Part 1 General

1.1 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.3 Section 07 92 10 - Joint Sealing: Caulking of joints between frames and other building components.

.4 Section 08 71 10 - Door Hardware - General: Supply of finish hardware, including weatherstripping and mounting heights.

.5 Section 08 80 50 - Glazing: Glazing.

.6 Section 09 91 23 - Interior Painting.

1.2 References

.1 American Society for Testing and Materials (ASTM International)

.1 ASTM A653/A653M-01a, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM B29-92(1997), Specification for Refined Lead.

.3 ASTM B749-97, Specification for Lead and Lead Alloy Strip, Sheet and Plate Products.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

.2 CGSB 41-GP-19Ma-84, Rigid Vinyl Extrusions for Windows and Doors.

.3 Canadian Standards Association (CSA International)

.1 G40.20/G40.21-98, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CSA W59-M1989(R2001), Welded Steel Construction (Metal Arc Welding) (Metric Version).

.4 Canadian Steel Door Manufacturers' Association, (CSDMA).

.1 CSDMA, Specifications for Commercial Steel Doors and Frames, 1990.

.2 CSDMA, Recommended Selection and Usage Guide for Commercial Steel Doors, 1990.

.5 National Fire Protection Association (NFPA)

.1 NFPA 80-99, Standard for Fire Doors and Fire Windows.

.2 NFPA 252-99, Standard Methods of Fire Tests of Door Assemblies.

.6 Underwriters' Laboratories of Canada (ULC)

.1 CAN4-S104-80(R1985), Fire Tests of Door Assemblies.

.2 CAN4-S105-85(R1992), Fire Door Frames Meeting the Performance Required by CAN4-S104.

.7 CAN/ULC-S701-01, Thermal Insulation, Polystyrene, Boards and Pipe Covering.

.8 CAN/ULC-S702-97, Thermal Insulation, Mineral Fibre, for Buildings.

.9 CAN/ULC-S704-01, Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

1.3 Design Requirements

.1 Design exterior frame assembly to accommodate to expansion and contraction when subjected to minimum and maximum surface temperature of -35°C to 35°C.

.2 Maximum deflection for exterior steel entrance screens under wind load of 1.2 kPa not to exceed 1/175th of span.

1.4 Shop Drawings

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

.2 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, glazed , arrangement of hardware and fire rating and finishes.

.3 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings and finishes.

.4 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

.5 Indicate required firerating.

.6 Submit test and engineering data, and installation instructions.

1.5 Requirements

.1 Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4-S104M NFPA 252 for ratings specified or indicated.

.2 Provide fire labelled frame products for those openings requiring fire protection ratings, as scheduled. Test products in strict conformance with CAN4-S104, ASTM E152 or NFPA 252 and list by nationally recognized agency having factory inspection service and construct as detailed in Follow-Up Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.

1.6 Waste Management and Disposal

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

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard packaging material in appropriate on-site for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.4 Divert unused paint and sealant materials from landfill to official hazardous material collections site approved by Contract Administrator.

.5 Do not dispose of unused paint and sealant materials into sewer systems, into lakes, streams, onto ground or in other locations where it will pose health or environmental hazard.

.6 Divert unused metal materials from landfill to metal recycling facility approved by Contract Administrator.

.7 Divert unused wood materials from landfill to recycling facility approved by Contract Administrator.

.8 Damaged or broken glazing materials are not recyclable. These materials must not de disposed of with materials destined for recycling.

Part 2 Products

2.1 Materials

.1 Hot dipped galvanized steel sheet: to ASTM A653M, ZF75, minimum base steel thickness in accordance with CSDMA Table 1 - Thickness for Component Parts.

.2 Reinforcement channel: to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A653M, ZF75.

.3 Composites: balance of core materials used in conjunction with lead: in accordance with manufacturers' proprietary design.

.4 The manufacturing process must adhere to Lifecycle Assessment Standards as per CAN/CSA-ISO 14040.

2.2 Door Core Materials

.1 Interior Door construction:

.1 Structural small cell, 24.5 mm maximum kraft paper 'honeycomb', weight: 36.3 kg per ream minimum, density: 16.5 kg/m^3 minimum sanded to required thickness.

.2 Stiffened: Edge seams, tack welded, ground smooth (do not fill), honeycomb core.

.2 Exterior Door:

.1 Polyurethane: to CAN/ULC-S704 rigid, modified poly/isocyanurate, closed cell board. Density 32 kg/m^3.

.2 Edge seams tack welded and ground smooth (do not fill).

2.3 Adhesives

.1 Honeycomb cores and steel components: heat resistant, spray grade, resin reinforced neoprene/rubber (polychloroprene) based, low viscosity, contact cement.

.2 Polystyrene and polyurethane cores: heat resistant, epoxy resin based, low viscosity, contact cement.

.3 Lock-seam doors: fire resistant, resin reinforced polychloroprene, high viscosity, sealant/adhesive.

.4 Edge seams: tack welded and ground smooth. Do not body fill.

2.4 Primer

.1 Touch-up prime CAN/CGSB-1.181.

2.5 Paint

.1 Field paint steel doors and frames in accordance with Section 09 91 23 - Interior Painting. Protect weatherstrips from paint. Provide final finish shall be free of scratches or other blemishes.

2.6 Accessories

.1 Door silencers: single stud rubber/neoprene type.

.2 Exterior and interior top and bottom caps: rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19Ma steel.

.3 Fabricate glazing stops as formed channel, minimum 16 mm height, accurately fitted, butted at corners and fastened to frame sections with counter-sunk oval head sheet metal screws.

.4 Door bottom seal: Section 08 71 10 – Door Hardware – General.

.5 Metallic paste filler: to manufacturer's standard.

.6 Fire labels: metal riveted.

.7 Sealant: Section 07 92 10 – Joint Sealing.

.8 Glazing: Section 08 80 50 – Glazing.

.9 Make provisions for glazing as indicated and provide necessary glazing stops.

.1 Provide removable stainless steel glazing beads for use with glazing tapes and compounds and secured with countersunk stainless steel screws dry glazing of snap-on type.

.2 Design exterior glazing stops to be tamperproof.

2.7 Frames Fabrication General

.1 Fabricate frames in accordance with CSDMA specifications.

.2 Fabricate frames to profiles and maximum face sizes as indicated.

.3 Exterior frames: 1.4mm welded type construction.

.4 Interior frames: 1.6 mm welded type construction.

.5 Blank, reinforce, drill and tap frames for mortised, templated hardware, using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.

.6 Protect mortised cutouts with steel guard boxes.

.7 Prepare frame for door silencers, 3 for single door, 2 at head for double door.

.8 Manufacturer's nameplates on frames and screens are not permitted.

.9 Conceal fastenings except where exposed fastenings are indicated.

.10 Provide factory-applied touch up primer at areas where zinc coating has been removed during fabrication.

.11 Insulate exterior frame components with polyurethane insulation.

2.8 Frame Anchorage

.1 Provide appropriate anchorage to floor and wall construction.

.2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.

.3 Provide 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.

.4 Locate anchors for frames in existing openings not more than 150 mm from top and bottom of each jambs and intermediate at 660 mm o.c. maximum.

2.9 Frames: Welded Type

.1 Welding in accordance with CSA W59.

.2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.

.3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.

.4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.

.5 Securely attach floor anchors to inside of each jamb profile.

.6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

2.10 Frames: Knock-down Type

.1 Ship knocked-down type frames unassembled.

.2 Provide frames with mechanical joints which inter-lock securely and provide functionally satisfactory performance when assembled and installed in accordance with CSDMA Recommended Installation Guide for Steel Doors and Frames.

.3 Securely attach floor anchors to inside of each jamb profile.

2.11 Door Fabrication - General

.1 Doors: swing type, flush, with provision for glass and/or louvre openings as indicated.

.2 Exterior doors: polyurethane core. Interior doors: honeycomb construction.

.3 Fabricate doors with longitudinal edges locked seam locked seamed, adhesive assisted welded. Seams: visible grind welded joints to a flat plane.

.4 Blank, reinforce, drill doors and tap for mortised, templated hardware.

.5 Factory prepare holes 12.7 mm diameter and larger except mounting and through-bolt holes, on site, at time of hardware installation.

.6 Reinforce doors where required, for surface mounted hardware. Provide flush PVC top caps to exterior doors. Provide inverted, recessed, spot welded channels to top and bottom of and exterior doors.

.7 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.

.8 Provide fire labelled doors for those openings requiring fire protection ratings, as scheduled. Test such products in strict conformance with CAN4-S104 ASTM E152 NFPA 252 and list by nationally recognized agency having factory inspection service and construct as detailed in Follow-Up Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.

