
- .2 Verify attachment substrate and site conditions.
- .3 Verify that field measurements are as indicated on shop drawings.
- .4 Verify track supports are laterally braced and will permit track to be level within 6 mm of required position and parallel to the floor surface.
- .5 Verify floor flatness of 3 mm per 300 mm, non-cumulative.

3.2 PREPARATION

- .1 Verify that required utilities are available, of the correct characteristics, in proper location, and ready for use.

3.3 INSTALLATION

- .1 Install partitions to manufacturer instructions.
- .2 Install electric operator, wiring, and controls. Locate control station(s) as indicated.
- .3 Fit and align partition assembly level and plumb.
- .4 Lubricate moving components.
- .5 Apply acoustic sealant to achieve required acoustic performance.

3.4 ADJUSTING

- .1 Adjust partition assembly to provide smooth operation from stacked to full open position. Do not over-compress acoustic seals.
- .2 Visually inspect partition in fully extended position for light leaks to identify a potential acoustical leak.
- .3 Adjust to achieve light tight seal.

3.5 CLEANING

- .1 Section 01 74 11: Cleaning installed work.
- .2 Clean finish surfaces and partition accessories.

3.6 CLOSEOUT ACTIVITIES

- .1 Demonstration: Demonstrate operation of partition, identify potential operational problems.

END OF SECTION

Part 1 General**1.1 SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for wall and corner guards and include product characteristics, performance criteria, physical size, finish, and limitations.
- .3 Installation Drawings: Indicate large scale details, materials, finishes, dimensions, anchorage and assembly.
- .4 Samples: Submit duplicate 300 mm long samples of profiles for wall and corner guards.

1.2 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect corner guards from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products**2.1 MATERIALS**

- .1 Corner guards: Minimum 1.5 mm thick, 51 mm leg size, type 304 stainless steel satin finish, radiused profile, adhesive attached.
- .2 End wall protectors: 1.5 mm thick, type 304 stainless steel, satin finish, radiused profile, mechanically attached.

2.2 ACCESSORIES

- .1 Adhesive: Water resistant type as recommended by manufacturer for substrate.
- .2 Fasteners: Self-tapping stainless steel.

Part 3 Execution**3.1 EXAMINATION**

- .1 Verify conditions of substrate are acceptable for wall and corner guard installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate.
 - .2 Inform Departmental Representative of unacceptable conditions.
 - .3 Proceed with installation only after unacceptable conditions have been remedied.

3.2 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.

3.3 INSTALLATION

- .1 Install units on solid backing and erect with materials and components straight, tight, and in alignment.
- .2 Surface mount corner guards to substrate with adhesive.
- .3 Attach end wall protectors to substrate with stainless steel screws.
- .4 Install to heights as shown in Drawings.

3.4 CLEANING

- .1 Progress Cleaning: Clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .3 Clean surfaces after installation using manufacturer's written recommended cleaning procedures.
- .4 Final Cleaning: Upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .5 Waste Management: Remove waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

3.5 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by wall and corner guard installation.

END OF SECTION