2.12 Doors: Core Construction

.1 Form each face sheet for exterior doors from 1.6 mm sheet steel with polyurethane core laminated under pressure to face sheets.

.2 Form each face sheet for interior doors from1.2mm sheet steel with honeycomb core laminated under pressure to face sheets.

Part 3 Execution

3.1 Installation General

.1 Install labelled steel fire rated doors and frames to NFPA 80 except where specified otherwise.

.2 Install doors and frames to CSDMA Installation Guide.

3.2 Frame Installation

.1 Set frames plumb, square, level and at correct elevation.

.2 Secure anchorages and connections to adjacent construction.

.3 Brace frames rigidly in position while building-in. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Provide vertical support at centre of head for openings over 1200 mm wide. Remove temporary spreaders after frames are built-in.

.4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.

.5 Caulk perimeter of frames between frame and adjacent material.

.6 Maintain continuity of air barrier and vapour retarder.

3.3 Door Installation

.1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 10 - Door Hardware - General.

.2 Provide even margins between doors and jambs and doors and finished floor and thresholds as follows.

.1 Hinge side: 1.0 mm.

.2 Latchside and head: 1.5 mm.

.3 Finished floor, top of VCT. and thresholds: 13 mm.

.3 Adjust operable parts for correct function.

3.4 Finish Repairs

.1 Touch up with primer finishes damaged during installation.

.2 Fill exposed frame anchors and surfaces with imperfections with metallic paste filler and sand to a uniform smooth finish.

3.5 Glazing

.1 Install glazing for doors and frames in accordance with Section 08 80 50 - Glazing.

END OF SECTION

Part 1 General

1.1 Related Sections

.1 Section 06 20 00 - Finish Carpentry.

.2 Section 06 40 00 – Architectural Woodwork.

.3 Section 06 47 00 – Plastic Laminate Finishing.

.4 Section 08 71 10 - Door Hardware - General.

1.2 References

.1 The Canadian Door and Window Manufacturers Certification Program

.2 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-71.19-M88, Adhesive, Contact, Sprayable.

.2 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.

.3 Canadian Standards Association (CSA International).

.1 CSA A440.2-98, Energy Performance of Windows and Other Fenestration Systems.

.2 CAN/CSA O132.2 Series-90(R1998), Wood Flush Doors.

.3 CSA Certification Program for Windows and Doors 00.

1.3 Submittals

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC's:

.1 For caulking materials during application and curing.

.2 For door materials and adhesives.

.2 Shop Drawings:

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

.2 Indicate door types, sizes, core construction, and panel construction.

1.4 Samples

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

.2 Submit one 300 x 300 mm corner sample of each type wood door.

.3 Show door construction, core detail and faces.

.4 Manufacturer's Instructions: submit manufacturer's installation instructions.

.1 Submit manufacturer's installation instructions.

1.5 Quality Assurance

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

.2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.6 Delivery, Storage, and Handling

.1 Storage and Protection:

.1 Protect doors from dampness. Arrange for delivery after work causing abnormal humidity has been completed.

.2 Store doors in well ventilated room, off floor, in accordance with manufacturer's recommendations.

.3 Protect doors from scratches, handling marks and other damage. Wrap doors.

.4 Store doors away from direct sunlight.

1.7 Waste Management and Disposal

.1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 Wood Flush Doors

.1 Solid core: to CAN/CSA-O132.2. Series-90 (1998) Wood Flush Doors.

.1 Kiln Dried jamb and door.

.2 Finish: Colonial or Colonist embossed hardboard face.

.3 Adhesive: Type I (waterproof) for interior doors.

.4 Dimensions: see drawing 301 and door schedule. Site confirm dimensions with architectural wood work units.

.5 Replace doors exceeding 3mm from the plane of the door.

2.2 Fabrication

.1 Bevel vertical edges of single acting doors 3 mm in 50 mm on lock side and 1.5 mm in 50mm on hinge side.

Part 3 Execution

3.1 Manufacturer's Instructions

.1 Compliance: 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 Unwrap and protect doors in accordance with CAN/CSA-O132.2 Series, Appendix A.

.2 Install doors and hardware in accordance with manufacturer's printed instructions and CAN/CSA-O132.2 Series, Appendix A.

.3 Adjust hardware for correct function.

.4 Install stops.

.5 Secure by means of stops, concealed fasteners or countersunk screws concealed by means of wood plugs matching panel in grain and colour.

3.3 Adjustment

.1 Re-adjust doors and hardware just prior to completion of building to function freely and properly.

3.4 Cleaning

.1 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.

.2 Remove traces of primer, caulking; clean doors and frames.

.3 On completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.3 Section 01 78 00 - Closeout Submittals.

.4 Section 05 50 00 - Metal Fabrications.

.5 Section 06 10 10 - Rough Carpentry.

.6 Section 08 71 10 - Door Hardware - General.

.7 Section 09 91 23 - Painting.

1.2 References

.1 Aluminum Association (AA).

.1 DAF 45-03, Designation System for Aluminum Finishes.

.2 American Architectural Manufacturers Association (AAMA).

.1 AAMA 609.1-02, Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum.

.3 American Society for Testing and Materials International, (ASTM).

.1 ASTM A167-99, Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.

.2 ASTM A276-02a, Specification for Stainless and Heat-Resisting Steel Bars and Shapes.

.3 ASTM A480/480/M-02, Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet and Strip.

.4 Architectural Woodwork Manufacturers' Association of Canada (AWMAC).

.1 Quality Standards for Architectural Woodwork 1998.

.5 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-1.38-2000, Interior Enamel Undercoat.

.2 CAN/CGSB-1.132-M90, Zinc Chromate Primer, Low Moisture Sensitivity.

.3 CAN/CGSB-1.213-95, Etch Primer (Pretreatment Coating) for Steel and Aluminum.

.4 CGSB 1-GP-198M-2000, Primer, Cementitious, (for Galvanized Surfaces).

.5 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.

.6 CAN/CGSB-12.12-M90, Plastic Safety Glazing Sheets.

.7 CAN/CGSB-85.100-M93, Painting.

.6 Canadian Standards Association (CSA International).

.1 CAN/CSA-O141-91(R1999), Softwood Lumber.

.2 CAN/CSA-Z808-96, A Sustainable Forest Management System: Guidance Document.

.7 Environmental Choice Program (ECP).

.1 CCD-047-a-1998, Surface Coatings.

.2 CCD-048-1998, Surface Coatings - Recycled Water-Borne.

.8 Fire Commissioner of Canada (FCC).

.9 National Fire Protection Association (NFPA).

.1 NFPA 80-1999, Fire Doors and Fire Windows.

.10 National Hardwood Lumber Association (NHLA).

.1 Rules for the Measurement and Inspection of Hardwood and Cypress - 1998.

.11 National Lumber Grades Authority (NLGA).

.1 Standard Grading Rules for Canadian Lumber - 2000.

.12 Underwriters' Laboratories of Canada (ULC).

.1 CAN4-S104-80, Fire Tests of Door Assemblies.

.2 CAN4-S105-85, Fire Door Frames Meeting the Performance Required by CAN4-S104.

1.3 Submittals

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC's:

.1 For caulking materials during application and curing.

.2 For door materials and adhesives.

.2 Shop Drawings:

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

.2 Indicate each type of coiling counter door, arrangement of hardware, operating mechanism and required clearances.

1.4 Samples

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

.2 Submit duplicate 300 mm long pieces of slats.

.3 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

.4 Manufacturers' Field Reports: submit copies of manufacturers field reports.

1.5 Closeout Submittals

.1 Provide operation and maintenance data for overhead coiling counter doors and hardware for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.6 Quality Assurance

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

.2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.3 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

1.7 Waste Management and Disposal

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Dispose of packaging material in appropriate on-site bin for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.3 Divert unused metal and wiring materials from landfill to metal recycling facility approved by Contract Administrator.

Part 2 Products

2.1 Materials

.1 Coiling Counter Doors

.1 Curtain of foam filled 40mm high aluminium slats.

.2 Between jamb mounting.

.3 Galvanized steel sheet: commercial quality, with Coating Designation Z180 or Z275 mill phosphatized.

.4 Aluminum sheet metal: plain finish utility sheet.

.5 Aluminum extrusions: Aluminum Association alloy AA6063-T5.

.2 Primer: to CAN/CGSB-85.100.

.1 For galvanized sheet steel: CGSB 1.213, Etch Primer, CGSB 1-GP-198, primer cementitious (for galvanized surfaces).

.2 For non-anodized aluminum: CGSB 1.213, Etch Primer or CAN/CGSB-1.132, zinc chromate primer.

.3 For anodized aluminum: CAN/CGSB-1.38, interior enamel undercoat.

2.2 Coiling Counter Doors

.1 Rivet continuous alternate end locks to slat ends.

.2 Assemble coiling counter door curtain of flat faced, 51mm, No. 17 slats, galvanized, bonderized 22 gauge steel interlocking slat sections. Alternate slats will be fitted with endlocks to hold curtain in alignment.

.3 Provide bottom bar of equal mass, steel angles.

.4 Form guides of extruded aluminium shapes of 6063 alloy (clear anodized) and will extend above lintel so as to furnish support for brackets.

.5 Continuous strips of wool pile inserted into guides to eliminate metal-to-metal contact and to provide dust seal around curtain.

.6 Construct counterbalance assembly: curtain will be coiled around a steel pipe fitted with involute shaped rings for ease of operation.

- .1 Barrel will be supported by plate brackets.
- .2 Hellical oil-tempered springs. Enclose spring in steel pipe to support door curtain and counterbalance mechanism with maximum deflection of 1/360th of opening width. To rotate on self-lubricating bearings
- .3 Torsion spring with 25% overload factor.
- .4 Provide ball bearings at rotating points. Provide spring tension adjusting wheel, accessible for setting.

.7 Support counterbalance assembly on 5 mm minimum thickness steel plate brackets, forming end enclosures.

.8 Enclose coil assembly with steel sheet formed hood.

.9 Equip coiling doors for locking from inside with cylinder locks for masterkeyed cylinder, specified in Section 08 71 10 - Door Hardware - General.

.10 Finish: Curtain, bottom bar and hood will be steel, grey baked on prime and paint finish to be silver metallic to be approved by Contract Administrator.

.11 Acceptable Product:

- .1 Wayne Dalton Rolling Counter Shutter model 500, roll down shutter
  - .1 Material: galvanized steel sheet
  - .2 Door 33
    - .1 Size: 610mm wide by 760mm high (site confirm all dimensions).
  - .3 Door 34
    - .1 Size: 1700mm wide (site confirm all dimensions)
  - .4 Finish: steel, grey baked on prime and paint finish to be silver metallic to be approved by Contract Administrator.
- .2 Approved equal by Contract Administrator.

2.3 Locks

.1 Heavy Duty Cylinder Keylock as specified in Section 08 71 10 – Door Hardware – General.

.2 Located at jambs.

2.4 Aluminium Finishes

.1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.

.1 As fabricated or mill finish: designation AA DAF - 45.

.2 Clear anodic finish: designation AA DAF - 45.

.3 Integral colour anodic finish: designation AA DAF - 45, colour to match Contract Administrator's sample.

.4 Impregnated colour anodic finish: designation AA DAF - 45, colour to match Contract Administrator's sample.

.5 Electrolytically deposited colour anodic finish: designation AA DAF - 45, colour to match Contract Administrator's sample.

2.5 Operation

.1 Equip coiling counter doors for operation by:

.1 Hand, lift handles on bottom of bar, by manufacturer.

Part 3 Execution

3.1 Installation

.1 Install coiling counter door in accordance with manufacturers' printed instructions.

.2 Mount between jambs.

.3 Install master-keyed cylinders specified in Section 08 71 10 - Door Hardware - General.

.4 Adjust operable parts for correct function and smooth operation.

3.2 Field Quality Control

.1 Have manufacturer of products supplied under this Section review Work involved in handling, installation/application, protection and cleaning of its products, and submit written reports in acceptable format to verify compliance of Work with Contract.

.2 Manufacturer's field services: 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 at stages listed:

.1 After delivery and storage of products, and when preparatory Work on which Work of this Section depends is complete, but before installation begins.

.2 Twice during progress of Work at 25% and 60% complete.

.3 Upon completion of Work, after cleaning is carried out.

.4 Obtain reports within three days of review and submit.

3.3 Cleaning

.1 Perform cleaning of aluminum components in accordance with: AAMA 609.1 - Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum.

.2 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.3 Clean aluminum with damp rag and approved non-abrasive cleaner in accordance with manufacturer's instructions.

.4 Remove traces of primer, caulking; clean doors and frames.

.5 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.4 Schedule

.1 Kitchen: Doors No. 33 and 34.

END OF SECTION

Part 1 General

1.1 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.3 Section 01 78 00 – Closeout Submittals.

.4 Section 07 11 13 – Bituminous Damproofing.

.5 Section 07 21 13 – Board Insulation

.6 Section 07 21 16 - Blanket Insulation

.7 Section 07 21 19 - Foamed-in-Place Insulation: insulating of joints between frames and other structural and building components.

.8 Section 07 27 10 – Air Barrier

.9 Section 07 26 00 - Vapor Retarders: joining of air, vapour and waterproof membranes to window frames.

.10 Section 07 92 10 - Joint Sealing: caulking of joints between frames and other building components.

.11 Section 08 80 50 – Glazing.

1.2 References

.1 Aluminum Association (AA), Designation System for Aluminum Finishes (2000)

.2 Canadian General Standards Board (CGSB)

CAN/CGSB-1.40-97, Anticorrosive Structural Steel Alkyd Primer.

CAN/CGSB-79.1-M91, Insect Screens.

.3 Canadian Standards Association (CSA) International

CSA-A440-00/A440.1-00, A440-00, Windows / Special Publication A440.1-00, User Selection Guide to CSA Standard A440-00, Windows.

CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.

CAN/CSA-Z91-M90(R2000), Safety Code for Window Cleaning Operations.

1.3 Shop Drawings

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

.2 Indicate materials and details in full size scale for head, jamb and sill, profiles of components, interior and exterior trim junction between combination units elevations of

unit, anchorage details, location of isolation coating, description of related components and exposed finishes fasteners, and caulking. Indicate location of manufacturer's nameplates.

1.4 Samples

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

.2 Submit one representative model of each type window.

.3 Include frame, sash, sill, glazing and weatherproofing method, insect screens, surface finish and hardware. Show location of manufacturer's nameplates.

.4 Include 150 mm long samples of head, jamb, sill, meeting rail mullions to indicate profile.

1.5 Test Reports

.1 Submit test reports from approved independent testing laboratories, certifying compliance with specifications, for:

Windows classifications: High.
Anodized finish, weathering characteristics.
Insect screens.
Air tightness.
Water tightness.
Wind load resistance.
Condensation resistance.
Safety drop - vertical sliding windows only.
Block operation - sliding windows only.
Sash strength and stiffness - Operable Awning.
Ease of operation - windows with operable lights.
Sash pull-off – fibreglass/metal windows.
Forced entry resistance.
Mullion deflection - combination and composite windows.

1.6 Closeout Submittals

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

1.7 Waste Management and Disposal

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

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material in appropriate on-site for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.4 Unused or damaged glazing materials are not recyclable and must not be diverted to municipal recycling programs.

.5 Divert unused metal materials from landfill to metal recycling facility approved by Contract Administrator.

.6 Divert unused caulking material from landfill to official hazardous material collections site approved by Contract Administrator.

.7 Plastic caulking tubes are not recyclable and must not be diverted for recycling with other plastic materials.

1.8 Warranty

.1 Two years on manufactured and assembled units and hardware.

.2 Five years on hermetically sealed glazing units.

Part 2 Products

2.1 Materials

.1 Materials: to CSA-A440/A440.1 supplemented as follows:

.2 Extrusions shall be 6063 T54 alloy and temper.

.3 Fasteners shall be 400 series stainless steel cadmium plated and of sufficient size and quantity to perform their intended function.

.4 Exterior windows - Refer to window schedule in Drawings for window location.

Kawneer 518 Isoport and 1602 Curtain Wall window/frames/panels:

.1 Spacer: double sealed unit with 0.03 low emmissivity coating on surface, argon gas filled interspace and a thermally broken with aluminum glazing spacer.

.2 Solid panel units manufactured as integral units with window units:

.1 Panels: 2mm aluminum thickness adhesively applied to 19 mm plywood backing.

.2 Canopy Fascia Cladding: 1.6mm aluminum adhesively applied to 19mm plywood backing.

To CSA standard CAN2-S157.

.1 Air Infiltration: to ASTM E283: shall not exceed $0.0003 m^3/s.m^2$.

.2 Water infiltration: to ASTM E331: none.

.3 Sash: aluminum, aluminum clad wood - thermally broken.

.4 Main frame: Aluminum, aluminum clad wood - thermally broken.

.1 Nailing Flange: A flange fixed to unit frame. Position flange so that the outside face of hermetically sealed glazed unit is in line with insulation.

.2 Finish:

.1 Clear anodized: anodic oxide treatments in accordance with AA-M12C22A31.

.1 #17 Clear, by Kawneer or approved equal.

.2 Clear anodized – Refer to Section 07 46 13 – Preformed Metal Soffit, Fascia & Canopy.

.5 Glass: clear.

.3 Screens: to CAN/CGSB-79.1.

.1 Insect screening mesh: count 18 x 16.

.2 Fasteners: tamper proof.

.3 Screen frames: extruded aluminum, colour to match window frames.

.4 Mount screen frames for interior replacement.

.6 Sill extension in masonry condition.

.7 Interior/ Exterior metal sills aluminum facings: extruded aluminum brake formed aluminum sheet metal of type and size as detailed to suit job conditions; minimum 3mm thick, complete with joint covers, jamb drip deflectors, chairs, anchors and anchoring devices.

.8 Isolation coating: alkali resistant bituminous paint.

.9 The manufacturing process must adhere to Lifecycle Assessment (LCA) Standards as per ISO 14040/14041 LCA Standards (to be published by 1998), CSA Z760-94 LCA Standards.

2.2 Window Type and Classification

.1 Refer to Window Schedule on Drawing A – 4.

.2 Types:

Casement: with removable double glazing insulating (low E) glass.
Fixed: with removable double glazing insulating (low E) glass.
Screens: on ventilating portion of windows where indicated.

.3 Classification rating: to CAN/CSA-A440:

Air tightness: A3.
Water tightness: B7.
Wind load resistance: C5.
Condensation resistance: Temperature Index, I.
Forced Entry: F2.

Insect Screens: S2.

Glazing: G2.

2.3 Fabrication

.1 Fabricate in accordance with CAN/CSA-A440 supplemented as follows:

.2 Fabricate units square and true with maximum tolerance of plus or minus 1.5 mm for units with a diagonal measurement of 1800 mm or less and plus or minus 3 mm for units with a diagonal measurement over 1800 mm.

.3 Interior and exterior extruded aluminum framing sections shall be integrated with a glass reinforced nylon thermal break to form a rigid composite assembly without the use of fasteners or other thermal bridging elements.

.4 Face dimensions detailed are maximum permissible sizes.

.5 Fixed framing shall be designed for screw spline corner application.

.6 All framing joints shall be accurately machined, assembled, and sealed to provide neat, weathertight connections.

.7 Brace frames to maintain squareness and rigidity during shipment and installation.

.8 Finish steel clips and reinforcement with shop coat primer to CAN/CGSB-1.40 380 g/m^2 zinc coating to CAN/CSA-G164.

2.4 Aluminum Finishes

.1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.

Clear anodic finish: designation AA - DAF.

2.5 Enamel Coating

.1 Enamel coating: in accordance with CAN/CSA-A440, including appendices, supplemented as follows:

Silver Metallic, to match exterior metal panel.

2.6 Isolation Coating

.1 Isolate aluminum from following components, by means of isolation coating:

Dissimilar metals except stainless steel, zinc, or white bronze of small area.

Concrete, mortar and masonry.

Wood.

2.7 Glazing Units

.1 Glaze windows in accordance with CAN/CSA-A440.

.2 6mm clear and coated as indicated.

2.8 Hardware

.1 Hardware: stainless steel or white bronze sash locks and aluminum handles to provide security and permit easy operation of units.

.2 Locks: provide operating sash with spring loading locking device, to provide automatic locking in closed position.

.3 Provide special keyed opening device for windows normally locked.

.4 Where windows latching devices are located in excess of 1900 mm above floor level:

Equip awning and casement units with underscreen stay bar assembly roto operators with locking handle.

2.9 Air Barrier and Vapour Retarder

.1 Achieve integral vapour barrier from wall to window through the use of foam insulation all around window opening. Ensure the foam is in full contact with the preformed metal "J" mould around the window opening adjacent the rigid insulation.

Class 1 (water-resistant).

Part 3 Execution

3.1 Window Installation

.1 Install in accordance with CAN/CSA-A440.

.2 Arrange components to prevent abrupt variation in colour.

3.2 Sill Installation

.1 Install metal sills with uniform wash to exterior, level in length, straight in alignment with plumb up-stands and faces. Use one piece lengths at each location.

.2 Cut sills to fit window opening.

.3 Secure sills in place with anchoring devices located at ends joints of continuous sills and evenly spaced 600 mm oc in between.

.4 Fasten expansion joint cover plates and drip deflectors with self-tapping stainless steel screws.

.5 Maintain 6 to 9 mm space between butt ends of continuous sills. For sills over 1200 mm in length, maintain 3 to 6 mm space at each end.

3.3 Foam Insulation

.1 Fill rough opening space all around window with Class 1 foam.

3.4 Caulking

.1 Seal joints between windows and window sills with sealant. Bed sill expansion joint cover plates and drip deflectors in bedding compound. Caulk between sill upstand and window-frame. Caulk butt joints in continuous sills.

.2 Apply sealant in accordance with Section 07 92 10 - Joint Sealing. Conceal sealant within window units except where exposed use is permitted by Contract Administrator.

END OF SECTION

Part 1 General

1.1 Section Includes

.1 Furnish, Deliver and Install all Finish Hardware as required by this specification section. Include all screws, fasteners and material necessary for the proper installation of the hardware.

1.2 Related Sections

.1 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.2 Section 01 61 00 - Common Product Requirements.

.3 Section 01 78 00 - Closeout Submittals.

.4 Section 08 11 16 – Metal Doors and Frames.

.5 Section 08 14 16 - Flush Wood Doors.

.6 Section 09 65 66 – Athletic Sheet Flooring.

.7 Section 26: Electrical wiring for magnetic strikes, electric releases and electric locks.

1.3 Submittals

.1 General Requirements:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Schedules:

.1 Provide Six (6) copies of a detailed hardware schedule in the vertical format. Prior to preparation of the hardware schedule the hardware supplier is to visit the jobsite and site confirm all dimensions.

.3 Product Data:

.1 Include with the hardware schedule all product data sheets and catalogue cuts required for any related trades sections. Provide two copies of each.

.4 Samples:

.1 Samples of products in the hardware sets shall be provided upon request.

.5 Templates:

.1 Provide all templates required by related trade sections for the proper preparation of their product.

.6 Keying Schedule:

.1 Provide a complete keying schedule. Co-ordinate with the Contract Administrator and Owner the keying requirements for this project.

1.4 Quality Assurance

.1 Substitutes:

.1 The manufacturers products listed in the hardware sets establish a minimum guideline for the standard of quality. Similar items listed as an "acceptable substitute" may be supplied provided they are approved by the architect, and provided required data and physical samples are submitted in accordance with Division One.

1.5 Delivery, Storage, and Handling

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver directly to the fabricator any items, which are requested for their use in fabrication.

.2 Storage and Protection:

.1 Store all finish hardware in its original packages in a secure, clean, dry and warm area, equipped with sufficient shelving.

1.6 Warranty

.1 Warranty all hardware for the period of one year. Door Closers to be warranted for five years.

Part 2 Products

2.1 Screws and Fasteners

.1 All hardware is to be installed with the standard fasteners supplied by the manufacturer unless called for otherwise in the hardware sets.

2.2 Hinges

.1 All hinges shall be McKinney and of the size, type, and finish as indicated in the hardware sets. Stanley and Hager hinges matching those specified may be provided as a substitute.

.2 Provide non-removable pins on all exterior out-swinging doors.

2.3 Flush Bolts

.1 Flush bolts solid brass or bronze. 1" projection and a 5/8" diameter. To be Gallery as specified. Hager flushbolts matching those specified may be provided as an acceptable substitute.

2.4 Locks

.1 Locks shall be cylindrical or mortise type as specified in the hardware sets. All locks to ANSI Grade 1 lever trim. Locks to be Sargent only. No substitute.

2.5 Exit Devices

.1 Shall be of the cross bar type. All devices whether rim or vertical rod to be surface mounted. Exit devices on wood doors shall be through bolted. All exit devices to Sargent. No substitute.

2.6 Door Closers

.1 All door closers shall be surface mounted with full covers. Manual closers with universal spring size must be adjusted to suit specific opening requirements. Follow manufacturer's instructions. Provide Sargent Closers as specified. No substitutes.

2.7 Kickplates

.1 To be of brass or bronze construction, 1.25mm thick. Provide Gallery series as specified. Hager and Standard Metal are an acceptable substitute. Screw mounted.

2.8 Pulls

.1 To be of brass or bronze construction. All pulls to be thru bolt mounted. Provide Gallery as specified. Hager and Standard Metal pulls are an acceptable substitute.

2.9 Protective Plates, Push Plates

.1 All plates to be of brass or bronze construction. To be 1.25mm thick. Provide Gallery as specified. Hager or Standard Metal matching those specified are an acceptable substitute.

.2 All kickplates on the push side of the door shall be 38mm less than the door width. If other hardware interferes with the above recommendations then the plate size shall be modified at the factory to suit the installation. Kickplates to be mounted behind vertical rod exit devices.

2.10 Door Stops and Holders

.1 All floor stops to be solid brass or bronze. With rubber bumpers. Stops fastened to brick or concrete shall have wood screws and lead shields. Stops fastened to walls or floors of wood construction shall have wood screws. Provide Gallery stops as specified. Hager or Standard metal stops matching those specified shall be and acceptable substitute.

2.11 Thresholds and Weather-strip

.1 All weatherstrip, sweeps, automatic door bottoms, shall be anodized aluminum construction with polyurethane or neoprene gasketting as specified. All to be screw in mounting. K.N Corwder as specified. K.N. Crowder or Reese weatherstrip matching that specified shall be an acceptable substitute.

2.12 Magnetic Door Holders

.1 Magnetic holders shall be surface mounted. Provide Sargent as specified. No substitute.

2.13 Keying

.1 All new locks and cylinders shall be provided Masterkeyed from the factory for a new system according to the owners requirements. All locks and cylinders will be provided with two keys per lock and three masterkeys. All keys and cylinders shall have a visual key control on the keys and cylinders. Allow for three symbols per key or cylinder.

2.14 Key Control

.1 Provide a wall mounted key control cabinet capable of holding all of the required keys plus 20% for expansion. Provide cabinet complete with three way reference system. Telkee AWC Series or equal.

Part 3 Execution

3.1 Examination

.1 Examine all doors and frames prior to installation of hardware to determine if the hardware can be installed correctly. Do not proceed with installation until defects are corrected.

3.2 Installation

.1 Install all hardware in accordance with the manufacturers installation instructions.

3.3 Hardware Sets

.1 Provide Finish Hardware as follows:

3.4 Schedule

.1 Hardware component Schedule Based On (SEE Section on 2.2 PRODUCTS for approved alternatives):

Balance Existing	Existing To Remain
Hinge - (4-1/2 Std Wt(.134))	McKinney
Hinge - (4-1/2 Hvy Wt(.180))	McKinney
Flush Bolt - Manual (Extension)	Gallery Specialty Hardware Ltd.
Removable Mullion	Sargent
Dead Lock	Sargent
Cylinder	Sargent
Cyl. Lockset (no thru-bolts)	Sargent
Exit Device - Rim	Sargent
Door Pulls	Stand Metal Mfg.
Closer	Sargent
Drop Plate	Sargent
Automatic Door Operator	Sargent
Kick Plate	Gallery Specialty Hardware Ltd.
Wall Stop	Gallery Specialty Hardware Ltd.
Floor Stop	Gallery Specialty Hardware Ltd.
Overhead Door Stop	Sargent
Weatherstrip	K. N. Crowder Mfg., Inc.
Threshold	K. N. Crowder Mfg., Inc.
Automatic Door Bottom	K. N. Crowder Mfg., Inc.
Door Sweep	K. N. Crowder Mfg., Inc.

Wall Switch	Sargent
Power Supply	Securitron

Door List

Door#	Hardware Set#	Door#	Hardware Set#
1	1	19	12
2	2	21	3
3	3	22	4
4	5	23	9
5	6	24	11
6	7	25	11
7	7	26	12
8	8	27	4
11	9	29	4
12	10	31	4
13	10	32	13
15	3		
17	3		

Hardware Set#: 1

Single: 1

Qty	UOM	Item Type	Item Series / Description	Finish	
1.0	EA	Balance Existing			
1.0	EA	Automatic Door Operator	4051	EN	
2.0	EA	Wall Switch	4296H	C32D	

Hardware Set#: 2

Pair: 2

Qty	UOM	Item Type	Item Series / Description	Finish	
5.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D	
1.0	EA	Hinge	TA 786 CC4 4 1/2 X 4 1/2	26D	
1.0	EA	Removable Mullion	12-980	PR	
1.0	EA	Exit Device	12-56-8813 713-ETL	32D	/Both Act
1.0	EA	Exit Device	12-8813 713-ETL	32D	
1.0	EA	Door Closer	351 UO	EN	/Inactive
1.0	EA	Drop Plate	350B	EN	
1.0	EA	Automatic Door Operator	4051	EN	/Active
2.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D	
2.0	EA	Overhead Door Stop	698S	C26D	
2.0	EA	Weatherstripping	W-21 17’	Black	
2.0	EA	Automatic Door Bottom	CT-52	Alum	
2.0	EA	Wall Switch	4296H	C32D	
1.0	EA	Power Supply	BPS-24-1		

Hardware Set#: 3

Single: 3, 15, 17, 21

Qty	UOM	Item Type	Item Series / Description	Finish

3.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D
1.0	EA	Exit Device	2-8813 713-ETL	32D
1.0	EA	Door Closer	351 UO	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
1.0	EA	Floor Stop	280B	26D
1.0	EA	Weatherstripping	W-21 20’	Black
1.0	EA	Automatic Door Bottom	CT-52	Alum

Hardware Set#: 4

Single: 22, 27, 29, 31

Qty	UOM	Item Type	Item Series / Description	Finish
3.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D
1.0	EA	Exit Device	12-8815 715-ETL	32D
1.0	EA	Door Closer	351 UO	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
1.0	EA	Wall Stop	250B	26D
1.0	EA	Weatherstripping	W-21 20’	Black
1.0	EA	Automatic Door Bottom	CT-52	Alum

Hardware Set#: 5

Pair: 4

Qty	UOM	Item Type	Item Series / Description	Finish
6.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D
1.0	EA	Removable Mullion	980	PR
2.0	EA	Exit Device	8813 713-ETL	32D
2.0	EA	Door Closer	351 UO	EN
2.0	EA	Drop Plate	350B	EN
2.0	EA	Kick Plate	80A 10" x 1 1/2" less than doo r width	C32D
2.0	EA	Overhead Door Stop	698S	C26D

Hardware Set#: 6

Pair: 5

Qty	UOM	Item Type	Item Series / Description	Finish
6.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D
2.0	EA	Flush Bolt	408-12"	26D
1.0	EA	Mortise Lockset	8204 LNL L.O.T.	26D
1.0	EA	Door Pull	H400 Squash Court Ring Pull	26D
2.0	EA	Kick Plate	80A 10" x 1 1/2" less than doo r width	C32D
2.0	EA	Overhead Door Stop	698S	C26D

Hardware Set#: 7

Pair: 6, 7

Qty	UOM	Item Type	Item Series / Description	Finish
6.0	EA	Hinge	TA 386 4.5 x 4.5 NRP	26D
1.0	EA	Removable Mullion	980	PR
2.0	EA	Exit Device	8810	32D
2.0	EA	Door Closer	351 UO	EN
2.0	EA	Drop Plate	350B	EN
2.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
2.0	EA	Overhead Door Stop	698S	C26D
2.0	EA	Weatherstripping	W-50 1/3 x 2/7	Alum
1.0	EA	Threshold	CT-65 72"	Alum

2.0	EA	Door Sweep	W-13S	Alum

Hardware Set#: 8

Single: 8

Qty	UOM	Item Type	Item Series / Description	Finish
3.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D
1.0	EA	Dead Lock	485	26D
1.0	EA	Lockset	11G05 OL	26D
1.0	EA	Door Closer	351 UO	EN
1.0	EA	Drop Plate	350B	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
1.0	EA	Overhead Door Stop	698S	C26D

Hardware Set#: 9

Single: 11, 23

Qty	UOM	Item Type	Item Series / Description	Finish
3.0	EA	Hinge	TA 714 4 1/2 x 4	26D
1.0	EA	Lockset	11G04-OL	26D
1.0	EA	Door Closer	350 CPS	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D

Hardware Set#: 10

Single: 12, 13

Qty	UOM	Item Type	Item Series / Description	Finish
3.0	EA	Hinge	TA 714 4 1/2 x 4	26D
1.0	EA	Lockset	11G05 OL	26D
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
1.0	EA	Floor Stop	280B	26D

Hardware Set#: 11

Single: 24, 25

Qty	UOM	Item Type	Item Series / Description	Finish
3.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D
1.0	EA	Exit Device	8813 713-ETL	32D
1.0	EA	Door Closer	351 UO	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
1.0	EA	Floor Stop	280B	26D

Hardware Set#: 12

Single: 19, 26

Qty	UOM	Item Type	Item Series / Description	Finish
3.0	EA	Hinge	TA 786 4 1/2 X 4 1/2	26D
1.0	EA	Lockset	11G37 OL	26D
1.0	EA	Door Closer	351 UO	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
1.0	EA	Floor Stop	280B	26D

Hardware Set#: 13

Single: 32

Qty	UOM	Item Type	Item Series / Description	Finish

3.0	EA	Hinge	TA 714 4 1/2 x 4	26D
1.0	EA	Lockset	11G04-OL	26D
1.0	EA	Door Closer	350 CPS	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D
1.0	EA	Weatherstripping	W-21 17’	Black
1.0	EA	Automatic Door Bottom	CT-52 36"	Alum

Hardware Set#: 14

Qty	UOM	Item Type	Item Series / Description	Finish
1.0	EA	All Hdwe By Dr. Mfg..		

Hardware Set#: 15

Single: 20

Qty	UOM	Item Type	Item Series / Description	Finish
3.0	EA	Hinge	TA 714 4 1/2 x 4	26D
1.0	EA	Mortise Lockset	8204 LNL L.O.T.	26D
1.0	EA	Door Pull	H400 Squash Court Ring Pull	26D
		Ring pull to operate outside of mortise lock.		
1.0	EA	Door Closer	350 CPS	EN
1.0	EA	Kick Plate	80A 10" x 1 1/2" less than door width	C32D

END OF SECTION

DOOR SCHEDULE - VALOUR CC

Door No.	Size (mm)	Door Type	Material	Finish	Core	Door Rating	Hardware	Jamb Type	Frame Material	Finish	Rating	Remarks
1	2-914x2134	Existing	Metal	Paint	Insul.	-	1		Metal	Paint	-	Reuse existing
2	2-914x2134	A	Metal	Paint	-	3/4 hr.	2		Metal	Paint	3/4 hr.	Tempered glazing, GWG
3	914x2134	C	Metal	Paint	-	3/4 hr.	3		Metal	Paint	3/4 hr.	Lockable, GWG
4	2-914x2134	A	Metal	Paint	-	-	5		Metal	Paint	-	Tempered glazing
5	2-914x2134	D	Metal	Paint	-	-	6		Metal	Paint	-	See hardware spec.
6	2-914x2134	D	Metal	Paint	Insul.	-	7		Metal	Paint	-	Panic Hdwr.
7	2-914x2134	D	Metal	Paint	Insul.	-	7		Metal	Paint	-	Panic Hdwr.
8	813x2134	C	H.Board	Paint	-	-	8		Metal	Paint	-	
9	914x2134	Existing	Existing	Paint	-	-	-		Metal	Paint	-	Paint/Reuse existing door
10	914x2134	Existing	Existing	Paint	-	-	-		Metal	Paint	-	Paint/Reuse existing door
11	813x2134	D	H.Board	Paint	-	-	9		Metal	Paint	-	
12	914x2134	B	H.Board	Paint	-	-	10		Metal	Paint	-	
13	914x2134	B	H.Board	Paint	-	-	10		Metal	Paint	-	
14	Existing	Existing	Existing	-	-	-	-		Metal	Paint	-	
15	914x2134	B	Metal	Paint	-	3/4 hr.	3		Metal	Paint	3/4 hr.	Paint existing door & frame
16	Existing	Existing	Existing	-	-	-	-		Metal	Paint	-	
17	914x2134	B	Metal	Paint	-	3/4 hr.	3		Metal	Paint	-	
18	Existing	Existing	Existing	-	-	-	-		Metal	Paint	-	
19	914x2134	B	Metal	Paint	-	-	12		Metal	Paint	-	
20	914x2134	D	Metal	Paint	-	-	-		Metal	Paint	-	See hardware spec.
21	914x2134	B	Metal	Paint	-	3/4 hr.	3		Metal	Paint	3/4 hr.	
22	914x2134	B	Metal	Paint	-	3/4 hr.	4		Metal	Paint	3/4 hr.	
23	813x2134	D	H.Board	Paint	-	-	9		Metal	Paint	-	
24	914x2134	C	H. Board	Paint	-	-	11		Metal	Paint	-	
25	914x2134	D	H.Board	Paint	-	-	11		Metal	Paint	-	
26	914x2134	D	H.Board	Paint	-	-	12		Metal	Paint	-	
27	914x2134	C	Metal	Paint	-	3/4 hr.	4		Metal	Paint	3/4 hr.	
28	914x2134	Existing	existing	existing	-	Existing	-		existing	existing	-	
29	914x2134	C	Metal	Paint	-	3/4 hr.	4		Metal	Paint	3/4 hr.	
30	Existing	Existing	Existing	Existing	-	-	-		Metal	Paint	-	Reloc. exist. door & frame
31	914x2134	C	Metal	Paint	-	3/4 hr.	4		Metal	Paint	3/4 hr.	
32	813x2134	D	Metal	Paint	Insul.		13		KDMF	Paint	¾ hr.	Between Basement and CS
33	610x760	Counter	Metal	Paint	-	-	14		Metal	Paint	-	Site Confirm dimensions

Door No.	Size (mm)	Door Type	Material	Finish	Core	Door Rating	Hardware	Jamb Type	Frame Material	Finish	Rating	Remarks
34	Relocate existing counter shutter frame and hardware – 1524 x 1000mm approximate - Site confirm all dimensions											Relocate Counter Shutter
35	1524x 1000	Counter	Metal	Paint	-	-	14		Metal	Paint	-	Site Confirm dimensions
36	Relocate existing counter shutter frame and hardware – 2220 x 1000mm approximate - Site confirm all dimensions											Relocate Counter Shutter

NOTE: ALL NEW METAL DOORS TO BE PAINTED AS SPECIFIED

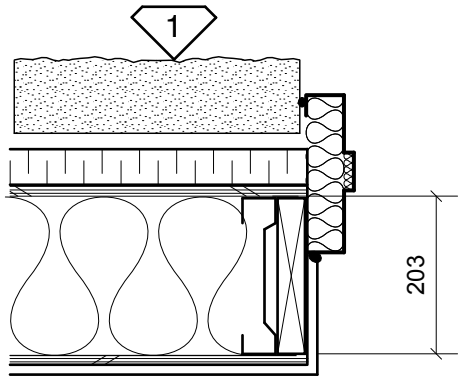
NOTE: ALL NEW METAL FRAMES TO BE WELDED FRAMES AND PAINTED UNLESS OTHERWISE SPECIFIED.

NOTE: ALL NEW HARDBOARD DOORS TO BE PAINTED AS SPECIFIED.

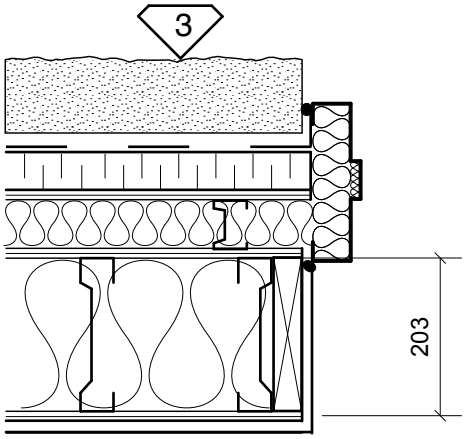
NOTE: H.B. - HARDBOARD

NOTE: METAL (FRAME) - WELDED

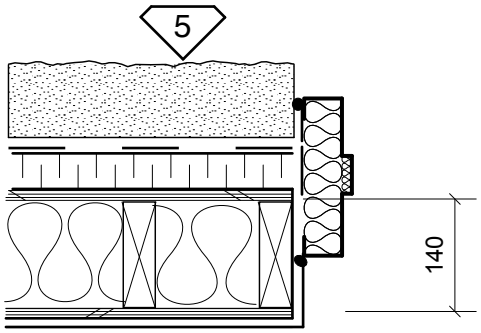
DOOR FRAME TYPES



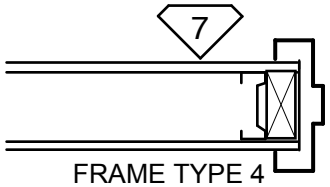
FRAME TYPE 1



FRAME TYPE 2



FRAME TYPE 3



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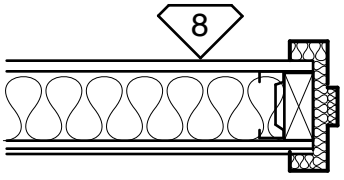

FRAME TYPE 5

DOOR, FRAME AND OPENING NOTES:

1. ALL GLAZING IN DOORS SHALL BE 6MM TEMPERED. ALL GLAZING IN RATED DOORS SHALL BE GEORGIAN WIRED GLASS.
2. EXTERIOR METAL DOORS SHALL BE INSULATED.
3. INSULATE ALL AROUND EXTERIOR DOOR FRAMES.
4. INSULATE ALL AROUND INTERIOR SOUND WALL DOORS.
5. DOOR AND FRAME SUPPLIER SHALL REFER TO WALL TYPES SHOWN ON 301 FOR REQUIRED FRAME WIDTHS. FAILURE TO DO SO WILL BE THE RESPONSIBILITY OF THE SUPPLIER.
6. SUPPLIER TO MAKE APPROPRIATE FRAME WIDTHS. OPENINGS BASED ON WALL TYPE WIDTHS.
7. REFER TO THE DRAWINGS FOR INTERIOR DOOR GLAZING AND SIDELITE PROFILES.
8. CAULK ALL EXTERIOR FRAMES AT WALL TO COMPLETE WEATHER SEAL.
9. GLAZING IN EXTERIOR DOORS SHALL BE DOUBLE HERMETICALLY SEALED & TEMPERED UNITS.
10. INTERIOR VESTIBULE DOORS SHALL BE SINGLE UNIT AND TEMPERED (SAFETY)
11. ADD EQUIVALENT GYPSUM BOARD TO DOOR ROUGH OPENING WHERE THE WALL IS SHOWN TO BE FIRE RATED.
12. DOOR SUPPLIER TO REVIEW AND ADVISE CONTRACT ADMINISTRATOR OF ANY DISCREPANCIES AND/OR OTHER-WISE AS REQUIRED.

Part 1 General

1.1 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 45 00 - Quality Control.

.3 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.4 Section 01 78 00 - Closeout Submittals.

.5 Section 06 40 00 – Architectural Woodwork.

.6 Section 08 11 14 – Metal Doors and Frames

.7 Section 08 50 00 - Windows.

.8 Section 10 28 10 – Toilet and Bath Accessories.

1.2 References

.1 American National Standards Institute (ANSI).

.1 ANSI/ASTM E330-02, Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

.2 American Society for Testing and Materials International, (ASTM).

.1 ASTM C542-94(1999), Specification for Lock-Strip Gaskets.

.2 ASTM D790-02, Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

.3 ASTM D1003-00, Test Method for Haze and Luminous Transmittance of Plastics.

.4 ASTM D1929-96(R2001)e1, Test Method for Determining Ignition Temperature of Plastics.

.5 ASTM D2240-02b, Test Method for Rubber Property - Durometer Hardness.

.6 ASTM E84-01, Test Method for Surface Burning Characteristics of Building Materials.

.7 ASTM F1233-98, Test Method for Security Glazing Materials and Systems.

.3 Canadian Door and Window Manufacturers, Certification Program.

.4 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.

.2 CAN/CGSB-12.2-M91, Flat, Clear Sheet Glass.

.3 CAN/CGSB-12.3-M91, Flat, Clear Float Glass.

.4 CAN/CGSB-12.4-M91, Heat Absorbing Glass.

.5 CAN/CGSB-12.5-M86, Mirrors, Silvered..

.6 CAN/CGSB-12.8-97, Insulating Glass Units.

.7 CAN/CGSB-12.10-M76, Glass, Light and Heat Reflecting.

.8 CAN/CGSB-12.11-M90, Wired Safety Glass.

.5 Canadian Standards Association (CSA International).

.1 CSA A440.2-98, Energy Performance Evaluation of Windows and Sliding Glass Doors.

.2 CSA Certification Program for Windows and Doors 2000.

.6 Environmental Choice Program (ECP).

.1 CCD-045-95, Sealants and Caulking.

.7 Flat Glass Manufacturers Association (FGMA).

.1 FGMA Glazing Manual - 1997.

.8 Laminators Safety Glass Association (LSGA).

.1 LSGA Laminated Glass Design Guide 2000.

1.3 System Description

.1 Performance Requirements:

.1 Provide continuity of building enclosure vapour and air barrier using glass and glazing materials as follow:

.1 Utilize inner light of multiple light sealed units for continuity of air and vapour seal.

.2 Size glass to withstand wind loads, dead loads and positive and negative live loads acting normal to plane of glass to a design pressure of 1 kPa as measured in accordance with ANSI/ASTM E330.

.3 Limit glass deflection to 1/200 flexural limit of glass with full recovery of glazing materials.

1.4 Submittals

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC's:

.1 For glazing materials during application and curing.

.2 Shop Drawings:

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

.3 Samples:

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

.2 Submit duplicate mm size samples of and sealant material.

.4 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

.5 Closeout Submittals:

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

1.5 Quality Assurance

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

.1 Provide testing and analysis of glass under provisions of Section 01 45 00 - Quality Control.

.2 Provide shop inspection and testing for glass.

.2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.3 Pre-installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

1.6 Site Conditions

.1 Environmental Requirements:

.1 Install glazing when ambient temperature is 10 degrees C minimum. Maintain ventilated environment for 24 hours after application.

.2 Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.7 Waste Management and Disposal

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

.2 Divert metal cut-offs from landfill by disposal into on-site Metal recycling bin at nearest metal recycling facility.

.3 Divert uninstalled materials for reuse at nearest used building materials facility or similar type facility.

.4 Divert unused caulking and sealant materials from landfill through disposal at special wastes depot.

.5 Unused or damaged glazing materials are not recyclable and must not be diverted to municipal recycling programs.

.6 Remove form site and dispose of packaging materials at appropriate recycling facilities.

.7 Dispose of corrugated cardboard, polystyrene, plastic, packaging material in appropriate on-site bin for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 Materials: Flat Glass

.1 Float glass: to CAN/CGSB-12.3, Silvering Mirror glazing (selected) Glazing quality, 6mm thick or as required.

.2 Sheet glass: to CAN/CGSB-12.2, AA-Special selected, 6 mm thick or as required.

.3 Safety glass: to CAN/CGSB-12.1, transparent, 6 mm thickness or as required.

- .1 Type 1-tempered.
- .2 Class B-float.
- .3 Category 1.
- .4 Edge treatment.

.4 Silvered mirror glass: to CAN/CGSB-12.5, 6 mm thick and as required.

- .1 Type 1A-Float glass for normal use.
- .2 Frame:
  - .1 One-piece, type 304 stainless steel, angle 19 x 19mm.
  - .2 Roll-formed construction with continuous integral stiffener on all sides.
  - .3 Beveled design on front of angle to hold mirror tightly.
- .3 Mirror back shall be protected by full-size, shock absorbing, water resistant, non-abrasive 3mm thick polyethylene padding.
- .4 Galvanized steel back:
  - .1 Integral hanging brackets for mounting on concealed one-piece rectangular wall hanger.
  - .2 Fasten to frame with concealed screws to permit glass replacement.
- .5 Mirror shall be secured to hanger with head locking set screws in bottom of frame.
- .6 Manufacturer's service and parts manual (4 copies) shall be provided to Contract Administrator upon completion of project.
- .7 Sizes:
  - .1 457 x 914 (Washrooms 104 & 105)
    - .1 Acceptable Product:
      - .1 Bobrick, Model B-290 1836 Series Angle Framed Mirror, or Contract Administrator's approved equal.

.5 Wired glass: to CAN/CGSB-12.11, 6 mm thick.

- .1 Type 1-Polished both sides (transparent) 2-Figured (translucent).
- .2 Wire mesh styles 3-Square.

.6 Low emissivity (LOW E) glass, 4 mm thick.

.1 Metallic coating: soft, sputtered.

.2 Light transmittance (Tv): 70%.

.3 Shading co-efficient: 0.44.

.4 U-Value: winter 0.29 maximum, summer 0.28 maximum.

2.2 Materials: Sealed Insulating Glass

.1 Insulating glass units: to CAN/CGSB-12.8, double unit, 21 mm overall thickness.

.1 Glass: to CAN/CGSB-12.3 CAN/CGSB-12.1 CAN/CGSB-12.2 CAN/CGSB-12.4 CAN/CGSB-12.10.

.2 Glass thickness: 6 mm each light

.3 Inter-cavity space thickness: 12 mm with low conductivity spacers.

.4 Glass coating: surface number 3, low "E" metalic coating, and sputtered application.

.5 Inert gas fill: argon.

2.3 Materials

.1 Sealant: 07 92 10 – Joint Sealing.

.1 Acceptable material: Silicone material.

2.4 Accessories

.1 Setting blocks: Neoprene, 80-90 Shore A durometer hardness to ASTM D 2240, to suit glazing method, glass light weight and area.

.2 Spacer shims: Neoprene, 50-60 Shore A durometer hardness to ASTM D 2240, 75 mm long x one half height of glazing stop x thickness to suit application. Self adhesive on one face.

.3 Glazing tape:

.1 Preformed butyl compound with integral resilient tube spacing device, 10-15 Shore A durometer hardness to ASTM D 2240; coiled on release paper; to suitable and required size; black colour.

.2 Closed cell polyvinyl chloride foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume 2 %, designed for compression of 25 %, to effect an air and vapour seal; to suitable size.

.4 Glazing splines: resilient polyvinyl chloride, extruded shape to suit glazing channel retaining slot, or as recommended by window manufacturer.

.5 Glazing Spacer Bar: Super bar spacer.

.6 Glazing clips: manufacturer's standard type.

.7 Lock-strip gaskets: to ASTM C 542.

.8 Mirror attachment accessories:

.1 Concealed method as recommended manufacturer and supplier.

Part 3 Execution

3.1 Manufacturer's Instructions

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

3.2 Examination

.1 Verify that openings for glazing are correctly sized and within tolerance.

.2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

3.3 Preparation

.1 Clean contact surfaces with solvent and wipe dry.

.2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.

.3 Prime surfaces scheduled to receive sealant.

3.4 Installation: Exterior - Dry Method (Preformed Glazing)

.1 Perform work in accordance with FGMA Glazing Manual IGMAC and Laminators Safety Glass Association - Standards Manual for glazing installation methods.

.2 Cut glazing tape spline to length; install on glazing light. Seal corners by butting tape spline and sealing junctions with sealant.

.3 Place setting blocks at 1/4 1/3 points, with edge block maximum 150 mm from corners.

.4 Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.

.5 Install removable stops without displacing glazing tape spline. Exert pressure for full continuous contact.

.6 Trim protruding tape edge.

3.5 Installation: Interior - Dry Method (Tape and Tape)

.1 Perform work in accordance with FGMA Glazing Manual IGMAC and Laminators Safety Glass Association - Standards Manual for glazing installation methods.

.2 Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line.

.3 Place setting blocks at 1/4 1/3 points, with edge block maximum 150 mm from corners.

.4 Rest glazing on setting blocks and push against tape for full contact at perimeter of light or unit.

.5 Place glazing tape on free perimeter of glazing in same manner described.

.6 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

.7 Knife trim protruding tape.

3.6 Installation: Mirrors

.1 Set mirrors with adhesive, applied in accordance with adhesive manufacturer's instructions.

.2 Set mirrors with clips. Anchor rigidly to wall construction.

.3 Place plumb and level.

.4 See Washroom elevations for mirror profiles.

3.7 Installation: Plastic Film

.1 Install plastic film with adhesive, applied in accordance with film manufacturer's instructions.

.2 Place without air bubbles, creases or visible distortion.

.3 Fit tight to glass perimeter with razor cut edge.

3.8 Cleaning

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Remove traces of primer, caulking.

.3 Remove glazing materials from finish surfaces.

.4 Remove labels after work is complete.

.5 Clean glass and mirrors using approved non-abrasive cleaner in accordance with manufacture's instructions.

.6 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.9 Protection of Finished Work

.1 After installation, mark light with an "X" by using removable plastic tape or paste. Do not mark heat absorbing or reflective glass units.

3.10 Schedule

.1 Men’s Washroom 104 - Mirrors.

.2 Women’s Washroom 105 - Mirrors.

.3 Refer to Drawings and Door Schedule for Window, Door and Sidelight Glazing.

END OF SECTION

Part 1 General

1.1 Related Sections

.1 Section 07 92 10 - Joint Sealing.

1.2 References

.1 The Aluminum Association Inc. (AAI)

.1 AAI DAF-45-2003, Designation System for Aluminum Finishes - 9th Edition.

.2 American Society for Testing and Materials (ASTM)

.1 ASTM A 167-94, Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.

.2 ASTM A 366M-91(R1993), Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality.

.3 ASTM A 653/A653 M-90, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.4 ASTM B 32-95, Specification for Solder Metal.

.5 ASTM B 370-92, Specification for Copper Sheet and Strip for Building Construction.

.6 ASTM D 523-89(1993), Test Method for Specular Gloss.

.7 ASTM D 822-89, Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.

.3 Canadian General Standards Board (CGSB)

.1 CGSB 1-GP-121M-93, Vinyl, Pretreatment Coating for Metals (Vinyl Wash Primer).

.4 CAN/CGSB-93.1-M85, Sheet Aluminum Alloy, Prefinished, Residential.

1.3 Shop Drawings

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

.2 Indicate fabrication and erection details, including anchorage, accessories, and finishes.

1.4 Samples

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

.2 Submit duplicate samples of each type of louvre and vent showing colour and finish.

.3 Show frame detail, screening and finish.

1.5 Closeout Submittals

.1 Provide operation and maintenance data for manual or motorized operated louvres for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

Part 2 Products

2.1 Materials

.1 Galvanized steel sheet: commercial quality to ASTM A 526M with Z275 zinc coating.

.2 Steel sheet: commercial quality to ASTM A 366 with Class I matte finish.

.3 Aluminum sheet: mill finish plain embossed pattern utility sheet.

.4 Aluminum extrusions: Aluminum Association alloy AA6063-T5.

.5 Solder: to ASTM B 32, 50% tin and 50% lead.

.6 Flux: suitable for materials to be soldered.

.7 Nails and fasteners: same material as fabricated items.

.8 Gaskets: vinyl.

.9 Primer: to CGSB 1-GP-121M for copper aluminum surfaces.

.10 Prefinished steel sheet.

.1 Prefinished steel with factory applied polyvinylidene fluoride.

.1 Class F1S.

.2 Prefinished colour as selected from manufacturer's standard range.

.3 Specular gloss: 30 units +/- in accordance with ASTM D 523.

.4 Coating thickness: not less than 22 micrometres.

.5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D 822 as follows:

.1 Outdoor exposure period 2500 hours.

.2 Humidity resistance exposure period 5000 hours.

.11 Prefinished aluminum sheet.

.1 Finish aluminum sheet metal with factory applied coating to CAN/CGSB-93.1 amended as follows:

.1 Type 1.

.2 Class F1S .

.3 Prefinished colour selected by Contract Administrator from manufacturer's standard range.

.4 Specular gloss: 30 units.

.5 Coating thickness: not less than 22 micrometres.

.6 Outdoor exposure period 10000 years.

.12 Screens

.1 Insect screens: 0.3 mm diameter aluminum wire fibreglass 18 x 14 mesh with 60% free area, secured to aluminum frame.

.2 Birdscreens: crimped intercrimped aluminum wire cloth secured to 2 2.2 mm thick extruded aluminum frame mitered at corners and secured with corner locks, size mesh, diameter wire with % free area.

.13 Extruded aluminum louvres.

.1 Construct louvres from aluminum extrusions of minimum 3 mm thickness to sizes and shapes indicated.

.2 Manufacturer to arrange blades, mullions and frame extrusions for presimpitous proof conditions.

.3 Install concealed vertical stiffeners spaced to meet required loads.

.4 Complete louvre assembly to have 50-60 % free area.

2.2 Finishes

.1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.

.1 As fabricated or mill finish: designation AA- DAF 45.

.2 Clear anodic finish: designation AA- DAR 45.

.3 Integral colour anodic finish: designation AA- DAF 45, colour to match Contract Administrator's sample.

.4 Impregnated colour anodic finish: designation AA- DAF 45, colour to match Contract Administrator's sample.

.5 Electrolytically deposited colour anodic finish: designation AA- DAF 45, colour to match Contract Administrator's sample.

.2 Appearance and properties of anodized finishes designated by the Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative.

Part 3 Execution

3.1 Installation

.1 Install louvres and vents where indicated.

.2 Set adjustable louvre blades for uniform alignment in open and closed positions.

.3 Adjust louvres so moving parts operate smoothly.

.4 Attach bird insect screen to inside face of louvre or vent.

.5 Repair damage to louvres and vents to match original finish.

.6 Caulk all around wall vent installed in existing wall.

3.2 Schedule

.1 Refer to Mechanical Drawings.

END OF SECTION